

The Combat Performance of Hamas in the Gaza War of 2014

By Jeffrey White

IN ITS WAR WITH ISRAEL in the summer of 2014, Hamas displayed a wide range of combat capabilities, including new offensive and defensive tactics.¹ Hamas' evolution on the battlefield presented serious challenges to the Israel Defense Forces (IDF) and, when combined with Israeli operations, made the conflict the most costly in terms of casualties and damage to Gaza since Hamas seized power in 2007.²

Hamas once again demonstrated that it is a learning organization. It studies its experience in battle, develops lessons, and incorporates them into its combat doctrine, forces, and operations.³ It plays down the effects of Israeli actions publicly, does not admit losses or mistakes, and presents a face of victory. Inside the organization, however, Hamas engages in a serious learning process.⁴ Major improvements by Hamas in its latest war with Israel included: enhanced range and numbers of rockets, improved protection of its military infrastructure from Israeli attack, a system of offensive and defensive tunnels, and increased effectiveness and cohesion of its ground combat forces. Taken together, these improvements allowed Hamas to conduct sustained strikes deep inside Israel, even while under siege from Israeli military operations, to conduct offensive ground actions inside Israel and to present significant opposition to Israel's ground incursion. This was

a clear improvement in performance since the Hamas-Israel war in 2009.⁵

Nevertheless, Hamas also showed weaknesses within its military forces. Its rocket offensive, while disrupting life in Israel, and especially in southern Israel, caused few casualties and little damage. Its offensive tunnel system, while allowing infiltration inside Israel, did not lead to successful penetration of the border defense system, except perhaps in one case.⁶ Despite the defensive tunnel system, Israeli forces caused extensive damage to Hamas' military infrastructure.⁷ Hamas' ground forces, notwithstanding their upgrades, were unable to prevent IDF ground operations.

This article reviews Hamas' preparations for battle, its offensive and defensive operations, the group's lessons learned, and the likely contours of the next conflict. It finds that Hamas conducted significant offensive and defensive operations, absorbed intense attacks from the IDF, and emerged with reduced but still intact military capabilities. Hamas will study the lessons learned from this conflict to better prepare for its next military confrontation with Israel.

Hamas' Preparations for Battle

Hamas prepared for an asymmetric conflict with Israel. The group's preparation focused on three principle elements: rocket forces, ground forces, and the tunnel system.

By July 2014, Hamas' arsenal was estimated at approximately 6,000 rockets,⁸ consisting primarily of short range weapons, but with hundreds

of medium range and dozens of long range systems capable of reaching as far as Haifa in northern Israel.⁹ Hamas' rocket forces were well prepared for the campaign, with a system of underground launchers spread across Gaza and the means of moving rockets and rocket squads to launch areas under cover.¹⁰

Hamas expended considerable effort into the build-up of its ground forces. These forces were to be employed offensively against Israel and defensively to prevent deep penetrations into Gaza by Israeli ground forces. Hamas organized the defensive battlefield by deploying dense systems of improvised explosive devices (IEDs)¹¹ and converting civilian areas to defensive localities.¹² It deployed modern anti-tank forces, mortar units, and snipers to support ground operations.

Tunnels were the third major component of Hamas' war preparations.¹³ Tunnels offered cover and concealment for infrastructure, command functions and commanders, forces, weapons and ammunition. They were integral to rocket operations, increasing the difficulty for Israel in finding launch positions and launchers, and allowing launch teams a chance to escape Israeli strikes. Communications and defensive tunnels enabled movement on the battlefield and for fighting from protected positions. They supported offensive infiltration operations and defensive tactical maneuver.

In addition, much of Hamas' military infrastructure was embedded in civilian areas of Gaza.¹⁴ This created in effect a "human dome," reducing or complicating Israel's willingness and

1 This paper focuses on Hamas' military operations and tactics. There are a number of other Palestinian organizations in the Gaza Strip with substantial military forces and capabilities, and with whom Hamas cooperated during the conflict. See Asmaa al-Ghoul, "Gaza's Armed Factions Coordinate Response to Israeli Attacks," *al-Monitor*, July 7, 2014.

2 "Scale of Gaza Destruction Unprecedented, Rehabilitation Will Cost \$7.8 Billion, PA Says," Reuters, September 4, 2014.

3 Amos Yadlin, "Dealing With Hamas' Military Force Reconstruction," The Institute for National Security Studies, September 11, 2014.

4 Yoram Cohen and Jeffrey White, "Hamas in Combat: The Military Performance of the Palestinian Islamic Resistance Movement," The Washington Institute for Near East Policy, October 2009, p. 22.

5 An unnamed Israeli intelligence officer admitted that while nothing Hamas did in the war was a surprise, the resilience of the organization was surprising. See Isabel Kershner, "Israel Says Hamas Is Hurt Significantly," *New York Times*, September 2, 2014.

6 This was the attack on the security post at Nahal Oz on July 28, 2014, in which five Israeli soldiers were killed and the Hamas squad escaped back into Gaza. See Elad Benari and Gil Ronen, "Five Soldiers Killed During Attempted Infiltration," Israel National News, July 29, 2014.

7 Yadlin.

8 Palestinian Islamic Jihad and other Palestinian combat groups had their own rocket arsenals. See "Special Report: The Deadly Rocket Arsenal of Hamas," Israel Defense Forces, July 10, 2014.

9 IDF estimates for the Hamas rocket arsenal in July 2014 were: 3,900 short range systems, more than 1,600 medium range systems, and several dozen long range systems. See *ibid*.

10 Christa Case Bryant, "Hamas Unveils Bigger, Better Rocket Arsenal Against Israel," *Christian Science Monitor*, July 9, 2014.

11 "Hamas Booby Traps Palestinian Houses," IDF Blog, July 27, 2014.

12 "New Declassified Report Exposes Hamas Human Shield Policy," IDF Blog, August 20, 2014.

13 Shlomi Eldar, "Gaza Tunnels Take IDF by Surprise," *al-Monitor*, July 20, 2014.

14 "New Declassified Report Exposes Hamas Human Shield Policy," IDF Blog, August 20, 2014.

ability to strike them and providing a measure of protection.¹⁵

Offensive Operations

Hamas had two main offensive forces in the conflict: rocket units and ground combat forces. Hamas also had a naval unit for sea-borne infiltration operations.¹⁶ Israeli reports indicated that Hamas had even prepared a unit equipped with paragliders for operations inside Israel.¹⁷ Hamas employed nearly all types of its offensive forces in the conflict.¹⁸

For the first 10 days of the war, the focus was on rocket operations. Despite intensive efforts by the Israeli Air Force (IAF), rocket strikes continued throughout the war, including salvo firing and targeting deep into Israel. Even as the final cease-fire approached, Hamas was able to fire large quantities of rockets.¹⁹ For the Palestinians, the ability to keep Israel under threat and disrupt day-to-day life were major accomplishments, with the single most dramatic success being the temporary interruption of air traffic to Ben Gurion airport on July 22, 2014²⁰—although the evacuation of Israeli border settlements was perhaps the most important achievement.

According to reports from Hamas' military wing, the Izz ad-Din al-Qassam Brigades, it was able to fire some 3,600 rockets at Israel including the following types and numbers:²¹

- 11 - R160 (long-range)
- 22 - J80 (mid-range)

- 185 - M75 (mid-range)
- 64 - M55/Fajr 5 (mid-range)
- 3344 - Grad/Qassam/Katyusha/mortar (short-range)

These numbers demonstrate that the bulk of rocket strikes fell on southern Israel, although 271 rockets were directed at central Israel. Hamas was able to modulate firing as it deemed necessary and launched salvo attacks on numerous occasions.²² According to one Israeli account: "Analysis of the fighting indicates that rocket fire is proceeding according to preset plans, with every local commander knowing how many to launch, where to direct them and at what time each day. This decentralized method allows Hamas to continue firing even under intense pressure by the IDF."²³

Nevertheless, Israeli active (Iron Dome) and passive (civil defense) measures limited the overall impact of the rocket offensive. Iron Dome intercepted 735 of the rockets fired at Israel that were identified as threats.²⁴ Israel's civil defense system was important in limiting casualties. It provided guidelines for how to respond when under attack, warning of attack, and shelter from attack.²⁵ The inherent inaccuracy of the rockets, successful interceptions, and civil defense measures meant that there were few Israeli casualties: seven killed and 842 wounded, including "shock" casualties by the rocket and mortar attacks.²⁶ Structures and property suffered physical damage, but it was quite limited.²⁷ Disruption of life and economic activity were substantial, especially in southern Israel.²⁸

Offensive tunnels constituted the second major offensive capability of Hamas. The IDF discovered 32 offensive tunnels in the course of operations.²⁹ Fourteen reportedly reached into Israel and two more had exits within 500 meters of the Israeli border.³⁰ These tunnels were designed to allow Hamas assault squads to penetrate Israeli border defenses without detection and to attack targets inside Israel with the advantage of surprise. According to Israeli information, each tunnel was under the control of a Hamas battalion, responsible for its digging and probably operations during wartime.³¹

Hamas assault squads were relatively small³² but heavily armed, carrying rocket-propelled grenades (RPG), light machine guns, assault rifles, and hand grenades. Hamas personnel in some cases wore IDF uniforms to increase confusion and hesitation on the part of IDF soldiers.³³ Offensive tunnels sometimes also contained equipment for hostage taking³⁴ (plastic handcuffs, anesthetics), and in one case three motorcycles were found, probably intended to facilitate movement inside Israel.³⁵

Hamas executed six tunnel-based infiltration operations during the war with limited success.³⁶ Assault squads penetrated the border and in four cases

15 "How is the IDF Minimizing Harm to Civilians in Gaza?" IDF Blog, July 16, 2014.

16 Mohammed Najib, "IDF Repels New Hamas Naval Commandos," *IHS Jane's Defense Weekly*, July 9, 2014.

17 "Israeli Strike on Hamas Leader Raed Attar Foiled Gaza-Area Paraglider Attack - 'Attar's Assassination Has Disrupted Everything,'" *Algemeiner*, September 1, 2014.

18 The paraglider unit was not used in the conflict probably because the IDF disrupted it with its attack on the unit's leader. See *ibid*.

19 "News of Terrorism and the Israeli-Palestinian Conflict (August 26-September 2, 2014)," The Meir Amit Intelligence and Terrorism Information Center, September 2, 2014.

20 "Flights Cancelled Into Israel's Ben Gurion International Airport As Rocket Falls Nearby," *Forbes*, July 22, 2014.

21 This was posted on @qassam_arabic1, August 27, 2014.

22 See, for example, Yaakov Lappin, "IDF Completes Withdrawal from Gaza, Keeps Forces Massed on Border," *Jerusalem Post*, August 5, 2014.

23 Amos Harel, "Hamas is Trying to Get Itself Out of a Tight Spot," *Haaretz*, August 24, 2014.

24 Ben Hartman, "50 Days of Israel's Gaza Operation, Protective Edge - By the Numbers," *Jerusalem Post*, August 28, 2014.

25 See Israel Home Front Command website at www.oref.org.il/894-en/Pakar.aspx.

26 Ben Hartman, "71st Israeli Fatality of Gazawar: Man Succumbs to Wounds From Rocket Attack," *Jerusalem Post*, August 29, 2014.

27 Zvi Zrahiya, "As Fighting Eases, Gaza Conflict Cost Seen Totalling \$8 Nillion," *Haaretz*, August 6, 2014.

28 *Ibid*.

29 Jeremy Binnie, "IDF Detail the Damage Inflicted on Gaza Militants," *IHS Jane's Defense Weekly*, August 8, 2014.

30 *Ibid*.

31 Yaakov Lappin, "Analysis: The Hidden Picture in Gaza," *Jerusalem Post*, July 31, 2014.

32 The largest groups were 13-man squads involved in the July 18 and July 19, 2014, infiltrations. See Joshua Mitnick, Nicholas Casey and Tamer El-Ghobashy, "Hamas Fighters Infiltrate Israel Through Tunnel and Kill Two Soldiers," *Wall Street Journal*, July 19, 2014.

33 Mitch Ginsburg, "Hamas Will Start Tunnelling as Soon as we Leave," *Times of Israel*, July 27, 2014.

34 Mitnick et al.

35 "Israeli Forces Unearth 'Terror Motorcycles' From Alleged Hamas Tunnel in New Video," *Telegraph*, August 4, 2014.

36 David Horovitz, "Israel Might Have Won; Hamas Certainly Lost," *Times of Israel*, August 6, 2014. Hamas also attempted a seaborne infiltration attempt along Israel's coast near Zikim. This was detected by Israeli naval observers and the infiltration unit was destroyed. See Yaakov Lappin, "Watch: IDF Kills 5 Hamas Terrorists Attempting to Infiltrate from the Sea," *Jerusalem Post*, July 8, 2014.

they engaged Israeli forces. Hamas attempted to ambush Israeli forces and patrols using anti-tank weapons against vehicles. In these clashes, 11 Israeli soldiers were killed.³⁷ The most successful action occurred on July 29, 2014, when infiltrators surprised an Israeli security post at Nahal Oz in an apparent hostage-taking attempt.³⁸ Five IDF soldiers were killed with possibly only one Hamas combatant killed or wounded.³⁹

Israel's system of security fences, surveillance and patrols was generally effective in countering the infiltration actions, but the attempts inflicted casualties on Israeli forces and contributed to the sense of insecurity among the border settlements.⁴⁰

Throughout the conflict, Hamas used mortars and short range rockets, especially the 107mm type, in an artillery role. These weapons were used to bombard border settlements,⁴¹ IDF force concentrations on both sides of the border,⁴² Israeli military posts,⁴³ and to support tunnel infiltration attempts.⁴⁴

Defensive Operations

Defensive operations included resistance to Israeli ground force penetration into Gaza and counterattacks on Israeli forces inside Gaza. Defensive operations also served as the shield behind which Hamas could launch rockets and mortars against Israel.

Hamas deployed six "brigades" of between 2,500 and 3,500 men for defense of the Gaza Strip.⁴⁵ Each brigade was responsible for a sector of the front with Israel.⁴⁶ Brigades were apparently grouped together under a regional commander.⁴⁷ Each brigade probably had a mix of forces including rocket and mortar units, anti-tank units, snipers, and infantry.⁴⁸

Hamas forces engaged in a number of types of defensive action.

Close Combat

Close combat involved direct fire engagements between Hamas and Israeli ground forces, with Hamas using RPGs, machine guns, and small arms. Hamas employed mortars, short range rockets and antitank guided missiles to support these engagements. Hamas fighters appeared more effective and aggressive than in past conflicts, surprising Israeli forces and coordinating fire. Tunnels were a particular venue for close combat. Israeli forces did not just discover tunnels; they had to fight for them.⁴⁹ Hamas used tunnels to surprise Israeli forces with close engagements. While Israel seems to have won most of the close combat actions, Hamas fighters inflicted casualties on even the best Israeli infantry and armored formations.⁵⁰ Hamas reportedly has

a "special unit" for close combat and infiltration operations.⁵¹

Anti-Tank Actions

A second key category of Hamas ground action consisted of attacks on Israeli armored vehicles, including tanks, armored personnel carriers (APCs), and armored engineering vehicles. Hamas had specialized anti-tank units equipped with a variety of anti-tank guided missiles (ATGM) and RPGs. ATGMs reportedly included the Malyutka, Konkurs, Fagot, and Kornet types.⁵² RPGs included the RPG-7 and the modern and capable RPG-29.⁵³ Hamas attempted to engage IDF armor with ATGMs at long range, and with anti-tank teams in close combat.⁵⁴ Hamas also used IEDs and mines against IDF armor, and attempted to draw the IDF into prepared "ambushes" where all anti-tank means could be brought to bear.⁵⁵

Hamas was less effective with these tactics. Not a single IDF tank was confirmed destroyed, nor were any Namer heavy APCs lost in combat. Other armored vehicles appeared more vulnerable, including the aging M113 APC, in which seven Israeli troops were killed in an RPG blast.⁵⁶ Armored corps personnel were killed and wounded by sniping and mortar fire, but by and large Hamas anti-tank weapons and tactics were not of great effect.⁵⁷ This was due to the Trophy anti-ATGM system employed on Merkava Mk 4 tanks,⁵⁸ the protection provided by Merkava tanks and Namer APCs,⁵⁹ and probably Israeli

37 Horovitz.

38 Elad Benari and Gil Ronen, "Five Soldiers Killed During Attempted Terrorist Infiltration," *Israel National News*, July 29, 2014.

39 Ibid.

40 Mitnick et al.

41 See @Qassam_English for numerous tweets on this activity during the war. For example: @Qassam_English, "Fired 4 107 rockets, 5 rockets & 2 mortars at Sderot and 5 107 rockets & 5 mortars at Yad Mordechai kibbutz in response to Israeli Crimes," July 21, 2014.

42 @Qassam_English, "18:25 Al-Qassam Brigades bombed a gathering of armored machines and soldiers Rayyan area east of Rafah with 3 107 missiles," August 3, 2014.

43 @Qassam_English, "16:50 Al-Qassam fired 2 mortars on Hashudat military base, West of Ashkelon, North of Beit Lahia in response to Israeli Crimes," July 19, 2014.

44 This is based on correlation of mortar and rocket fire with tunnel infiltration attempts.

45 Isabel Kershner, "Israel Says Hamas Is Hurt Significantly," *New York Times*, September 2, 2014. Hamas sources estimate Qassam Brigades manpower at 30,000, but this is likely an exaggeration. See "The 'Izz Al-Din Al-Qassam Brigades' Weapons And Units," Middle East Media Research Institute, September 2, 2014.

46 Kershner.

47 Israel's targeted killing of three senior Hamas military commanders on August 21, 2014, revealed that one of them, Mohammed Abu Shamlah, was the director of Hamas forces in southern Gaza. See "IDF Targets Senior Hamas Terrorists in Gaza," *Israel Defense Forces*, August 21, 2014.

48 For the structure of Qassam Brigades combat units in 2009, see Yoram Cohen and Jeffrey White, "Hamas in Combat: The Military Performance of the Palestinian Islamic Resistance Movement," *The Washington Institute for Near East Policy*, October 2009, p. 15.

49 Avi Issacharoff, "Amid the Tunnels and the Traps of Hamas's Militarized Gaza," *Times of Israel*, August 1, 2014.

50 While the Golani infantry brigade seems to have taken the most killed in action, all the other regular infantry and armored brigades, as well as some specialized units, in Gaza took casualties. These included the Parachute Brigade, the Nahal, and Givati infantry brigades, the

7th, 188th, and 401st Armored Brigades, and the Maglan special forces unit and the Yahalom combat engineer brigade.

51 "The 'Izz Al-Din Al-Qassam Brigades' Weapons And Units."

52 Ibid.

53 Ibid.

54 Qassam Brigades reporting provides numerous claims of such actions. See, for example, "Al-Qassam Brigades Fired Rocket-Propelled Grenades at Israeli Tank in the al-Tuffah & Israeli Troop Carrier in Beit Hanoun," @Qassam_English 4:35 AM, July 21, 2014.

55 "Al Qassam Kills 14 Israeli Soldiers in an Ambush East of Gaza city," al-Qassam website, July 20, 2014.

56 Yaakov Lappin, "IDF Wants More Namer APCs and Trophy Protection Systems," *IHS Jane's Defense Weekly*, August 21, 2014.

57 Ibid.

58 Ibid.

59 Ibid.

tactics that employed heavy firepower against ATGM threats.

Engineering Warfare

Engineering warfare was a principal aspect of the ground fighting. Defensively, Hamas used two primary types of engineering activity to improve its ability to resist incursions by IDF ground forces: defensive tunneling⁶⁰ and IEDs.⁶¹ The objective of this activity was to reduce the IDF's ability to maneuver, increase Israeli casualties, and allow Hamas' combat forces to operate tactically against IDF units even in the face of Israel's firepower advantage. Tunnel entrances were routinely booby-trapped to cause IDF casualties.⁶² Tunnels were also difficult to destroy, requiring significant engineering efforts to trace and then destroy or disrupt them.⁶³

Fire Support

Hamas used mortars extensively, especially 120mm types, and short range rockets to support defensive operations.⁶⁴ Israeli forces inside Gaza and on the Israeli side of the border were subject to continual harassment fire.⁶⁵

Sniping

Hamas snipers harassed and inflicted casualties on exposed Israeli troops and armored vehicle personnel.⁶⁶

Suicide Attack

Several suicide attacks were carried out on Israeli forces inside Gaza.⁶⁷ The most successful attack was against Givati Infantry Brigade troops on August 1, 2014, which killed three Israeli soldiers and may have been part of a complex abduction operation.⁶⁸

60 Ibid.

61 Ibid.

62 Issacharoff.

63 Ibid.

64 According to the IDF, 356 rockets were fired against its forces in the Gaza Strip. See Jeremy Binnie, "IDF Detail the Damage Inflicted on Gaza Militants," *IHS Jane's Defense Weekly*, August 8, 2014.

65 Ibid. See also numerous Qassam Brigades' tweets on bombardment of Israeli positions and force concentrations with mortars and 107mm rockets during the course of war @Qassam_English.

66 The Qassam Brigades published numerous tweets on sniping actions at @Qassam_English during the conflict. 67 "IDF Troops Foil Female Suicide Bombing Attack," IDF Blog, July 25, 2014.

68 Mitch Ginsburg, "IDF Searches for Officer Kidnapped

Air Defense

Hamas claims to have an air defense unit equipped with heavy anti-aircraft machine guns and several types of man portable air defense systems (MANPADS), including the SA-7, SA-18, and SA-24.⁶⁹ During the course of the conflict, Hamas claimed to have "hit" several Israeli aircraft including an F-16 and an F-15.⁷⁰

Overall, Hamas' forces performed relatively well in the ground fighting.⁷¹ Resistance to Israeli ground forces was skillful, adaptive, and conducted coherently. Personnel were willing to engage in close combat with Israeli forces and conducted infiltration and ambush missions with determination. The most successful day for Hamas' defensive operations was July 20, 2014, when 13 soldiers of the Golani Infantry Brigade were killed while attempting to advance into the Shejaiya area east of Gaza city.⁷² This action involved a minefield, antitank weapons, infantry and supporting fire from mortars.⁷³

Hamas' forces were able to inflict significantly greater casualties than in the 2009 conflict: 66 Israeli soldiers died in 2014, compared to 10 in 2009.⁷⁴

in Rafah Attack that Also Killed 2 Soldiers," *Times of Israel*, August 1, 2014.

69 "The 'Izz Al-Din Al-Qassam Brigades' Weapons And Units," Middle East Media Research Institute, September 2, 2014.

70 See, for example, @Qassam_English, "#AllPraises-ToAllah Today, Al-Qassam Brigades hit an Israeli F-16 warplane over the besieged Gaza Strip...The Israeli jet was targeted early Wednesday with a surface-to-air missile over the city of Deir al-Balah in central Gaza," July 23, 2014; @Qassam_English, "13:56: Managed one of the Qassam units of air defense weapon for targeting F15 warplane; was a direct hit which led to a fire," July 25, 2014.

71 Amos Harel, "As Casualties Mount, the Gaza Operation Threatens to Become a War," *Haaretz*, July 21, 2014.

72 Yaakov Lappin, "13 IDF Soldiers Killed in Gaza as Operation Protective Edge Death Toll Climbs to 18," *Jerusalem Post*, July 20, 2014.

73 "Al Qassam Kills 14 Israeli Soldiers in an Ambush East of Gaza City," Al Qassam website, July 20, 2014.

74 For IDF KIA in Operation Protective Edge, see Ze'ev Ben-Yechiel, "Last IDF Soldier Killed in Protective Edge Laid to Rest," *Breaking Israel News*, September 2, 2014.

For IDF KIA in Operation Cast Lead, see Yoram Cohen and Jeffrey White, "Hamas in Combat: The Military Performance of the Palestinian Islamic Resistance Movement," *The Washington Institute for Near East Policy*, October 2009, p. 22.

Israeli sources report that as the conflict dragged on, there were cases of Palestinian units breaking under the stress of combat,⁷⁵ but this does not appear to have been a general pattern.

Lessons Learned

Hamas is a learning organization and will study this conflict to develop its own set of "lessons learned." One Israeli analyst has described Hamas' "learning" in these terms:

Hamas has proven strikingly adept at steering its fighting doctrine away from Israel's strengths. If Israel has precise munitions, then Hamas has positioned its weaponry and command centers in hospitals and in extreme proximity to civilian centers. If Israel has highly advanced signals intelligence capacities, then Hamas has turned toward runners and other primitive forms of communication. If Israel controls the skies and sees all from above, then Hamas has carved out a subterranean network from which it launches ambushes and rocket strikes. And if, among other things, Israel's engineers have manufactured a means of striking Hamas' rockets out of the sky, then Hamas has moved toward mortars, which have a limited range but are largely immune to Iron Dome's capabilities.⁷⁶

There are a number of lessons that Hamas likely learned from the conflict. At the highest level, the war at least partially validated Hamas' way of war: sustain strikes into Israel, prevent deep IDF penetration of Gaza, cause Israel to kill civilians, inflict civilian and military casualties on Israel, and achieve an image of victory. The first three of these were largely achieved, the last two much less so. Hamas will likely see no reason for drastic change.

Hamas learned, or re-learned, that it can continue military operations of all types even while under intense attack. Its investment in tunnels and building

75 See, for example, Lilach Shoval, "This is War and We are Winning," *Israel Hayom*, July 27, 2014.

76 Mitch Ginsburg, "Ground Op is Still an Option, but Time is Not on Israel's Side," *Times of Israel*, August 25, 2014.

the rocket and mortar arsenal paid dividends. Israeli air and ground power, while inflicting casualties and damage on Hamas' forces, did not break or render them combat ineffective. Air power was not enough against a physically and mentally hardened enemy, and Hamas' ground forces resisted IDF ground forces at least up to a point.

Fighting from within the population is effective. Israel is heavily constrained by the presence of civilians, and will not use all its available firepower. It will take measures to reduce civilian casualties that will reduce its effectiveness in striking targets and contribute to the survival of Hamas' assets and forces. According to Palestinian and United Nations sources, some 2,100 Gazans were killed in the war.⁷⁷ The proportion of civilians to combatants killed is in dispute, with Palestinian and UN sources claiming that about 70% of the casualties were civilian and Israeli sources claiming that a little over 50% were civilians.⁷⁸ Whatever the number, significant Palestinian civilian casualties will occur regardless of the measures taken by Israel.⁷⁹

The Iron Dome does not solve Israel's rocket problem. While it is successful in reducing casualties and damage, rocket firing disrupts life across much of Israel. Every time Israelis take to the shelters, Hamas scores a success. When flights to and from Ben Gurion airport are disrupted, it is an important success. When Israelis are forced to abandon settlements close to the border, it is a major success.

This war showed again that Hamas needs air defense capabilities. Without effective air defense, or at least the ability to impose some limits or complications on Israeli air operations, Hamas will continue to lack effective means to defend its military assets and

the people of Gaza. It can be expected that Hamas will attempt to acquire more and better MANPADs.

There are also important lessons at the tactical level. Mortar systems are effective in inflicting casualties and damage on Israeli forces and civilian targets. Close combat can produce Israeli casualties in spite of IDF firepower advantages. Defensive tunnels allow Hamas' forces to engage Israeli units in close combat with, at least on occasion, the element of surprise, giving Hamas' forces a degree of survivability in these engagements. IDF defensive measures reduced the effectiveness of anti-tank weapons. In particular, the Trophy vehicle protection system worked against Hamas' ATGM. Sniping inflicted a number of casualties on IDF personnel, especially vehicle commanders.

Finally, Hamas learned that it has no answer to the Israeli Navy. The IDF's naval forces were able to operate close inshore to conduct naval gunfire and sea commando operations with virtual impunity. Although Hamas reportedly had an interest in coastal defense missiles at one time,⁸⁰ none were used in this conflict.

The Contours of the Next Conflict

Until and unless there is either a political or military solution to the Gaza problem, there will be future rounds of conflict. It is possible to see the shape of Hamas' military operations in the next round.

Hamas will likely continue to emphasize rockets as the mainstay of its offensive operations against Israel. Hamas will try to improve its rocket capability. There are several ways it can achieve this, depending on access to technology and critical materials. It can increase the number of rockets in its arsenal to enable it to mount larger strikes and sustain them longer. It can increase the number of mid and long range rockets to bring heavier fire on central and northern Israel to increase the damage and disruption in that region. It can also attempt to improve the accuracy and destructiveness of its rockets. Its leader, Khaled Meshaal, has noted

the inaccuracy of their weapons.⁸¹ Improving the rocket warheads will mean that those that get through the Iron Dome will cause greater casualties and damage. These improvements will challenge the Iron Dome system. Hamas will likely pursue alternatives to rockets for offensive operations, including drones, more powerful mortars, and more offensive tunnels. In a future war, Hamas will attempt to achieve the same level of disruption in central Israel that it achieved in southern Israel.

In preparing for a future war, Hamas will continue to place emphasis on tunnels, including both offensive and defensive tunnels. Hamas will likely strengthen and deepen its defensive layout and means. It will likely increase the number of anti-tank units and weapons it can deploy in response to the Israeli Trophy active protection system and Israel's likely acquisition of additional heavily armored tanks and APCs. Hamas will devote some effort to improving its air defenses, although Israel's air superiority means that Hamas will probably not do more than try to acquire a capability to perhaps shoot down an Israeli aircraft and claim an image of victory.

Whatever its path forward, Hamas will be ready for the next round of war with Israel. It will seek to fight longer, do more damage, and defend itself more vigorously. Whether or not Hamas can accomplish this in the face of Israel's close monitoring of the situation and Egyptian hostility to the group remains to be seen. Yet Hamas cannot give up armed "resistance" without changing its fundamental nature.

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⁷⁷ William Booth, "The U.N. Says 7 in 10 Palestinians Killed in Gaza Were Civilians. Israel Disagrees," *Washington Post*, August 29, 2014.

⁷⁸ See Judi Rudoren, "Civilian or Not? New Fight in Tallying the Dead From the Gaza Conflict," *New York Times*, August 5, 2014.

⁷⁹ These numbers can be manipulated to attract media attention as well. Even if later corrections to casualty counts occur, powerful and lasting impressions of civilian deaths will remain.

⁸⁰ "Hamas Seeks Chinese C-802 Antiship Missiles from Iran," *Free Republic*, January 29, 2014.

⁸¹ Michael Isikoff, "Hamas Leader: Don't Compare Us to ISIL," *Yahoo News*, August 22, 2014.