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How Hamas Fights: Hybrid Defence and Combat Effectiveness in Gaza

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ABSTRACT

How did an outnumbered, technologically outmatched, and overwhelmingly outgunned Hamas preserve combat power for more than fifteen months while confronting a regional power that once routed state and nonstate forces in days? This study asks how Hamas fights and whether its Hybrid Defence Strategy (HDS) has altered the balance of combat and military effectiveness. It dissects Hamas's seven-pillar HDS—multi-domain operations, combined-arms synchrony, simultaneous shifts in warfare modes, urban-subterranean weaponisation, light-infantry/IED primacy, horizontal escalation through allies, and an aggressive information-ops campaign. Findings indicate that HDS confers tactical agility and operational endurance: subterranean depth, pulse-wave fires, and micro-lethal ambushes slow Israeli tempo and inflate force-to-space ratios, thereby downgrading defeat rather than delivering victory. Although the loss-exchange ratio still favors the IDF, Hamas transforms decisive overmatch into a protracted, manpower-intensive siege, demonstrating that an ostensibly outclassed "underground army" can impose strategic drag on a superior adversary.

Enduring the Superiority Gap: Hamas' Way(s) of Warfare

In June 1967, the Israeli Defence Forces (IDF) defeated the larger Egyptian Armed Forces in roughly thirty-six hours and, within seventy-two, had consolidated control over the entire 60,000 km^2 expanse of the Sinai Peninsula with a mere three divisional task forces.[1] Fifteen years later, between June and August 1982, the IDF advanced from Lebanon's southern border to the gates of Beirut, neutralizing a dozen Syrian air-defence batteries, downing more than sixty Syrian combat aircraft, and conducting sustained urban combat before coercing the evacuation of over 11,000 members of the Palestine Liberation Organization (PLO) from Lebanon.[2]

By stark contrast, in December 2024 the IDF—having committed twenty brigades, a mass exceeding six divisions—remained embroiled in Gaza after fifteen months of continuous operations, still short of the strategic end-states proclaimed by the Netanyahu government.

How can this divergence be reconciled? How did a numerically outnumbered, technologically outmatched, overwhelmingly outgunned and overall outclassed Hamas preserve combat power for so long while confronting a regional power that once routed state armies and nonstate forces in days? Put simply: how does Hamas fight?[3]

Research Design: Sampling Combat and Hybrid Defence

To address these questions, this article interrogates the tactics and operational art employed by Izz al-Din al-Qassam Battalions[4] (*Kata'ib Izz al-Din al-Qassam*—AQB), the armed wing of the Islamic Resistance Movement, known by its Arabic acronym: Hamas—through a comparative combat-analysis lens. Particular attention is accorded to AQB's exploitation of urban terrain and the weaponisation of dual-use infrastructure as mechanisms for offsetting Israel's conventional advantages. Drawing on earlier comparative work with other armed organization like the so-called "Islamic State" (known by its defunct English acronym—ISIS—as well as its defunct Arabic acronym: Daesh),[5] augmented by scores of open-source publications and interviews, imagery, and official releases from both the AQB and the IDF, the article aims to contribute to a greater understanding of nonstate forces' combat effectiveness. It offers insights into how AQB and other smaller forces, state or non-state, may conduct warfare in the future.

The two central hypotheses of the article are as follows:

1. The AQB in Gaza implement a Hybrid Defence Strategy (HDS)—a constellation of tactics, techniques, and procedures executed across at least four operational domains.[6]
2. The HDS has enhanced both combat and broader military effectiveness, compensating for deficits in force quality, mass, and equipment, and extending the survivability of an otherwise an outnumbered, outgunned, outmatched, outclassed and beleaguered belligerent.

The HDS impact on attrition, however, remains ambiguous: while the HDS enables Hamas to impose politically influential military costs on a superior foe, aggregate loss-exchange ratios still favor the IDF by a big margin.[7]

Empirically, the article partly utilizes the complete corpus of 1,331 *communiqués* issued by AQB between October 2023 and October 2024. Each bulletin was parsed and coded into ten operational categories—anti-armor fires, IED variants, small-unit actions in open and structural terrain, precision-sniper fire, indirect rocket and mortar artillery strikes, alleged electromagnetic warfare and sea-borne insertions—hereby mapping the claimed multi-domain spectrum (ground, air, littoral, information, electromagnetic, and cyber). Although self-reported, many incidents are corroborated by multimedia evidence, rendering the dataset an indicative gauge of AQB's operational capabilities rather than a fully audited ledger. Hence, it offers a structured window into AQB's prioritization of tactics, techniques, and procedures—both defensively and offensively—over a year of combat.

Methodologically, the article employs a random validation (audit) subsample combined with source triangulation to assess the plausibility of self-reported incidents and to reduce errors where full independent verification is infeasible.[8] To preempt common validity challenges in conflict datasets drawn from self-reported operational communiqués, the

study instituted several safeguards. First, the design explicitly acknowledges selection and survivorship bias: communiqués over-represent "reportable" actions and under-represent routine activity and failed attempts. Hence, the claims were triangulated (where possible) against Israeli releases, independent OSINT imagery/forensics, and major-outlet reporting—mitigating, but not eliminating, propagandistic inflation. Second, the analysis does not infer rates or battle damage assessments (BDA) from counts: the dataset is treated as an indicative map of capabilities and techniques, tactics and procedures (TTPs) prioritization, not as a ledger of attrition. Third, because the empirical density of ground-fighting dwarfs other arenas, the coverage of unmanned aerial vehicles (UAV), littoral, electromagnetic and cyber activity is necessarily more concise than the treatment of subterranean and surface land-combat; this reflects the distribution of available evidence rather than an a priori weighting. Finally, the empirical patterns are linked forward to the article's macro-argument: by shaping force-to-space ratios, mobilization demands, and campaign tempo, Hamas's hybrid-defence architecture imposes strategic drag even where loss-exchange ratios favor the IDF—an integration developed in the final section.

Several caveats apply. The article is not a comprehensive military history of AQB's operations;[9] it samples high-intensity engagements illustrative of combat effectiveness. The article primarily focuses on quasi-conventional and hybrid tactics to occupy, hold or defend territories. Despite that, both guerrilla and terrorism tactics in warfare have had a significant impact on the overall military effectiveness and are briefly discussed below.[10] The ideological domain—though critical to recruitment, resource-mobilization, morale, legitimacy, local and international ideational radicalization and narrative framing/narrative control—is beyond the scope here.[11] Comparative references to groups such as ISIS serve analytical, not equivalence, purposes.[12] These nonstate forces do not share the same ideology, collective behaviour(s), or organizational structures. Thus, the comparisons are focused on assessing the effectiveness of specific TTPs employed by an armed force, state or nonstate. Finally, some of findings at the operational and tactical echelons are informed by a series of off-the-record meetings, seventeen semi-structured interviews, and six roundtable consultations with former military and security practitioners, held under the Chatham House Rule between October 2023 and June 2025; the anonymized qualitative data were triangulated with open-source English and Arabic material to refine the study's analysis.

The article is divided into five sections. The following (second) section proffers a conceptual framing by introducing the concept of *hybrid defence*. It relates to the two concepts of *military effectiveness* and *combat effectiveness*. It also refines related notions such as *multi-domain* and *combined arms* operations.[13] Additionally, it reviews some of the relevant literature. The third section overviews AQB's combat operations—both offensively and defensively—in 2023 and 2024. Then, the fourth section analyses how Hamas fights and dissects the architecture of its HDS. The fifth and final section concludes by evaluating the resultant impacts on effectiveness and the implications of hybrid defence.

Defining Hybrid Defence: A Conceptual Framework

The concept of "hybrid warfare" is perhaps as old as warfare itself. Half a millennia before Christ, the Chinese military theorist and commander, Sun Tzu, highlighted elements of the concept by stressing the impact of information and psychological

warfare: "supreme excellence consists in breaking the enemy's resistance without fighting."[14] Nineteenth Century Prussian Military theorist Carl von Clausewitz—more known for his "conventional"[15] warfare theorization—also highlighted the importance of infiltration, information and intelligence operations.[16] In the twenty first century, James Mattis and Frank Hoffman published a paper in November 2005 that argued that stronger actors will have to merge different modes of warfare or "hybrid warfare" to enhance effectiveness.[17] In 2007, Hoffman elaborated on the concept of "hybrid warfare" and its application, arguing for combining modes of conventional, irregular, information, electronic and cyber warfare.[18] Other scholars and practitioners have used different terms—sometimes interchangeably—to highlight specific types of, and distinct approaches to, this compounded way of fighting.[19] The terms include "non-linear warfare," "liminal warfare," "indirect-approach," and "grey zone operations." Modern Chinese military theorists added "unrestricted warfare,"[20] and "the three warfares"[21] to the literature's lexicon. Russian military analysts and practitioners have used the term "new generation warfare."[22] Several Western scholars used (and then debunked) the term "Gerasimov doctrine"—a controversial term named after General Valery Gerasimov, the military theorist and the Chief of the Russian General Staff—to describe Russia's "new generation warfare."[23]

Building on that and narrowing the focus of this article, "hybrid defence" is a defensive strategy that embraces the combined employment of techniques, tactics and procedures of both "hard" and "sharp" powers in four or more domains of operations, with the aim of enhancing the combat or the military effectiveness of the disadvantaged force during a defensive info-kinetic maneuver.

An "info-kinetic manoeuvre" here is a military operation that merges TTPs from the information domain—such as cyber warfare, electronic warfare, intelligence, and psychological operations—with kinetic (physical) strikes/fires and movements on/in the battlespaces. For example, during the Azerbaijani-Armenian second Karabagh war in 2020, the Azerbaijani forces conducted multiple info-kinetic maneuvers, one of them was through employing Israeli-made IAI Harop loitering munitions against Armenian positions. These drones actively tracked and pursued Armenian soldiers into frontline trenches before detonating (kinetic attrition). Simultaneously, Turkish-made Bayraktar Unmanned Combat Aerial Vehicles (UCAVs) provided real-time feed, capturing the strikes on video. Azerbaijani authorities then disseminated the footage *via* social media and various broadcast channels, leveraging psychological warfare elements to dissuade additional Armenian personnel from reinforcing or returning to the frontlines.[24] The operation illustrates one type of "info-kinetic manoeuvres" and how synchronized employment of loitering munitions, ISR assets, and social media exploitation can achieve immediate battlefield effects. Hamas in Gaza employed similar types of info-kinetic maneuvers, as illustrated below.

Given the nature of sharp power,[25] a common feature in hybrid defence is the weaponisation of civilian resources, thus blurring the lines between formal and informal militaries. Hybrid defence can be employed by a state, a nonstate or a combined force(s). Armed and "weaponised"[26] nonstate actors (ANSAs and WNSAs) are usually an integral and a critical component of any effective HDS. Armed nonstate actors may include insurgents, pro-status-quo militias, foreign fighters' formations, mercenaries, private military/security companies and their sub-contractors.[27] Different types and

levels of alliances between the state, ANSAs and WNSAs can be pursued. They may range from short-lived tactical and operational cooperation based on intersections of interests to long-term strategic alliances and incorporation based on ideological allegiances, proxy relations, or collective loose integration within the state's formal armed forces. "Weaponised" nonstate actors are defined here as mostly unarmed collective entities and individuals who/which are still essential to hybrid defence (and to hybrid warfare in general) such as cyber hackers, false-flag raising/false-front "civilian" organizations, smugglers and human trafficking networks.

Hybrid defence can be employed in almost any domain or terrain. However, hybrid defence as a strategy is much more effective when simultaneously[28] employed in multiple domains of operations: land, information/intelligence, cyber, and electronic.[29] The air, sea and space domains of operations are also important, but the initial four remain essential for military effectiveness.[30] By "multi-domain, combined-arms" operations I refer to military endeavors based on the coordinated employment of multiple branches of an armed force across some or all domains of operations (land, air, maritime, cyber, electronic, informational, and space) with the explicit objective of realizing synchronized and integrated effects across the battlespace, in pursuit of a unified aim. Single-domain, combined-arms operations involve intra-domain coordination across different force branches.[31] For example, rocket-artillery units may provide cover for advancing light infantry squads, hence two combat branches operating within one (land) domain.[32]

The maximum impact of hybrid defence on an adversarial force usually takes place in the urban terrain and built-up areas.[33] Hybrid defence strategies require connectivity, a sizable segment of the population with technological and technical education, urban infrastructure, and a complex geography.[34] These structural conditions are likely to be found in cities and city-suburbs more than in towns, and in towns more than in villages and remote settlements.

Hybrid-defence operational plans and TTPs likely number well-over a thousand; they are incessantly dynamic and in a continual state of development. Empirical illustrations from Gaza and elsewhere reveal a pattern of what may be termed "non-state horizontal escalation": mobilizing nonstate forces within and beyond the primary theater, forging alliances with combat-hardened ANSAs and WNSAs, and expanding their military capacity and/or effects by recruiting both local and foreign fighters through diverse mechanisms. Hybrid defence strategies routinely weaponize civilian urban terrain by manipulating critical infrastructure and fielding multi-layered, subterranean defence-in-depth architectures. These efforts are complemented by multi-domain, combined-arms maneuvers that explicitly integrate the information and intelligence domains.

All of the above have a direct impact on both *combat effectiveness* and *military effectiveness*. Combat effectiveness is defined here as a measure of the performance of a fighting force usually on the tactical and the operational levels.[35] This is based on force quality, size, structure, command, morale, equipment, training, employment and other variables. The concept focuses on assessing how well a fighting force can handle weapons, execute tactics, maintain cohesion and coordination under fire, innovate in combat and adapt to the battles' dynamics. "Combat effectiveness" is a subset of "military effectiveness." The latter is a wider concept assessing the overall military performance on a strategic level. It describes the capabilities of a force to efficiently translate

combat and non-combat resources into military power to achieve strategic or grand-strategic objective(s). Ultimately, the concept assesses how well a military institution translates political directives into successful military outcomes.

Having introduced the concepts, the following section overviews the employment of hybrid offense and defence operations by Hamas' AQB, before attempting to analyze the impact of hybrid defence on combat and military effectiveness in the fourth section and conclude in the final section.

How Hamas Fights: A Military Review (2023–2024)

On the Offensive

On 7 October 2023, AQB planned, led and executed an unprecedented, multi-domain, combined-arms offensive operation in the "Gaza Envelope." Operation "al-Aqsa Flood" was a textbook breaching maneuver that stormed Israel's "Iron Wall." The AQB, later reinforced by other Gaza-based ANSAs,[36] executed a conventional infantry breaching sequence (suppress, obscure, secure, reduce, and assault), almost simultaneously. It managed to partly suppress and distract Israeli air defenses with unguided rocket-artillery. Simultaneously, it blinded Israeli surveillance and reconnaissance assets to obscure their breach points and advance routes. It did neutralize all but one of the IDF's sentry towers by employing commercial quadcopters, airdropping improvised explosive devices (IEDs) as well as snipers.[37] In total, Hamas' armed wing breached Israel's border fence at 114 locations, including blowing their way through 37 points.[38] AQB did not secure their breach points in the Israeli barrier. Hence, other ANSAs and unaffiliated armed mobs followed the AQB units into Israel, multiplying the size of the attacking force, but also losing control over their own operation.

The hybrid offensive was phased, with follow-on forces. The first phase was a near-simultaneous, four-domain operation conducted by a brigade-sized formation. By land, a regiment-sized light and motorized infantry force was advancing. By sea, a reinforced platoon-sized naval infantry unit assaulted the beaches of Zikim.[39] *via* air, AQB attacked by a squad-sized unit of eight motorized paragliders. The attack involved operations in the electromagnetic and information domains as well.[40] Follow-on forces advanced through the unsecured breaching points later in the day.[41] These were two battalion-sized AQB formations, one battalion-sized force from al-Quds Companies,[42] elements from other armed organizations and unaffiliated clan-based militias.

Regarding AQB specifically, the scale of coordination—spanning multiple units—highlighted a sophisticated level of operability across various domains of warfare. Such complexity in synchronization is arduous, demanding extensive training in command, control and both intra and inter-unit communications. These preparations are likely to have taken more than two years. Due to the long preparation period and omnipotent Israeli ISR, the Israeli military intelligence had information about a similar offensive scenario,[43] but the commanders deemed the AQB incapable of pulling off an attack of such magnitude.[44]

Between 7 and 12 October,[45] AQB units and its allies fought over 70 battles and firefights in at least 34 locations.[46] These include engagements in six military bases and barriers (in Zikim, Erez, Nahal Oz, Be'eri, Re'im and Sufa); two police stations (in Sderot and Ofakim); sixteen towns, settlements and villages (both *kibbutzim* and *moshavim*) and two music festivals (Supernova and Psyduck). Overall, six military, two police and eighteen civilian locations were attacked.[47]

Three ways of warfare were combined and simultaneously employed in this multi-domain offensive. A quasi-conventional dimension was demonstrated in the initial breach of Israel's "Iron Wall." This was done using simultaneous, combined arms TTPs, albeit using irregular and dual-use equipment such as the employment of quad-copters as "bombers." Conventional motorized infantry TTPs were also employed after the breach. For example, in Nahal Oz, Kfar Aza and Sderot, AQB units attempted a conventional sequence of raiding the settlement or the town and then attempting to fortify in, and hold, a part of it.

In Sderot, a platoon-sized AQB unit raided the town and occupied its main police station. The AQB unit fortified and fought in and around the station. Ultimately, YAMAM, Israel's elite police special-operations unit, raised down the building over Hamas' fighters using a *Merkava* tank, air-launched "Hellfire" missiles and D-9 military bulldozers.[48] When they attempted, AQB's effort to transition from raiding to retaining collapsed under several constraints: insufficient force size and equipment, the absence of secure supply lines and ground lines of communication to Gaza, and the rapid, forceful Israeli counter-action, among other factors.

At Zikim, the AQB mounted a two-domain conventional thrust—*via* sea and land—yet made no serious attempt to retain terrain. Guerrilla-style raids exhibiting skill levels approximating a Tier-One special-forces capability were conducted during portions of the Re'im and Sufa actions. Notably, the headquarters of the 143rd "Gaza" Division near Re'im was stormed; the assault force made no significant effort to garrison the facility. Instead, it executed a raid-style penetration designed to paralyze command and control, exfiltrate intelligence assets (classified operational files, laptops, and encrypted communications equipment), and induce psychological shock through the info-kinetic maneuver described in the preceding section.

Overall, Hamas units briefly exhibited raid-fortify-occupy attempts, reminiscent of a quasi-conventional mission profile, albeit on a limited timescale. However, mostly the tactical footprint aligned with guerrilla "hit-and-run" way of warfare, while terrorism tactics dominated, most visibly in Supernova and Psyduck music festivals. Finally, despite tactical sophistication, the strategic objective(s) of the 7th October offensive were either unclear or untenable. This will be discussed later in the next section of this article.

On the Defensive

On 27 October 2023, the Israeli forces launched a ground invasion of the Gaza Strip, following approximately three weeks of airstrikes. By December 2023, the IDF had deployed about 20 brigades—a force equivalent to roughly six divisions—within the Gaza Strip. In 15 months of combat (October 2023 to December 2024), AQB has executed an HDS that made it difficult for the IDF to achieve an operational victory,

not to mention a strategic one.[49] The pillars of the HDS included subterranean defence-in-depth, weaponisation of the urban spaces, intensive light-infantry tactics to include anti-armor and sniping teams, alliances with regional nonstate forces, and intensive operations in the information/intelligence domains.

Fortresses Beneath Footsteps

The AQB established a sophisticated, multi-tier tunnel infrastructure spanning Gaza's five governorates (provinces).[50] To weaponize the urban environment, the network links fortified buildings, urban foxholes, rocket-artillery apertures cut into civilian building walls, mutually supporting strong-points, designated sniper posts, and interlocking fields of fire that create kill zones along narrow streets and alleyways for anti-armor and mortar teams. While these surface preparations were effective, the subterranean matrix constituted the core of the HDS. Covert galleries connect strong-points; mobility corridors pass beneath Israeli ground lines of communication and approach routes; specialized shafts serve operatives, logistics, and deeper command-and-control nodes. Without this lattice, AQB and its allied organizations would almost certainly have been unable to sustain combat for more than a year against the IDF.

The multi-level tunnels effectively enlarge Gaza's urban battlespace, furnishing an unconventional strategic depth that facilitates tactical withdrawal and reentry. They provide protection and mobility, while amplifying lethality through surprise in ambushes: AQB units routinely emerge from unexpected portals in sectors the IDF had already declared clear. Till the time of writing, these tunnel complexes remain the principal enabler of maneuver for the broader Palestinian Resistance Forces (PRFs), with Israeli-generated rubble serving only as a secondary aid. For months, the IDF has struggled to disrupt this surface–subsurface–surface scheme of maneuver.[51]

Small Teams, Big Punch

On the ground, a combination of anti-armor, sniper, and mortar small fireteams have dominated AQB's tactical footprint. The relatively limited anti-tank guided missiles (ATGMs) attacks and the abundant, unguided anti-armor rocket-propelled grenades (RPGs) attacks—to include attacks with tandem-charges[52]—have constituted the bulk of AQB's light infantry fireteams of 3-to-5 fighters.[53] Despite their small formation, light armament and—mostly—unguided rockets, these units posed a challenge for the Israeli armor as well as for the mechanized, motorized and dismounted infantry. Between October 2023 and October 2024, AQB claimed to have conducted over 480 operations against Israeli tanks, over 140 operations against armored personnel carriers (APCs), as well as armored and infantry fighting vehicles (AFVs and IFVs), and over 140 operations against military bulldozers. It is difficult to verify the accuracy of the claimed figures, and even more difficult to verify the BDA of these attacks. However, there are verifiable patterns that reflect the level of combat effectiveness. AQB units had the capability and the tactical skills to camouflage, conceal, mask and deceive to be able to come up close to a distance of less than 50 meters, and attack the tank or the armored vehicle. Hence, the sophisticated active protection system (APS) of the tank or the armored vehicle was ineffective in many cases.[54] Several explanations were given, including that it had been turned off,

expended or didn't work within these short distances to avoid friendly fire. Electronic warfare assets may have also been employed by AQB to jam the sensors or disrupt their line(s)-of-sight. Anti-materiel sniping and small sniper units—though less lethal compared to mortar artillery and anti-tank teams—have also played an important role in harassing and attriting Israeli infantry, before they take cover in rubbles or tunnels.

Irregular Horizontal Escalation: Rallying Nonstate Forces

Alliances with nonstate forces was another pillar of Hamas' HDS, executing what can be called an "irregular horizontal escalation." Hamas has formed a series of tactical and strategic alliances with Iran and Iranian-backed nonstate forces in the region and beyond.[55] The exact timing of the October attack was likely uncoordinated with (or even disapproved by) Hamas' allies,[56] but the alliance—known as "the axis of resistance"—had horizontally escalated across the entire region any way.

Since 8 October 2023, exchanges between Hizbullah and its allies in South Lebanon and Israel have been rapidly escalating in intensity, scale, scope and duration. As of mid-February 2024, the number of rocket attacks launched from South Lebanon have consistently exceeded the numbers launched from Gaza.[57] During March and April, Hizbullah's barrages have reached 100 rockets per day; not too far from the June 2006 war average,[58] which was a daily barrage of about 120 unguided rockets for 34 days.[59] Until the autumn of 2024, these attacks fell short of a ground-war with Israel. During winter and early spring of 2024, Israel's stance along the northern frontier was mainly characterized by a defensive posture, building static defence-in-depth lines.[60] This stance swiftly transitioned to an offensive one, ultimately leading to a Israeli multi-domain campaign against Hizbullah in Lebanon.[61]

South Lebanon was not the only front to escalate after the 7 October attacks. A low-level insurgency had been steadily rising in the West Bank before being suppressed by late 2024. Ansarullah—better known as the *Houthis*—another Iranian-supported force that dominated a coalition that seized Sanaa in September 2014—commenced long-range strikes against Israel on 19 October 2023 and has since executed short-range attacks and even a heliborne air-assault on commercial shipping and naval assets in the Red Sea. These operations by Hamas' nonstate allies have generated tangible military effects: strategic signaling, psychological and information warfare, attrition and saturation of Israeli air-defence systems, and—in Hizbullah's case—the fixation of entire Israeli divisions along the northern frontier.[62] Additional Israeli battalions and smaller units have been tied down or rotated between the West Bank and Gaza. All of this occurred before Iran itself entered the fray on 13 April 2024, launching roughly 170 loitering munitions, more than 30 cruise missiles, and in excess of 120 ballistic missiles toward Israel.[63]

The Mind Offensive: Shaping Reality, Creating "Alternative" One(s)

Finally, since the 7th October attacks, operations in the information domain were intensive. This includes the documentation of firefights, maneuvers, raids, ambushes, anti-tank hits, sniping operations and other combat categories. Within this domain, the weaponisation of multi-media to enhance military propaganda for recruitment and resource-mobilization were sustained throughout the Gaza war, up to the time of

writing of this article. Hamas excelled in this domain, and generally, in the employ-ment of sharp power. Despite the military losses, AQB's propaganda, narratives and documentations shaped and impacted the supporting environment—not just in the Arab-majority world but beyond it. AQB's military media "*al-I'lam al-'Askari*" produced hundreds of military-relevant videos and photographic reports. In a display of classic sharp power capabilities, AQB's Hebrew-language messaging directly targeted the Israeli society to further fester the rifts between segments of the electorate (primarily the families of the hostages and their supporters) and the Netanyahu government (which prioritized degrading and toppling Hamas and destroying its armed wing). However, despite Hamas' high-level performance in the information domain, the impact(s) caused by these operations will need to be further investigated in separate research. Generally, nonstate forces' sharp power—within a hybrid defence strategy—remains a relatively understudied area of research.[64]

Hamas' Hybrid Defence Strategy: A Multi-Domain Analysis

From the above review, two hypotheses can be put forward. First, AQB has a clear hybrid defence strategy, as defined in the first section. Second, that strategy has enhanced the organization's endurance and prolonged its survival against a far superior force. While AQB neither prevailed nor reached a draw, it was also not entirely defeated or destroyed after more than 15 months of combat operations. Hence, the HDS employed by the AQB has downgraded the overall military effectiveness of the IDF and con-tributed to enhancing the overall combat effectiveness of the AQB.

Building on that argument, this section has two objectives. First, it analyses features of AQB's hybrid defence strategy. Second, it assesses its impacts on the combat effectiveness of the AQB. Hence, the section contributes to answering the main research questions of how Hamas fights and whether it's HDS have enhanced its combat effectiveness. [65]

From Offense to Defence: On Strategic Objectives

This section concentrates primarily on Gaza-based defensive operations, whose extended duration, higher intensity, broader spatial scope, clearer objectives, and absence of strategic surprise[66] render them the most revealing test of the HDS' effectiveness. A brief comparative glance at the 7th October offensive nevertheless underscores key continuities. In both cases, AQB executed multi-domain attacks, employed combined arms and several modes of warfare almost simultaneously, rather than sequentially. Identifying these shared attributes clarifies how the HDS functions across both defen-sive and offensive contexts.

One key distinction between the offensive phase (7–12 October 2023)[67] and the subsequent defensive phase (27 October 2023–19 January 2025)[68] lies in the clarity of strategic purpose. In defence, Hamas's military objective was straightforward: expel the IDF from the Gaza Strip. During the offensive phase, by contrast, strategic intent appeared ambiguous, untenable, or both. Possible aims include: (1) seizing hostages for prisoner exchange; (2) holding territory within the "Gaza Envelope" to expand the Strip; or (3) triggering a four-front, full-scale war to overwhelm Israel—Hizbullah from the north, Hamas from the southwest, a heightened insurgency in the West Bank from the east, and an ethnonationalist uprising in the center.[69]

If the objective centered on hostage-taking, the operation was too large in force size, excessive in cost relative to prospective gains, indiscriminately lethal—thereby complicating any negotiations with any government(s)—and operationally undisciplined, as evidenced by inadequate security at the "Iron Wall" breach points. Should territorial expansion have been the goal, Hamas fielded an insufficient force and lacked the raid-fortify-occupy TTPs exemplified by ISIS in Mosul.[70] As for a coordinated four-front war, aside from the reported correspondence between Yahya al-Sinwar and Ismail Haniyeh,[71] no evidence indicates a serious, interoperable operational plan involving multiple organizations attacking Israel concurrently from three external axes and from within.[72] Mohammed Deif's[73] public call for exactly such an endeavor on 7 October notwithstanding, the offensive phase proceeded without a clear or viable strategic objective.[74]

In contrast, the HDS implemented within the Gaza Strip pursued a clear strategic aim: to attrit the IDF and compel its withdrawal (or retreat). The strategy rested on seven pillars: (1) operations across multiple domains; (2) the integration of combined-arms effects; (3) the concurrent employment of diverse modes of warfare; (4) the weaponisation of urban infrastructure—surface and subsurface—alongside other civilian and dual-use assets; (5) heavy reliance on light-infantry, special-forces-like detachments, and guerrilla TTPs; (6) nonstate horizontal escalation through regional allies; and (7) an expansive information-operations campaign harnessing both sharp- and soft-power instruments. The analysis that follows interrogates these pillars, with particular emphasis on the first five, given their intensive employment in Gaza. Before proceeding, it is useful to summarize the Israeli government's objectives, and the forces allocated to achieve them.

Strategically, the Netanyahu government articulated three goals: destroy Hamas's military capability, dismantle its governance structure in Gaza, and secure the release of hostages.[75] Operationally, during 2023–2024 the IDF established a 60 km² buffer zone along the entire Gaza-Israel border, bisected the Strip into northern and southern sectors *via* the 5 km² Netzarim corridor, and re-occupied the 14 km Philadelphia corridor abutting Egypt. In effect, these moves sought to "West-Bank" Gaza—absent, however—a compliant Palestinian Authority (PA) capable of administering the enclave and suppressing the PRFs.

To achieve these objectives, Israel deployed, redeployed, and rotated a force package that fluctuated between a maximum strength of twenty brigades and a minimum of two brigades between October 2023 and December 2024. These brigades were primarily drawn from the following ten divisions across the northern, central, and southern military districts: the 36th (Rage), 146th (Bang), 91st (Galilee), 210th (Bashan), 98th (Paratroopers), 99th (Flash), 162nd (Steel), 143rd (Gaza), 252nd (Sinai), and 80th (Red) Divisions. Additional smaller formations were deployed from the Military Intelligence Directorate (Aman), the Combat Intelligence Corps, Israeli Police, Combat Engineering Corps, Logistics Corps, and Artillery Corps, alongside extensive support from the Israeli Air Force and Navy.[76]

Tactically, it is worth noting that the IDF's response on 7 October was relatively swift. Quick Reaction units mobilized with armored vehicles such as the Eitan APC—despite it not being formally operational at the time[77]—while voluntary self-mobilization occurred among former officers and soldiers who leveraged personal networks to access weapons, ammunition, vehicles, and even helicopters to plan and engage in firefights.[78]

The formal mobilization for the invasion of Gaza was equally rapid: within a week, the Israeli government had mobilized a force of approximately 300,000 soldiers.[79] By comparison, and accounting for vast differences in population, geography, and force structure and quality, the Russian Federation required more than six months to mobilize a similar number of troops.[80]

On the Force Structure of Al-Qassam Battalions

As for Hamas in Gaza, the armed wing of the organization, the AQB, had an estimated force-size that ranged between 30,000 and 40,000 fighters in autumn 2023. This force was commanded by the General Staff of the AQB, and an operational command subordinate to it. The bulk of the force was composed of five territorial brigades based in the five governorates of the Gaza Strip: North Gaza, Gaza, Central Camps (Deir al-Balah Governate), Khan Younis and Rafah.[81] This is in addition to one regiment-sized aerial unit ("airforce" or "*al-Quwa al-Jawiyya*"), and one brigade-sized special forces unit (elite or "*Nukhba*"). Within the *Nukhba* units, squad-sized units of naval infantry and paragliders are housed. The territorial brigades and the *Nukhba* are estimated to have had at least five battalions each. The North Gaza and the Gaza Brigades were composed of six and seven battalions respectively. This is in addition to command structures for specialized combat and combat-support units such as anti-armor (both RPGs and ATGMs), Rocket Artillery, Support Unit (combined roles of reserves and logistics),[82] a Manpower Unit (focused on recruitment, replacement, reconstitution and remobilization), a Military Production Branch, and a "Shadow Unit" in charge of kidnapping and holding the hostages.[83] In the information and cyber domains, AQB have had several specialized units that operate under the "General Staff." These include a Cyber Branch,[84] a Military Information (Media) Directorate (for documentation and propaganda), an Internal "Homefront" Unit (counterespionage and suppression of anti-Hamas activities), and a Military Intelligence Apparatus. The sizes of these units vary and have changed significantly between October 2023 and December 2024. This is due to casualties, composed of five categories: killed, wounded, captured, missing and defected members. The changes in the force-size are also due to rounds of recruitment, remobilization and reconstitution conducted by Hamas under fire.[85] Finally, separate from the AQB, Hamas runs a General Security Force, a police organization equipped with small arms and personal protection equipment.

On Force Employment

Despite this force structure, AQB fought bravely[86] but never fought big—neither as brigades nor as battalions. In Gaza's combat operations, the organization mainly employed fireteam-sized units of 3-to-5 fighters. Occasionally, AQB employed squad-sized units and, very rarely, platoon-sized ones. Despite the limited firepower of these tiny units, AQB consistently didn't amass a larger force, to avoid fast detection and quick destruction. In few cases, like in the battles of Jabalia in North Gaza governorate, these tiny units swarmed and successfully initiated and sustained tens of simultaneous engagements and small battles, which sometimes surprised, overwhelmed and attrited targeted IDF units.[87]

Like the Wehrmacht's *Auftragstaktik* (mission-type tactics),[88] the IDF's *Pikud Al Pi Kavana* (command by intent),[89] ISIS "bottom-up" tactics[90] and other combat-effective command approaches,[91] the AQB ran its operations with a degree of "mission command." That is: a leadership philosophy rooted in the idea that higher echelons should articulate the commander's intent, lay out broad objectives, and provide the necessary resources while granting subordinate commanders considerable latitude in executing operations; thus, allowing those closest to the tactical environment to exploit fleeting opportunities or respond rapidly to changing conditions on the ground.[92] ISIS mastered it, especially in the Nineveh and the Anbar campaigns in Iraq and in the Raqqa campaign in Syria in 2014–2015. In Gaza, the AQB General Staff commanders are more likely to have emphasized the operational objectives, rather than the "up-to-bottom" ordered TTPs to achieve them. This "mission-command" approach to executing tactics has also enabled and encouraged improvization, innovation, tactical aggression, over- and underground maneuvering, and flexibility in tailoring the repertoire of tactics to the operational objective, and relatively rapid replacements of tactical commanders.

On a "strategic" level, involving longer-range strikes into Israel, a more centralized command was maintained *via* a series of communication networks linking the General Staff with deployed rocket-artillery command post.[93] These units would receive their designated targets and the timing of strikes directly from the General Staff. To centralize operational command in rocket-artillery, the AQB's General Staff established an "operation room" for rocker artillery, dedicated to coordinating rocket-launch schedules, running basic firing grids, confirming designated targets, and verifying the number of rockets fired in each salvo.[94]

The force structure and employment patterns outlined above embody the first three pillars of the HDS: multi-domain operations, combined-arms integration, and the near-simultaneous application of multiple modes of warfare. Illustrative examples of these pillars were presented in the preceding subsection, across both offensive and defensive contexts. They are examined further below, in subsections that analyze the weaponisation of urban infrastructure and the employment of light-infantry formations.

The Underground Army and the Weaponisation of the Urban Infrastructure

As outlined above, the AQB's General Staff has established a complex, defence-in-depth subterranean infrastructure, but that infrastructure did not stand alone. It was a part of an overall warfighting strategy, designed to enable subterranean maneuver and to facilitate the employment a force protected by burial—or an "underground army." The maneuver was permitted by the usage of underground corridors by small detachments to outflank, bypass, or achieve a vertical envelopment from below. Hence, it enabled and sustained surprise attacks as well as positional advantages at the tactical echelon.

At higher echelons, the "underground army" paradigm is a strategic construct of force concealment where the units are displaced below grade. In this paradigm, the tunnel complexes are no longer merely a maneuver conduit; they are re-engineered into a permanent sub-surface military ecosystem comprising small troop barracks, rockets, rocket-launchers, other ammunition and materiel magazines, hardened

command, control, communications and computers (C4) nodes. The multiplication and interconnection of these galleries produced a fully-fledged underground military infrastructure that sustained prolonged combat operations, while drastically reducing the AQB's electromagnetic and visual signature(s) for force protection. For example, AQB's rocket- and mortar-artillery units used camouflaged gaps in the complexes to extract rockets, shells and launchers to strike, hide and retrieve the weapon systems later. The paragraph below is a qualitative sample of how this preparation affected the operation-level of war.

On the night of 27 October 2023, the Israeli ground forces advanced in Gaza over three axes. The first (secondary) axis was led by the 252nd (Sinai) Division toward Beit Hanoun in the north.[95] The second (secondary) axis aimed to bisect Gaza into northern and southern parts. This was conducted by the 36th (Rage) Division which fought its way to the Mediterranean *via* Wadi Gaza to eventually establish the Netzarim corridor. The third axis of advance was the primary one. The 162nd (Steel) Division headed south along the coastline *via* al-Atatra, before turning eastwards toward Gaza City. The aim of advancing *via* al-Atatra was to avoid the well-prepared, multi-layered defensive over- and underground infrastructure and strong points built by AQB and others. These defensive lines were built based on prior intelligence and earlier experiences with the IDF incursions into Gaza.[96]

Still, despite the IDF's efforts to bypass or isolate fortified nodal positions, the systematic weaponisation of Gaza's urban fabric—including the deliberate co-option of ostensibly civilian structures—imposed a punitive force-to-space ratio on any attacking formation. Israel's long-standing manpower constraint is thus magnified: a doctrinally under-strength Israeli brigade (regimental in NATO terms) is compelled to operate across a battlespace who's subterranean and surface fortifications, compounded by the rubble generated by sustained Israeli air and artillery fires, demand corps-level mass for effective clearance. Consequently, the IDF have been forced to escalate troop densities well-beyond peacetime tables of organization. The Rafah–Philadelphia Corridor operation required the continuous commitment of six mechanized-infantry and armored brigades under joint air, naval, and artillery umbrella. Likewise, the seizure and systematic building-by-building clearance of al-Shati' refugee camp, a footprint of under $3\,km^2$, necessitated the employment of two divisions, underscoring the extraordinary troop absorption effect generated by AQB's integrated overground and underground defenses.[97]

To adapt and fight back, Israeli counter-tunnel operations have coalesced into a dual-line of effort that coupled intelligence-led mapping with precision, small-unit, direct action at the point of ingress. Multi-source ISR-SIGINT[98] cueing, ground-penetrating radar, seismic arrays, and human intelligence (HUMINT) derived from detainee debriefings and collaborators—generated the underground "order of battle," after which specialized formations undertook tactical denial. Principal among these were Yahalom (the Combat-Engineering Corps' elite sapper formation) and Shayetet-13 naval commandos, reinforced by ad-hoc assault elements from maneuver brigades. Their mission sets included shaft seizure, "sponge-bomb" sealing, charge emplacement, and, where feasible, controlled demolition. Parallel to these kinetic incursions, the IAF and the Artillery Corps have mounted hundreds of subterranean interdiction-strikes, employing precision-guided penetrators and volumetric munitions to collapse or crater suspected galleries.[99]

Notwithstanding this multi-domain effort, the tunnel grid remains the decisive mobility-and-protection enabler for the AQB and other Palestinian resistance maneuver forces, while the IDF-generated rubble-fields furnish a secondary layer of cover and concealment. In effect, AQB's subterranean infrastructure delivered two pillars of doctrinal maneuver—mobility and protection—and amplified the third, firepower, by allowing AQB units to project lethal effects from unexpected azimuths deep in the Israeli rear. For more than fifteen months, the IDF have struggled to neutralize this cyclical "surface–subsurface–surface" scheme of maneuver; their remedy was to synchronize over-ground assaults with near-simultaneous subterranean penetration, rather than treating each subdomain sequentially. Even so, the agility conferred by the buried network continues to blunt Israeli tempo, illustrating the enduring operational value of AQB's subterranean ecosystem despite intensive, innovative and resource-heavy countermeasures.

The Overground: Light Infantry and Multi-Domain Tactics

As shown in the previous sections, AQB were able to synchronize effects across the land, air, electromagnetic, cyber, littoral and information domains—both offensively and defensively. As usual, the ground domain dominated those effects: Light-infantry detachments armed with variants of RPG-7s with tandem-charge, (few) ATGMs, portable mortars, and light rocket-artillery have furnished mobile fires and close anti-armor punch, while designated sniper cells have exploited the dense urban topography of Gaza for precision harassment, across all the five governorates of the Strip.

In the air domain, AQB units have limitedly employed UAVs—both rotatory- and fixed-wing—for terminal attack and ISR.[100] The organization claimed its electronic-warfare cadre have repeatedly hijacked or soft-landed Israeli Skylark-class UAVs, extracting on-board data from subterranean workshop bays. EW activities have allegedly included jamming of Israeli active-protection systems and short-range C2 nets. Open sources cannot confirm these claims, but AQB's emphasis on sensor disruption is consistent with their EW effort aimed at offsetting Israel's technological overmatch. Cyber operations were also claimed, and Hamas media highlight selective intrusions into commercial apps and social platforms for influence and reconnaissance.[101] At sea, small craft and, on occasion, swimmer-delivery teams have attempted littoral infiltration; although most were interdicted, their very employment speaks to AQB's pursuit of a multi-domain portfolio.[102] Together, these activities illustrate a nonstate force attempt at "miniaturised" multi-domain operations—the orchestration of dispersed, low-signature capabilities to achieve cumulative operational effect while exploiting the protective envelope of Gaza's subterranean matrix.

In terms of quantity, scale, intensity, lethality and sustainability, light-infantry and IED-intensive tactics in the land-domain dominated all other categories of operations. The dataset in the table below—based on 1331 communiqués released by the AQB's military media section between October 2023 and October 2024—exposes clear emphases: a pronounced dependence on light-infantry fires and IED ambushes within the land-domain, complemented—though in lower volumes—by artillery, UAVs, and allegedly emerging electromagnetic measures to spoof or capture Israeli unmanned systems (Table 1).

Table 1. A sample of claimed attacks by AQB in Gaza (October 2023–October 2024).[a]

No.	Operational-Activity category	Claimed attacks by AQB
1	*Light Infantry*—Anti-Armor (Direct Fire: ATGM/RPG vs Main Battle Tanks)	481
2	*Light Infantry*—Anti-Armor (Direct Fire: ATGM/RPG vs IFV/APC/AFV)	149
3	*Light Infantry*—Anti-Armor/Anti-Materiel (Direct Fire: ATGM/RPG/Anti-materiel rifles vs Armored Bulldozers)	143
4	*Light Infantry* Fireteams (Engagements in Open Terrain)	166
5	*Light Infantry* Fireteams (Close Quarter/Structural Assaults)	131
6	*Light Infantry*—Sniping: Precision Interdiction by Designated Marksmen/Snipers	87
7	*Light Infantry*—MANPADS (Shoulder-Fired, Short-Range Air-Defence Systems)	33
8	*IEDs:* (Static, Anti-Personnel)	80
9	*IEDs:* (Boobytraps: Subterranean/Tunnel Employment)	48
10	*Artillery:* Rockets	407
11	*Artillery:* Mortars	354
12	*UAV "Bombers"* (drone-dropping IEDs or grenades)	16
13	*Alleged Electromagnetic* Warfare & Capture-and-Control of UAVs	≥ 6 airframes seized[a]
14	*Seaborne* (Prior to 24 October 2023)	2

The dataset was derived from open-source claims, pictures and videos posted on the official AQB website, drawing on the series of "military communiqués" archived there. The author is grateful for Abdul Rahman al-Kuwari for the over the collection and organisation of these claims. For the entire series of the "military communiqués" see: Al-Qassam Battalions, "Military Communiqués," https://tinyurl.com/ku5k99z9 (accessed October 31, 2024).
The AQB has shown the following type in their military videos: Skylark-2, Skylark, Magni-X, Matrix 600, EVO Max, and a quad-copter variant.

According to AQB's own tally, their units claimed 2103 operations over a single calendar year (24 October 2023 to 31 October 2024). 2046 (97%) of these operations were in the land domain, 33 were ground-based air-defence operations involving both the land and the air domains, sixteen were in the air domain, six were allegedly in the electromagnetic spectrum and two were seaborne operations during the offensive phase (before 24 October 2023). The claimed operations were dominated by dismounted infantry TTPs, to include the employment of anti-tank guided-missile/rocket-propelled-grenades, mortars, fireteams, sniper fires, and MANPADS. IEDs—more common in insurgency and terrorism tactics—were also widely employed.

The anti-tank guided-missile/rocket-propelled-grenade engagements against both heavy and light armor, with 481 claimed incidents against MBTs alone, underscore AQB's doctrinal emphasis on close-range anti-armor lethality. A secondary cluster targeted lighter protected mobility (IFVs/APCs/AFVs) at 149 claimed strikes, while the 143 attacks on D-9 class bulldozers reveal a deliberate attempt to degrade Israeli breaching assets. Two distinct IED lines of effort are evident in the dataset of claimed operations. Anti-personnel devices (80 claimed attacks) are seeded in likely infantry dismount routes, whereas tunnel booby-traps (48 claimed attacks) aim to attrit and isolate Israeli breach teams once they penetrate a gallery. The tactical intent is twofold: attrit infantry at close quarters and deny the IDF freedom to storm, search or map the subterranean network—the key enabler for AQB's defence-in-depth.

Together rocket- and infantry- (mortar) artillery come in collectively as the second largest in the categories of claimed operations—with 407 and 354 claimed attacks, respectively. These attacks both attrit as well as create umbrella suppression during ambush set-ups and movements of units. The waves of attacks coincide with major IDF ground thrusts, followed by deliberate fire-economy troughs when Israeli formations rotate or pause. This "pulse-wave" pattern had a both attritional and psychological effects while conserving relatively scarce extended-range munitions.

Open-terrain skirmishing by light-infantry fireteams comes in as a third category (166 claimed attacks). These are used to attrit, canalize or delay. A higher-level of lethality and attrition resides in close-quarter/structural assaults (131 claimed attacks) that exploit interior walls, ratlines, and kill-holes for 360-degree fires. Also, sniper interdiction (87 claimed shots) further impacted the IDF's movement and clears.

AQB units have also claimed a relatively small number of operations in the air and electromagnetic domains. This was demonstrated by UAV "bombers" that have dropped munitions sixteen times to add a vertical flank. The very limited—but symbolically potent—figure of at least six Israeli UAVs captured, partly through alleged spoofing,[103] suggests a nascent cyber-electromagnetic dimension that, while numerically minor, showcases a capacity to exploit Israeli ISR platforms for both intelligence harvesting and propaganda gain. In general, AQB have previously showcased the ability to exploit captured UAVs. The subterranean infrastructure affords these teams a protected venue in which to dismantle airframes and harvest on-board data while preserving signature discipline. That the extracted intelligence can be relayed to small maneuver units while lowering the odds of compromising site security has, in AQB's own narrative, served as an index of organizational resilience throughout the period between October 2023 and October 2024. Finally, up to January 2025, AQB's assault cells were still able—at least in open-source video evidence—to execute doctrinally sound L-shaped, "multi-stage" ambushes,[104] with reconnaissance elements cueing fires, timing withdrawal windows, and preserving force cohesion after more than 12 months of almost continuous contact.

In sum, AQB's self-reported "action review" reflects a spectrum of warfare modes in multiple domains, while employing combined arms. The sample above shows the overwhelming dominance of light infantry TTPs, as they enabled conventional actions to attrit armor, guerrilla maneuver to dissipate Israeli mass, and documentation and information operations to amplify psychological shock(s). This is all nested within a subterranean sanctuary that buttresses mobility, protection, and, by extension, lethality.

Hybrid Defence and Combat Effectiveness

The article argued that the AQB in Gaza employed a "Hybrid Defence" strategy, featuring TTPs employed in multiple domains of operations. It posited a two-part hypothesis: first, that Hamas' AQB prosecute combat through a hybrid defence construct that fuses multiple domains and ways of warfare, combined arms operations, with subterranean defence-in-depth, elastic urban strong-points and light infantry TTPs; second, this HDS has enhanced the organization's combat and the military effectiveness. The findings show that the HDS has certainly enhanced the combat effectiveness, but not the overall military effectiveness. In other words, the HDS employed did not nullify Israel's military superiority, but it did delay and downgrade AQB's expected defeat by converting what should be a decisive Israeli battlespace dominance into a protracted, manpower-intensive slog. The evidence marshaled across the preceding sections shows that the HDS was not a "great equaliser"[105]—at least in this particular urban war—but an "attritor-delayer." What follows synthesizes the tactical, operational, and strategic findings and, in so doing, answers the main research question: how does Hamas fight and how has its hybrid defence architecture shaped its combat and broader military effectiveness?

At the tactical tier, AQB's light-infantry/IED ecosystem have created a localized overmatch despite systemic Israeli advantages in sensor density, protected mobility, and precision fires. Three mechanisms dominated during the period studied. First, close-range ATGM/RPG ambushes –conducted inside the 30–50 meters "dead-zone" of Israeli active-protection systems—generate disproportionate armor hits and recurring mobility kills. Second, multifunctional improvised explosive devices—anti-personnel variants along infantry dismount lanes and anti-tunnel booby-traps inside galleries—attrit, inflict psychological shock, slow Israeli clearance drills, and force dismounted infantry to operate at a tempo dictated by the defender. Third, sniper interdiction and drone-dropped munitions impose a constant harassment blanket, compelling constant heavy body-armor wear and prolonged halts for casualty extraction. In net effect, AQB is incapable of decisive annihilation at this level; rather, it harvests micro-lethality that accrues operational delay and may gradually erodes Israeli combat endurance.

Operationally, AQB have translated these tactical vignettes into a defence-in-depth geometry that coheres around three inter-locking layers advanced in the introduction. Subterranean mobility and protection supply covered lines of departure and hardened C4 nodes—two pillars of maneuver (mobility and protection) while amplifying the third (firepower) through vertical envelopment. Elastic surface strong-points, partly formed from rubble, pre-sited IED belts, and sniper overwatch, canalize Israeli spear-heads, necessitating engineering breaches that usually expose armor flanks to AQB's "hunter-killer" teams. Finally, a "pulse-wave" fires logic modulates rocket and mortar salvos: spikes coincide with Israeli ground surges, troughs preserve scarce munitions when IDF formations pause or rotate. This triad fixes large Israeli formations, complicates higher-echelon command-and-control, and assures that every city block captured is labour- and time-intensive. Crucially, the subterranean military infrastructure de-links AQB's survivability from terrain retention. Until the time of writing, the AQB units were still ceding the surface, retiring into depth, and reemerging in rear areas, thereby maintaining a degree of operational coherence even under sustained Israeli strikes.

Strategically, Hamas fuses what the article terms an "underground army" with hybrid defence. By dispersing combat power throughout a lattice of hardened galleries and weaponised urban micro-terrain, the organization compels the IDF to fight a three-dimensional, force-absorbing labyrinth that inverts the invader's traditional fire-power advantage. The campaign data illustrate that six brigades were required to secure the Rafah–Philadelphia corridor, while two divisions were tied down clearing the sub-3 km^2 al-Shati' enclave. Such troop densities reveal the manpower vortex generated by hybrid urban defence. Israeli brigades, already lean in relative terms, are forced to operate at regimental strength in terrain that demands corps-level mass. The resultant extension of deployment cycles magnifies reservist fatigue, logistical strain, and—as recorded in the rise of fratricide incidents—force-quality frictions.[106] Yet, as the introduction cautioned, military effectiveness must be distinguished from combat effectiveness. Although AQB's hybrid defence strategy degrades Israeli tempo and elevates costs, the loss-exchange ratio remains overwhelmingly in Israel's favor, reflecting the IDF's superior kill-chain velocity and standoff fires. Hamas therefore did not outright win kinetically; it instead downgraded defeat, delayed an expected IDF victory and aimed for strategic exhaustion or political fracture within the Israeli decision cycle to achieve an upset.

In terms of combat effectiveness, AQB's hybrid defence strategy generated measurable tactical successes: armor destroyed, engineer vehicles disabled, command posts harassed, and UAVs captured. Yet, quantity matters; and combat effectiveness is only a subset of military effectiveness, which encompasses force sustainability, strategic utility, and political payoff. Here the record is mixed. AQB demonstrated organizational resilience after a year of high-intensity fighting, and a degree of tactical effectiveness. However, the organization did not reverse battlefield control nor broken Israeli operational reach. Their effectiveness lied instead in blunting Israeli objectives, imposing costs, and leveraging protracted warfare to shape international perceptions.

In sum, AQB's hybrid defence was less about winning outright than about reshaping the strategic ledger through time, dispersion, and narrative leverage. By preserving a fighting residue under conditions that would crush a conventionally arrayed force, the AQB has demonstrated that hybrid defence and subterranean armies can complicate modern combined-arms maneuver, compelling even technologically preeminent militaries to fight at a ratio and cadence that dilutes their decisive advantages. Whether such endurance translates into tangible strategic gains remains dependent on what follows from the battlespace—the resultant diplomacy, the regional alignments, and the domestic political resolve. What is clear, however, is that the battlespace remains sovereign and supreme; and that the hybrid, subterranean defence constitutes a viable doctrinal template for a small(er) force(s) fighting against a conventionally superior foe(s). Future force planners who ignore this paradigm risk underestimating the capacity of lightly equipped small(er) adversaries to impose strategic drag. In the calculus of modern irregular war, the ability to downgrade an opponent's victory may prove as consequential as seizing a decisive battlespace triumph. In that sense, AQB's hybrid defence strategy stands as an exemplar: a low-technology design yielding high-order strategic effect through disciplined integration of small fires, unconventional maneuver, and subterranean sanctuary.

Notes

1. For purposes of comparison, the Israeli brigades committed in 2023–2024 were significantly smaller; several mustered fewer than 2000 personnel, approximating the regimental strength of the 1960s. Hence, even at peak deployment, total Israeli manpower in Gaza remained below the force that fought in Sinai in 1967—approximately 70,000 soldiers. See: Omar Ashour, "Not an Inevitable Defeat? The Combat Performance on the Egyptian Front," in *The June 1967 War: Trajectories and Consequences*, ed. Ahmad Hussein (Doha/Beirut: Arab Center for Research and Policy Studies, 2020), 77–93. [in Arabic].
2. For details, see: Dan Horowitz, "Israel's War in Lebanon: New Patterns of Strategic Thinking and Civilian-Military Relations," *Journal of Strategic Studies* 6, no. 3 (1983): 83-102; Yezid Sayigh, "Israel's Military Performance in Lebanon, June 1982," *Journal of Palestine Studies* 13, no. 1 (1983): 24-65; Zeev Schiff and Ehud Ya'ari, *Israel's Lebanon War* (New York: Simon & Schuster, 1984); Rex Brynen. *Sanctuary and Survival: The PLO in Lebanon*, (Boulder: Westview Press, 1990); Yezid Sayigh, *Armed Struggle and the Search for State: The Palestinian National Movement, 1949–1993* (Oxford: Clarendon Press, 1997).
3. For a preliminary argument see: Omar Ashour, "The Strategic Studies Unit Discusses the Military, Intelligence, and Regional Perspectives of the Gaza War," Arab Center for Research and Policy Studies, November 26, 2023 https://www.dohainstitute.org/en/Events/strategic-studies-unit-discusses-military-intelligence-and-regional-perspectives-of-the-war-on-gaza/

Pages/index.aspx (accessed December 1, 2024); Omar Ashour, "Ukraine and the Gaza-Related Wars: Military Observations for Preliminary Lessons," *Lennart Meri Conference Papers* (Tallinn: International Centre for Defence and Security, June 12, 2024) https://icds.ee/en/ukraine-and-the-gaza-related-wars-military-observations-for-preliminary-lessons/ (accessed July 30, 2025).

4. In Arabic, *kataʾib* denotes "battalions," not "brigades" (*liwaʾ*, pl. *al-alwiyah*); yet this mistranslation persists across media, academic, and security-defence policy circles.

5. The usage of these acronyms depends on the timeframe being discussed. The Islamic State in Iraq (ISI) existed between October 2006 and April 2013, before it becomes the Islamic State in Iraq and Sham (parts of the Levant) or ISIS. ISIS only lasted between April 2013 and June 2014, before it becomes the Islamic Stat (IS).

6. These terms are defined in the following sections.

7. An unofficial Hamas-affiliated source informed *Reuters* that the movement sustained approximately 6,000 fatalities as of February 2024. This estimate was subsequently disputed by another Hamas official in comments to the *BBC*. During the same period—including the initial phase of hostilities on 7 October 2023—Israel reported the loss of roughly 600 military personnel. The resulting minimum kill ratio, therefore, stands at approximately 1:10 in favour of the IDF. Alternative estimates—excluding the 7 October offensive and focusing solely on the post-ground incursion phase—suggest even wider asymmetries, with ratios approaching 1:25. These figures pertain to combatant losses and do not encompass civilian casualties/fatalities on either side. See: Samia Nakhoul, Jonathan Saul, and Humeyra Pamuk, "Rafah Attack: How Israel Plans to Hit Hamas and Scale Back War," *Reuters*, February 19, 2024, https://tinyurl.com/y9xv589j (accessed October 7, 2024); Merlyn Thomas, Jake Horton, and Benedict Garman, "Israel–Gaza: Checking Israel's Claim to Have Killed 10,000 Hamas Fighters," *BBC News*, February 29, 2024, https://tinyurl.com/yc2573aj (accessed October 7, 2024).

8. This is often termed "ground-truthing" in conflict-event research. See Clionadh Raleigh, Andrew Linke, Håvard Hegre, and Joakim Karlsen, "Introducing ACLED: An Armed Conflict Location and Event Dataset," *Journal of Peace Research* 47, no. 5 (2010): 651–660; Kristine Eck, "In Data We Trust? A Guide to Measurement Issues in Civil War Datasets," *Journal of Peace Research* 49, no. 3 (2012): 527–540; and Nils B. Weidmann, "A Closer Look at Reporting Bias in Conflict Event Data," *American Journal of Political Science* 60, no. 1 (2016): 206–218.

9. A critical military history of the combat operations in Gaza remains under-researched. See: Daniel Byman, "A War They Both Are Losing: Israel, Hamas and the Plight of Gaza," *Survival* 66, no. 3 (June 2024): 61–78.

10. The impacts of state and nonstate terrorism tactics on warfare, military effectiveness and war outcomes still merits further research. See: Omar Ashour, *How ISIS Fights: Military Tactics in Iraq, Syria, Libya and Egypt* (Edinburgh: Edinburgh University Press, 2021); Omar Ashour, "Terrorism in Warfare: How Terrorism Tactics Impact Military Effectiveness in the Middle East and East Europe," in *Emerging Threats: Implications for Gulf Security and the Role of NATO*, ed. Saban Kardas, Haldun Yalçınkaya, and Başar Baysal (Cham: Springer, forthcoming 2026); Omar Ashour, "State Terrorism Revisited: How Putin's Armies Fight like ISIS in Ukraine (2014–2022)," *Perspectives on Terrorism* (forthcoming 2026).

11. See more on the ideological and behavioural dimensions see: Bruce Hoffman, "Religion and Terrorism," in *Inside Terrorism*, 83–138 (New York: Columbia University Press, 2018); Khaled Hroub, "A New Hamas Through Its New Documents," *Journal of Palestine Studies* 35, no. 4 (Summer 2006): 6–27; Omar Ashour, "Hamas and the Prospects of De-Radicalization," in *Violent Non-State Actors in Contemporary World Politics*, ed. Klejda Mulaj (New York: Columbia University Press, 2010).

12. This applies as well to comparisons with state forces.

13. Here, I disaggregate the contemporary battlespace into seven domains: land, maritime, air, space, information, electromagnetic, and cyber. The NATO and the U.S. Department of Defence, however, collapses these into five: land, maritime, air, space, and cyberspace, the

last of which subsumes both the information realm and the electromagnetic spectrum, given the functional and dimensional convergence of those two sub-domains.

14. Sun Tzu, *The Art of War* (London: Oriental Books, 1994), 26.
15. The typologies of "conventional," "quasi-conventional," "unconventional," "guerilla," "regular," "irregular" and other types of warfare are imperfect theoretical framings that simplifies complex realities and dynamic operations for the sake of analysis. In reality, most of these abstract approximations intermingle, are interdependent and constitute a part of an overall strategy to achieve military effectiveness.
16. Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton: Princeton University Press, 1976), 117–121; 479-483.
17. Mattis, James N., and Frank G. Hoffman. "Future Warfare: The Rise of Hybrid Wars." *U.S. Naval Institute Proceedings* 131, no. 11 (November 2005): 18-19.
18. Frank G. Hoffman, *Conflict in the 21st Century: The Rise of Hybrid Wars* (Arlington, VA: Potomac Institute for Policy Studies, 2007).
19. For a history of the term and its usage see: B. H. Liddell Hart, *Strategy: The Indirect Approach* (London: Faber & Faber, 1941); Michael J. Mazarr, *Mastering the Gray Zone: Understanding a Changing Era of Conflict* (Carlisle Barracks, PA: U.S. Army War College Press, 2015); David Kilcullen, *The Dragon and the Snakes: How the Rest Learned to Fight the West* (Oxford: Oxford University Press, 2020); Lawrence Freedman, *The Future of War: A History* (New York: PublicAffairs, 2017); T. Solmaz, "Hybrid Warfare: One Term, Many Meanings," *Small Wars Journal*, December 28, 2022, https://smallwarsjournal.com/2022/02/25/hybrid-warfare-one-term-many-meanings/ (accessed February 25, 2022).
20. Qiao Liang and Wang Xiangsui, *Unrestricted Warfare* (Beijing: PLA Literature and Arts Publishing House, 1999).
21. Stefan Halper, "China: The Three Warfares" (Washington, DC: Office of Net Assessment, 2013); David Knoll, Kevin Pollpeter, and Sam Plapinger, "China's Irregular Approach to War: The Myth of a Purely Conventional Future Fight," *Modern War Institute*, April 27, 2021, https://mwi.westpoint.edu/chinas-irregular-approach-to-war-the-myth-of-a-purely-conventional-future-fight/ (accessed April 27, 2021).
22. Valery Gerasimov, "The Value of Science Is in the Foresight," *Voenno-promyshlennyi kur'er (VPK)*, no. 8 (February 2013); English translation in *Military Review* (January–February 2016): 23–29; Timothy L. Thomas, "Russia's 'New Generation' Warfare in Ukraine: Implications for NATO," *Journal of Slavic Military Studies* 27, no. 1 (2014): 1–24.
23. See for example: Mark Galeotti, "I'm Sorry for Creating the 'Gerasimov Doctrine,'" *Foreign Policy*, March 5, 2018, https://foreignpolicy.com/2018/03/05/im-sorry-for-creating-the-gerasimov-doctrine/ (accessed August 13, 2021).
24. Author interview with F.F. (Colonel, Azerbaijani Armed Forces), Baku, April 8, 2025; Marcus Yam, "A New Weapon Complicates an Old War," *Los Angeles Times*, October 15, 2020, https://www.latimes.com/world-nation/story/2020-10-15/drones-complicates-war-armenia-azerbaijan-nagorno-karabakh (accessed February 28, 2025).
25. Christopher Walker and Jessica Ludwig, "The Meaning of Sharp Power: How Authoritarian States Project Influence," *Foreign Affairs*, November 16, 2017, https://www.foreignaffairs.com/articles/china/2017-11-16/sharp-power-china (accessed August 31, 2024); Christopher Walker and Jessica Ludwig, "From 'Soft Power' to 'Sharp Power': Rising Authoritarian Influence in the Democratic World," National Endowment for Democracy Report, December 2017. In this article, "sharp power" follows Christopher Walker and Jessica Ludwig (2017) as the manipulative, information-centric projection of influence by authoritarian or hybrid actors—distinct from hard power (coercion) and soft power (attraction), and complementary to smart power (Nye). This usage is now common in policy analysis (e.g., NED; CSIS). While Walter Russell Mead employs "sharp" metaphorically (as direct, coercive "prodding"), I adopt the Walker–Ludwig definition because the phenomena under study (disinformation, narrative warfare, platform manipulation) are better captured as informational manipulation than as kinetic coercion. The author wishes to thank one of the reviewers for drawing attention to the multiple definitions and conceptual nuances of "sharp power".

26. The concept of a "weaponised" nonstate actor is defined below.
27. I distinguish here between foreign fighters and mercenaries. The former are primarily motivated by the cause per se, ideology, identity, or kinship. Financial considerations are secondary matter, sometimes non-existent. Mercenaries are primarily driven by financial gain from warfare. See for example: David Malet, *Foreign Fighters: Transnational Identity in Civil Conflicts* (Oxford: Oxford University Press, 2013); Thomas Hegghammer, "The Rise of Muslim Foreign Fighters: Islam and the Globalization of Jihad," *International Security* 35, no. 3 (Winter 2010/11): 53–94; P. W. Singer, *Corporate Warriors: The Rise of the Privatized Military Industry* (Ithaca, NY: Cornell University Press, 2003); "International Convention against the Recruitment, Use, Financing and Training of Mercenaries," UN General Assembly Resolution 44/34 (December 4, 1989), entered into force October 20, 2001; Protocol Additional to the Geneva Conventions of 12 August 1949 (Protocol I), June 8, 1977, art. 47.
28. An HDS can also be employed sequentially, however it is likely less effective.
29. See footnote 11 on the disaggregation of the contemporary battlespace into seven domains, as opposed to five.
30. See for example: David G. Perkins, "Multi-Domain Battle: Driving Change to Win in the Future," *Military Review* 97, no. 6 (November–December 2017): 8–15; on non-state employment of multi-domain operations, see Omar Ashour, *How ISIS Fights* (Edinburgh: Edinburgh University Press, 2021).
31. For example, artillery or air-defence units may provide cover for advancing infantry and armoured formations within the land domain, or land and air components might be integrated, as seen in the Yum Kippur War of October 1973.
32. Another illustration, away from Gaza, is mobile air-defence systems protecting MLRS (Multiple Launch Rocket Systems), a tactic repeatedly observed in eastern and southern Ukraine.
33. For a comprehensive analysis of urban warfare, see Anthony King, *Urban Warfare in the Twenty-First Century* (Cambridge: Polity Press, 2021); see also John Spencer and Liam Collins, *Understanding Urban Warfare* (London: Howgate Publishing, 2022); John Spencer, *Connected Soldiers: Life, Leadership, and Social Connections in Modern War* (Annapolis: Potomac Books, 2022).
34. For the impact of these structural factors on urban warfare, see David Kilcullen, *Out of the Mountains: The Coming Age of the Urban Guerilla* (Oxford: Oxford University Press, 2015).
35. On the review of definitions see: Omar Ashour, *How ISIS Fights*, 17–19; Stephen Biddle, *Military Power: Explaining Victory and Defeat in Modern Battle* (Princeton: Princeton University Press, 2004); John Keegan, *The Face of Battle* (New York: Viking Press, 1976); Barry R. Posen, *The Sources of Military Doctrine: France, Britain, and Germany Between the World Wars* (Ithaca, NY: Cornell University Press, 1984); Allan R. Millett and Williamson Murray, eds., *Military Effectiveness*, 3 vols. (Boston: Allen & Unwin, 1988); Martin van Creveld, *Command in War* (Cambridge, MA: Harvard University Press, 1985); Philip Hayward, "The Measurement of Combat Effectiveness," *Operations Research* 16, no. 2 (1968): 314–323.
36. Such as al-Quds Companies of the Palestinian Islamic Jihad and al-Aqsa Martyrs Battalions—a self-declared affiliate of the mainstream Palestinian Fatah Movement, among others.
37. Emanuel Fabian, "Gaza Division Was Overrun for Hours – IDF Oct. 7 Probe," *Times of Israel*, February 27, 2025, https://www.timesofisrael.com/767-troops-faced-5000-terrorists-gaza-division-was-overrun-for-hours-idf-oct-7-probe/ (accessed July 1, 2025).
38. Ibid.
39. Omar Ashour, "The Combat Performance of Israeli Defence Forces in Gaza and Lebanon: Observations at the Operational Level" [in Arabic], *Strategic Analysis*, no. 10 (Doha: Arab Centre for Research and Policy Studies, October 2024): 1–12, https://www.dohainstitute.org/ar/PoliticalStudies/Pages/combat-performance-of-israeli-forces-in-gaza-and-lebanon-operational-observations.aspx (accessed June 14, 2025).

40. Jane Arraf, "Electronic Warfare Is Interfering with GPS in Areas of Gaza," *NPR*, April 16, 2024, https://tinyurl.com/pnmpvjpa (accessed October 7, 2024); "To See the Future of Urban Warfare, Look at Gaza," *The Economist*, July 18, 2024, https://tinyurl.com/3eedey44 (accessed October 7, 2024).

41. Fabian, "Gaza Division Was Overrun for Hours;" Ashour, "The Combat Performance of the Israeli Defence Forces in Gaza and Lebanon."

42. The armed wing of the Palestinian Islamic Jihad Organisation.

43. Jessica Davis, Tricia Bacon, Emily Harding, and Daniel Byman, "Experts React: Assessing the Israeli Intelligence and Potential Policy Failure," *CSIS Commentary*, October 25, 2023 (accessed July 29, 2025) https://www.csis.org/analysis/experts-react-assessing-israeli-intelligence-and-potential-policy-failure; Omar Ashour, "We Scorned Them: Military, Political and Human Costs of Israeli Hubris," *Al Jazeera*, April 20, 2024 (accessed July 29, 2025) https://www.aljazeera.com/opinions/2024/4/29/we-scorned-them-military-political-and-human-costs-of-israeli-hubris.

44. Ibid.

45. Small infiltrations by fireteam-sized units continued up to 24 October, via both land and sea. They had low-to-no tactical impact.

46. Fabian, "Gaza Division Was Overrun for Hours.".

47. Ibid.

48. Jessica Steinberg, "Sderot Memorializes Police Station That Was Destroyed on October 7," *Times of Israel*, October 24, 2024 (accessed July 1, 2025) https://www.timesofisrael.com/sderot-memorializes-police-station-that-was-destroyed-on-october-7/; John Spencer, "Battle of Sderot Police Station," *Modern War Institute*, December 6, 2024 (accessed July 1, 2025) https://mwi.westpoint.edu/israeli-police-on-october-7-and-the-battle-of-sderot-police-station/.

49. The Netanyahu government's objectives were to destroy Hamas' military capabilities, topple its governance structures in Gaza and to free the hostages. Given the levels of deliberate destruction, an unofficial strategic objective was likely making Gaza uninhabitable and thus rendering a Palestinian population transfer an inevitability.

50. Daphné Richemond-Barak, *Underground Warfare* (New York: Oxford University Press, 2018); Majd Abu Amer, "Gaza's Subterranean Warfare: Palestinian Resistance Tunnels vs. Israel's Military Strategy," *Studies in Conflict & Terrorism*(May 2024): 1–26; Adolfo Arranz et al., "Inside the Tunnels of Gaza: The Scale, and the Sophistication, of Hamas' Tunnel Network," *Reuters*, December 31, 2023 (accessed October 7, 2024) https://tinyurl.com/2s47ean9.

51. John Spencer, "Israel's New Approach to Tunnels: A Paradigm Shift in Underground Warfare," *Modern War Institute*, December 2, 2024 (accessed January 10, 2025) https://mwi.westpoint.edu/israels-new-approach-to-tunnels-a-paradigm-shift-in-underground-warfare/; "An Israeli Plan to Flood Gaza's Tunnels with Seawater" [in Arabic], *Al-Araby TV*, December 5, 2023 (accessed October 7, 2024) https://tinyurl.com/4r29yex6; Maʾmūn Abū Jarrād, "Intelligence Failure and the Lessons of the Gaza War: An Interview with Omar Ashour," *TRT Arabic*, January 12, 2024 (accessed October 7, 2024) https://tinyurl.com/29u4468z. [In Arabic].

52. Designed to defeat Israeli armour equipped with active, reactive or enhanced passive protection, the tandem charge's effectiveness still hinges on vehicle type, armour version, precise point of impact among other variables.

53. The tactical pattern was described to the author in several confidential meetings and interviews with former security and military officials, conducted under the Chatham House Rule at multiple locations between October 2023 and June 2025. These tactical patterns were also reported in open-source data.

54. "Destroying Armoured Vehicles with Tandem and Incendiary Rounds: A Military Analysis of the Resistance's Strategy against the Occupation Forces" [in Arabic], *Al-Araby TV*, January 14, 2024 (accessed October 7, 2024) https://tinyurl.com/2s3k75am.

55. Omar Ashour, "Punching Above Weight: The Rising Combat Effectiveness of Armed Non-State Actors in the Arab World and Beyond," *Strategic Papers*, no. 2 (Doha: Arab

Centre for Research and Policy Studies, August 17, 2020), 1–18 (accessed October 7, 2024) https://bit.ly/4eTnbpv.

56. For the documents reportedly captured by the IDF in Gaza, see Meir Amit Intelligence and Terrorism Information Center, "Hamas' Strategy to Destroy Israel: From Theory into Practice as Seen in Captured Documents," March 25, 2024 (accessed March 31, 2024) https://www.terrorism-info.org.il/en/hamas-strategy-to-destroy-israel-from-theory-into-practice-as-seen-in-captured-documents/. The author has independently corroborated only portions of the documents concerning the lack of endorsement of, and preparation for, a four-front attack on Israel on 7 October by Hamas' state and non-state allies.

57. "Lebanon's Hezbollah Says It Launched Dozens of Rockets after Israeli Strikes," *Reuters*, March 27, 2024 (accessed October 7, 2024) https://tinyurl.com/38cav4rv; Seth G. Jones et al., "The Coming Conflict with Hezbollah," *CSIS Briefs* (Washington, DC: Center for Strategic and International Studies, March 2024) (accessed October 7, 2024) https://tinyurl.com/23ktzus3.

58. Anthony Cordesman, "Lessons of the 2006 Israeli-Hezbollah War," *Center for Strategic and International Studies Analysis*, March 11, 2007, https://www.csis.org/analysis/lessons-2006-israeli-hezbollah-war (accessed July 30, 2025).

59. International Committee of the Red Cross, "Israel/Lebanon/Hezbollah Conflict in 2006," *ICRC Casebook* (accessed July 30, 2025) https://casebook.icrc.org/case-study/israellebanonhezbollah-conflict-2006.

60. Amir Bar-Shalom, "On Both Sides of Gaza's Border, the IDF Is Remaking Security from the (Under)ground Up," *Times of Israel*, March 21, 2024 (accessed October 7, 2024) https://tinyurl.com/2ekm6838.

61. Emanuel Fabian, "IDF's New Mountains Brigade Drills Lebanon Invasion in First Exercise," *Times of Israel*, July 2, 2024 (accessed October 7, 2024) https://tinyurl.com/2p8nk7ke;

62. Jones et al., "The Coming Conflict with Hezbollah"; "Lebanon's Hezbollah Says It Launched Dozens of Rockets," *Reuters*, March 27, 2024.

63. Emanuel Fabian, "How Israel Foiled Iran's Ballistic Missile Attack That Focused on an F-35 Airbase," *Times of Israel*, April 14, 2024 (accessed July 30, 2025) https://www.timesofisrael.com/how-israel-foiled-irans-ballistic-missile-attack-that-focused-on-an-f-35-airbase/.

64. See for example: Haroro J. Ingram, "Three Traits of the Islamic State's Information Warfare," *RUSI Journal* 159, no. 6 (2014): 4–11; Daniel Byman and Emma McCaleb, "Understanding Hamas and Hezbollah's Uses of Information Technology," *CSIS Briefs* (Washington, DC: Center for Strategic and International Studies, July 2023) (accessed December 23, 2023) https://www.csis.org/analysis/understanding-hamass-and-hezbollahs-uses-information-technology.

65. A paradigmatic illustration of sequential ways of warfare shifting (modality-shifting) is provided by the Islamic State in Iraq (ISI) during the 2008 campaign phase. More broadly, ISI—later ISIS/IS—displayed a refined aptitude for orchestrating time-bounded transitions between guerrilla, terrorism, and quasi-conventional ways of warfare across discrete operational windows. See: Ashour, *How ISIS Fights,* 39-41; 57-61.

66. There were multiple tactical level surprises and ambushes, but the overall Israeli incursion was expected.

67. As mentioned in a previous footnote, small infiltrations by fireteam-sized units continued up to 24 October, via both land and sea, with low-to-no tactical impact on the ongoing operations.

68. A ceasefire was reached between Israel and Hamas on 19 January 2025. 31 December 2024 was the cut-off time of this study.

69. See: "Document 6a: The First Scenario, from a Letter by al-Sinwar to Haniyeh, 19 June 2022," in Meir Amit Intelligence and Terrorism Information Center, "Hamas' Strategy to Destroy Israel: From Theory into Practice as Seen in Captured Documents," (accessed March 25, 2024) https://www.terrorism-info.org.il/en/hamas-strategy-to-destroy-israel-from-theory-into-practice-as-seen-in-captured-documents/.

70. Ashour, *How ISIS Fights,* 50-54; 59-62.

71. Meir Amit Intelligence and Terrorism Information Center, "Hamas' Strategy to Destroy Israel: From Theory into Practice as Seen in Captured Documents.".

72. For comparative context, the Egyptians and Syrians invested over four years of rehearsal prior to the October 1973 war, executing roughly thirty-six full-corps canal-crossing and Golan Heights assault exercises, during which each company and platoon iterated its assigned mission profile hundreds of times. No parallel joint training occurred between Hamas and Hizbullah. Every security official interviewed for this study affirmed that no large-scale coordination was undertaken before 7 October 2023. Even so, the scope of each actor's independent preparation remains an open question—one that future defence-studies scholars and military historians should examine in greater depth.

73. The late commander of the AQB.

74. "Speech of al-Qassam Chief of Staff, Mohammed Deif," Izz al-Din al-Qassam Battalions (official website), October 7, 2023 (accessed April 14, 2024) https://alqassam.ps/arabic/videos/index/2796. [In Arabic].

75. Given the scale of deliberate destruction, an implicit strategic aim appears to have been to render Gaza uninhabitable, thereby making a Palestinian population transfer all but inevitable. This interpretation has fuelled accusations of ethnic cleansing and genocidal intent, culminating in the International Criminal Court Prosecutor's 20 May 2024 application for arrest warrants against Israel's Prime Minister Benjamin Netanyahu and Defence Minister Yoav Gallant. In 2025, the International Association of Genocide Scholars has affirmed that Israel's policies and operations in Gaza satisfy the prohibitions of Article II of the 1948 Genocide Convention, constituting genocide as a matter of law. Likewise, the United Nations Independent International Commission of Inquiry, appointed by the Human Rights Council, has concluded in 2025 that Israel's military conduct and intent in Gaza amount to genocidal policies. See for example: Azmi Bishara, *The Flood: The War on Palestine in Gaza* (Beirut: Arab Centre for Research and Policy Studies, 2024).

76. For an order of battle, see: Israel Defense Forces, "Israel at War," (accessed July 30, 2025) https://www.idf.il/en/mini-sites/israel-at-war/.

77. Joe Barnes, "Israel Rushes Out New 'Iron Fist' Anti-Missile Vehicle to Gaza Front Line," *The Telegraph*, November 16, 2023 (accessed July 30, 2025) https://www.telegraph.co.uk/world-news/2023/11/16/israel-rushes-eitan-armoured-vehicle-gaza-front-line/.

78. "Helicopter Carrying Israeli Troops to South after Hamas Assault Was Hit by Explosive," *Times of Israel*, October 15, 2023 (accessed May 25, 2024) https://www.timesofisrael.com/helicopter-carrying-israeli-troops-to-south-after-hamas-assault-was-hit-by-explosive/.

79. Henriette Chacar and Emily Rose, "Israel Drafts 300,000 Reservists as It Goes on the Offensive," *Reuters*, October 9, 2023 (accessed October 15, 2024) https://www.reuters.com/world/middle-east/israel-drafts-300000-reservists-it-goes-offensive-2023-10-09/; Guy Faulconbridge, "Russia Says 335,000 Sign Up to Fight, No Plans for New Mobilisation," *Reuters*, October 3, 2023 (accessed October 7, 2024) https://tinyurl.com/3zumh4md.

80. Andrew Osborn, "Russia Vows No New Mobilisation, 335,000 Sign Up to Fight," *Reuters*, October 3, 2023 (accessed October 15, 2024) https://www.reuters.com/world/europe/russia-vows-no-new-mobilisation-335000-sign-up-fight-2023-10-03/.

81. Part of the organisational structure and "time-sensitive" orders of battle can be found in detail on AQB's official website [in Arabic]. For a backgrounder in English see: Brian Carter, "The Order of Battle of Hamas' Izz al-Din al-Qassam Brigades, Part 1: North and Central Gaza," *Critical Threats Project* (American Enterprise Institute), December 8, 2023 (accessed March 30, 2025) https://www.criticalthreats.org/analysis/the-order-of-battle-of-hamas-izz-al-din-al-qassam-brigades-part-1-north-and-central-gaza; Brian Carter, "The Order of Battle of Hamas' Izz al-Din al-Qassam Brigades, Part 2," *Institute for the Study of War*, December 22, 2023 (accessed March 30, 2025) https://www.understandingwar.org/backgrounder/order-battle-hamas-izz-al-din-al-qassam-brigades-part-2.

82. For AQB's specialised units, see: Israel Defense Forces, "Elimination of Half of Hamas' Military Command and Wounding of 14,000 Operatives," (accessed October 1, 2024) https://www.idf.il/ar/جيش-الدفاع-الإسرائيلي/الحرب-ضد-حما; Israel Defense Forces, "Joint Statement Confirming the Elimination

of 31 Operatives Affiliated with Hamas and Islamic Jihad," (accessed October 2, 2024) https://www.idf.il/ar/جيش-الدفاع-الإسرائيلي/الحرب-ضد-حماس/swordsofiron100824-514/. [In Arabic].

83. This force structure furnishes additional evidence of the concurrent employment of divergent warfare modalities: the "*Shadow Unit*" operates with the hallmarks of a special operations (conventional) element, yet intermittently reverts to terrorist praxis by abducting and holding civilian hostages, including women and children. "Shadow Unit," Izz al-Din al-Qassam Battalions (official website) (accessed October 1, 2024) https://www.alqassam.ps/arabic/specialfiles/details/3;

84. "Cyber Warfare Unit," ibid. (accessed April 1, 2024) https://www.alqassam.ps/arabic/specialfiles/details/41.

85. The IDF has asserted that it has "neutralised" roughly 17,000 Hamas personnel since 7 October 2023—a composite figure that conflates members of Hamas's political echelon, civilian governance apparatus, internal-security police, and the al-Qassam Battalions themselves. As a result, every functional wing of the movement has suffered measurable manpower attrition by early 2025, yet the precise rate of force reconstitution and new recruitment remains opaque. Open-source field reporting suggests that enlistment drives continue, but reliable quantitative metrics have not been released. A separate US intelligence estimate even contends that Hamas has added up to 15,000 new fighters during the current conflict cycle, underscoring the difficulty of translating attrition statistics into definitive judgments about combat power regeneration.
See: Armed Conflict Location & Event Data Project (ACLED), "After a Year of War: Hamas Militarily Weakened but Far from Eliminated," October 6, 2024 (accessed July 1, 2024) https://acleddata.com/report/after-year-war-hamas-militarily-weakened-far-eliminated; Dan Williams, "Hamas Has Added up to 15,000 Fighters Since the Start of the War, U.S. Figures Show," *Reuters*, January 24, 2025 (accessed July 1, 2025). https://www.reuters.com/world/middle-east/hamas-has-added-up-15000-fighters-since-start-war-us-figures-show-2025-01-24/.

86. During an embed in Gaza City, Henry Bodkin (The *Telegraph*'s Jerusalem correspondent) interviewed an unnamed senior IDF officer who characterized the current (2025) Hamas cohort as "younger and braver," noting that their sustained willingness to engage in close-quarters urban fights despite attrition is exceptionally courageous. The appraisal echoes Lt. Gen. Benny Gantz's earlier admission that Israeli forces had "fought against brave men." See: Henry Bodkin, "IDF Faces New Generation of Hamas inside Gaza City," *The Telegraph*, October 4, 2025; "Hamas Fighters 'Courageous,' IDF Chief Says," *Times of Israel*, October 13, 2024.

87. On the role of swarms in urban warfare, see: Anthony King, *Urban Warfare in the Twenty-First Century* (Cambridge: Polity Press, 2021), pp. 153-157.

88. Werner Wider, "*Auftragstaktik* and *Innere Fuhrung:* Trademarks of German Leadership," *Military Review*, (September-October 2002), pp. 3-; Jack Welsh (1981) quoted in Dominik Thoma, *Moltke Meets Confucius: The Possibility of Mission Command in China*, (Tectum Verlag, 2016), p. 1.

89. For an in-depth comparative analysis see Eitan Shamir, *Transforming Command: The Pursuit of Mission Command in the U.S., British, and Israeli Armies,* (Stanford: Standard University Press, 2011).

90. Ashour, *How ISIS Fights,* pp. 208-209.

91. See: Anthony King, *Command: The Twenty-First Century General (*Cambridge: Cambridge University Press, 2019), p. 16; p.52.

92. Ibid.

93. Sometimes, these are a "combined arms" missions—like 7th October—involving light infantry and unguided rocket-artillery units.

94. "Flipping the Equation," *al-Jazeera Documentary,* 27 May 2022 (accessed October 18, 2023) https://www.youtube.com/watch?v=7lauiEnl0pU [in Arabic]; See also: "The Deal and the Weapons," *al-Jazeera Documentary,* 13 September 2020 (accessed October 19, 2023), https://www.youtube.com/watch?v=9lkarL5uWeI&rco=1. [in Arabic].

95. Emanuel Fabian, "IDF Signals Full Control over Beit Hanoun in North Gaza," *The Times of Israel*, December 18, 2023 https://tinyurl.com/4ca76s9t (accessed October 7, 2024).

96. Omar Ashour. "The Combat Performance of Israeli Defence Forces in Gaza and Lebanon: Observations at the Operational Level," *Strategic Analysis*, no. 10 (October 2024), pp. 4–5. [In Arabic]. Author's confidential meetings and interviews with former security and military officials, conducted under the Chatham House Rule at multiple locations between October 2023 and June 2025, provided some insights here into operational-level dynamics here.

97. On the employment of urban defences, see Anthony King, *Urban Warfare in the Twenty-First Century* (Cambridge: Polity Press, 2021), pp. 95-103.

98. ISR Stands for "intelligence, surveillance and reconnaissance." SIGINT stands for "signals intelligence." .

99. Emanuel Fabian, "IDF: Troops Uncovered, Destroyed Hamas Underground Weapons Manufacturing Plant on Coast of Central Gaza," *The Times of Israel*, January 4, 2024 (accessed October 7, 2024) https://tinyurl.com/3rfmbf8a;
Ashour, "The Combat Performance of Israeli Defence Forces in Gaza and Lebanon: Observations at the Operational Level," p. 9 [In Arabic]; Arranz et al., "Inside the Tunnels of Gaza the Scale, and the Sophistication, of Hamas' Tunnel Network.".

100. This outcome stemmed chiefly from Israel's dominance of the electromagnetic spectrum and the superior quantity and quality of its electronic-warfare countermeasures.

101. "IDF's Social Media Ban Is Way Overdue," *Jerusalem Post*, 5 March 2025) https://www.jpost.com/opinion/article-844720 (accessed July 30, 2025); Zak Doffman, "Terrorist Android Malware Exposed: Here Are the Hamas Apps That Targeted Israeli Soldiers," *Forbes*, February 16, 2020) https://www.forbes.com/sites/zakdoffman/2020/02/16/terrorist-android-malware-exposed-here-are-the-hamas-apps-that-targeted-israeli-soldiers/ (accessed July 29, 2025); Oliver Holmes, "Israel: Hamas Created Fake Dating Apps to Hack Soldiers' Phones," *The Guardian*, 3 July 2018) https://www.theguardian.com/world/2018/jul/03/israel-hamas-created-fake-dating-apps-to-hack-soldiers-phones (accessed July 30, 2025).
See also: Daniel Byman and Emma McCaleb, "Understanding Hamas and Hezbollah's Uses of Information-.

102. "Deployment of 'Al-Asif' Torpedoes," Izz al-Din al-Qassam Battalions official website, 2023) https://tinyurl.com/5n6jrpu7. [in Arabic].

103. AQB's shoot-downs and system malfunctions are verified. However, electronic hijack remains unproven during the time of writing, despite Hamas-asserted narrative. For example, AQB has publicly claimed, and open sources have corroborated, several instances in which their fighters shot down small Israeli reconnaissance UAVs (for example a Skylark-2 over Beit Lahia on 1 January 2024). Also, "blue-on-blue" losses were recorded. The IDF acknowledged that some drones have crashed through technical malfunction or Israeli misidentification. Hamas has claimed on more than ten occasions to have hijacked a downed UAV, repaired it, and flown it against Israel. Independent verification is lacking, and the IDF attributes most such incidents to ordinary system failures rather than hostile jamming or spoofing.

104. "A Well-Prepared Ambush Inside a Tunnel in the Sheikh Radwan Area," Izz al-Din al-Qassam Battalions official website, 2024) https://tinyurl.com/4cr9kw9f (accessed July 30m 2025). [in Arabic].

105. Doug Winton, 'Is Urban Combat a Great Equalizer?', PhD Thesis, John Hopkins University, 2019; "To See the Future of Urban Warfare, Look at Gaza," *The Economist*, July 18, 2024) https://tinyurl.com/3eedey44 (accessed October 7, 2024).

106. "The IDF is Accused of Military and Moral Failures in Gaza," *The Economist*, April 11, 2024, https://tinyurl.com/yc3h7zss (accessed October 7, 2024).

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