From Cast Lead to Protective Edge

Lessons from Israel's Wars in Gaza

Raphael S. Cohen, David E. Johnson, David E. Thaler, Brenna Allen,
Elizabeth M. Bartels, James Cahill, Shira Efron

For more information on this publication, visit www.rand.org/t/RR1888

Cover photos (clockwise): Nir Elias/Reuters; Amir Cohen/Reuters;
Abu Mustafa/Reuters; Tsafrir Abayov/AP Photo

www.rand.org

Preface

This report examines the Israel Defense Forces operations in Gaza from the end of Operation Cast Lead in 2009 through Operation Pillar of Defense in 2012 to Operation Protective Edge in 2014. Drawing on a mixture of primary and secondary sources and extensive interviews, this report tells the history of Israel's campaign and details Israeli efforts to adapt to hybrid adversaries in complex urban terrain. The report then extracts the relevant lessons from the Israeli experience for the U.S. Army and the joint force at large.

This report speaks to multiple audiences. More directly, its findings should interest students of the Arab-Israeli conflict and the Middle East. This report, however, also wrestles with broader operational and strategic issues, and its conclusions should interest functional experts as well, specifically those interested in urban warfare, lawfare,[1] and the ability of states to deter nonstate actors.

---

[1] *Lawfare* — or the combination of *law* and *warfare* — describes the exploitation of and adherence to national and international law to conduct warfare.

Contents

Figures and Table

Summary

For more than a decade, Israel has clashed with Hamas in Gaza, with cycles of violence defined by periods of intense fighting followed by relative lulls. This report focuses on a five-year period of this conflict: from the end of Operation Cast Lead in 2009 to the end of Operation Protective Edge in 2014. It distills lessons from the multiple conflicts that have occurred between the Israel Defense Forces (IDF) and an adaptive hybrid force increasingly skilled in urban combat. Given the growing urbanization in the world, U.S. forces are likely to find themselves embroiled in urban combat; drawing lessons from the Israeli conflicts could inform their training for such operations.

Operation Cast Lead concluded in January 2009 when Israel declared a unilateral cease-fire and the United Nations (UN) Security Council adopted Resolution 1860 to enforce it. Hamas and Israel generally observed the cease-fire until early 2011. In March of that year, owing to a mixture of internal political rivalries and external pressure from the Arab Spring, Hamas launched periodic rocket attacks against Israel, and the Israeli Air Force (IAF) responded with targeted killings of militants, attacks on rocket squads, and strikes against tunnels used for weapon smuggling.

Over the following 20 months, tensions between Israel and Hamas continued to escalate. Between November 11 and 13, 2012, more than 200 rockets and a number of mortar rounds were fired into Israel from Gaza, wounding dozens of civilians and damaging prop-

erty.[1] In a meeting in Be'er Sheba with the heads of regional councils in the south, Israeli Prime Minister Benjamin Netanyahu said, "Whoever believes they can harm the daily lives of the residents of the south and not pay a heavy price is mistaken. I am responsible for choosing the right time to collect the highest price, and so it shall be."[2] Israel launched Operation Pillar of Defense the next day, November 14, with the targeted killing of Hamas military chief Ahmed Jabari and pinpoint attacks against other targets.[3] Over the eight-day conflict, Hamas and Palestinian Islamic Jihad fired more than 1,456 rockets into Israel,[4] hitting Tel Aviv for the first time since Iraqi Scud attacks during the 1991 Gulf War.[5] In response, the IAF struck more than 1,500 targets in Gaza, including rocket launchers, weapon stocks, and Hamas government infrastructure.[6] While Israel mobilized a total of 57,000 reservists and deployed ground forces along Gaza's border, a ground incursion ultimately never occurred.[7] At 9 p.m. on November 21, 2012, a cease-fire — brokered by Mohamed Morsi's Muslim Brotherhood–led Egyptian government — went into effect.[8]

For a while, Israel and Gaza enjoyed a period of relative calm. In the year after Pillar of Defense, the number of Gaza-originated attacks against Israel declined dramatically. Only 63 rockets and 11 mortar

---

[1] Israel Ministry of Foreign Affairs, "Rocket Fire from Gaza and Ceasefire Violations After Operation Cast Lead (Jan 2009)," December 25, 2014.

[2] Aaron Kalman and Associated Press, "Netanyahu Says It's His Responsibility to Exact Price for Rockets on the South," *Times of Israel*, November 13, 2012.

[3] Olga Khazan, "Israel Army Says Jabari Had 'Blood on His Hands,'" *Washington Post*, November 14, 2012.

[4] UN, "Secretary-General's Remarks to the Security Council (as delivered)," web page, November 21, 2012a.

[5] Yaakov Lappin et al., "Gaza Terrorists Fire Two Rockets at Tel Aviv," *Jerusalem Post*, November 16, 2012.

[6] Nidal al-Mughrabi, "Factbox: Gaza Targets Bombed by Israel," Reuters, November 21, 2012c.

[7] Harriet Sherwood, Peter Beaumont, and Chris McGreal, "Israeli Airstrike Hits Hamas PM's Office," *The Guardian*, November 17, 2012.

[8] "Live Blog: Day 8 of Israel-Gaza Conflict 2012," *Haaretz*, November 21, 2012.

shells were fired from Gaza during all of 2013 and, thanks in part to Iron Dome (Israel's rocket defense system), these attacks did not inflict any Israeli casualties.[9]

By 2014, however, Hamas faced increased economic and political pressure. Egypt's new president, Abdel Fattah el-Sisi, viewed Hamas as allied with his arch-nemesis, the Muslim Brotherhood, and closed down smuggling tunnels from Egypt to Gaza, denying Hamas one of its key revenue sources. The Sunni-dominated Hamas lost another source of revenue when it broke with Shi'ite Iran and Iran-allied Syria over the Syrian civil war. Israel also contributed to Hamas's increasingly precarious economic situation. After discovering that Hamas had diverted 500 tons of cement from civilian construction projects into a massive cross-border tunnel, Israel stopped the flow of construction materials into Gaza. The net result was that the construction sector, one of the main employers in Gaza, lost 17,000 jobs in 2014.[10] Internally, Hamas needed to maintain control of Gaza against competing smaller Palestinian militant groups, while simultaneously challenging Fatah for control of the West Bank.

Ultimately, this mixture of political and economic pressures sparked increasing levels of violence. For Hamas, violence allowed it to both prove its bona fides as the armed opposition to Israel and extract economic concessions. As one Hamas analyst noted,

> The last war was about the economy. Hamas wanted an economic breakthrough. They wanted to open the crossing at Rafah and to get salaries for their leaders. They may not have envisioned a large-scale war, but possibly thought that by escalating they could get Israel to concede.[11]

Operation Protective Edge began on July 8, 2014, and consisted of three phases. The first was an air campaign (July 8–16) that looked similar to Pillar of Defense, with Israel targeting Hamas militants and

---

[9]   Israeli Security Agency (Shin Bet), "2013 Annual Summary Terrorism and CT Activity," December 1, 2013.

[10]   Paul Rivlin, "Economics and the War in Gaza," *Iqtisadi [Middle East Economy]*, Vol. 4, No. 8, August 2014, p. 4.

[11]   Interview with senior Israeli analyst of Hamas, Tel Aviv, May 24, 2016.

infrastructure. Airpower alone, however, could not destroy Hamas's tunnel network, and in a second phase of the operation, Israel launched a ground incursion (July 17–August 4). Although IDF forces pushed only a few kilometers into Gaza to find and destroy Hamas's extensive cross-border tunnels, the IDF sporadically encountered fierce pockets of resistance in places like Shuja'iya, where its Golani Brigade fought one of the most intense battles of the war. After two weeks of operations, the IDF withdrew, and Protective Edge entered its final "finishing" phase (August 5–26), marked by a series of temporary cease-fires broken by air strikes and rocket fire.[12]

Protective Edge took a toll in both blood and treasure. On the Israeli side, some 66 Israeli soldiers and six civilians died in the conflict.[13] The conflict also exacted a significant economic toll: The Israeli Tax Authority estimated that Protective Edge caused almost $55 million in direct damage to private and public infrastructure and another $443 million in indirect damage as a result of economic disruptions caused by the conflict.[14] On the Palestinian side, the UN estimated the number of Palestinian deaths at 2,133 killed, of whom 1,489 were civilians.[15] By contrast, Israeli estimates suggest that there were 1,598 Palestinian fatalities in Operation Protective Edge, of which 75 percent were combatants.[16] In addition, the UN estimated 500,000 people —

---

[12] Interview with a senior IDF officer, Tel Aviv, May 26, 2016; State of Israel, *The 2014 Gaza Conflict (7 July–26 August 2014): Factual and Legal Aspects*, Israel Ministry of Foreign Affairs, May 2015, p. 36; meeting with Israeli academics, Begin-Sadat Center for Strategic Studies, Bar Ilan University, Tel Aviv, May 22, 2016.

[13] Lenny Ben-David, "Gazan Casualties: How Many and Who They Were," in Hirsh Goodman and Dore Gold, eds., *The Gaza War 2014: The War Israel Did Not Want and the Disaster It Avoided*, Jerusalem, Israel: Jerusalem Center for Public Affairs 2015a, pp. 141–151.

[14] State of Israel, 2015, pp. 132–133.

[15] UN Office for the Coordination of Humanitarian Affairs (OCHA), *Gaza Initial Rapid Assessment*, New York, August 27, 2014, p. 2.

[16] Ben-David, 2015a, p. 141; also see Harel Chorev and Yvette Shumacher, "The Road to Operation Protective Edge: Gaps in Strategic Perception," *Israel Journal of Foreign Affairs*, Vol. 8, No. 3, 2014.

28 percent of Gaza's population—were internally displaced, while some 108,000 people had their homes rendered uninhabitable.[17]

Israel tries to maintain a difficult balance with respect to Hamas. On one hand, it wants to punish Hamas for its attacks; on the other, it does not want to eliminate Hamas because it worries that the organization could be replaced by one that is much more violent. With its military action, Israel aims to deliver enough punishment to render Hamas militarily ineffective for a substantial period but not so weak that it could be replaced by a worse foe. So far, the organization has maintained its control in Gaza and does not appear in danger of being replaced in the near term. The question of how long Hamas is militarily ineffective is more circumspect: It engaged in major conflict with Israel three times over a period of about five years and used interim periods to rebuild its military capabilities and periodically carry out small strikes against Israel. Many Israeli interlocutors believed a fourth major Gaza conflict is only a matter of time.

Lessons Learned from the Conflict

Ultimately, Protective Edge teaches several lessons for the U.S. Army and the joint force as whole. On the strategic level, it shows that, in these types of conflicts, public support for the conflict often hinges more on perceptions of the campaign's success than it does on friendly casualties. Indeed, analysis of Israeli support for the conflict varied more based on Israelis' perception of the operation's success than on the number of IDF casualties sustained.

Second, Protective Edge shows how modern democratic militaries must increasingly confront *lawfare*—"the strategy of using—or misusing—law as a substitute for traditional military means to achieve a warfighting objective"[18]—when combating irregular forces,

---

[17] OCHA, 2014, p. 3.

[18] Charles J. Dunlap, Jr., "Lawfare Today . . . and Tomorrow," in Raul A. Pedrozo and Daria P. Wollschlaeger, eds., *International Law and the Changing Character of War*, Newport, R.I.: U.S. Naval War College, International Law Studies Series, Vol. 87, 2011, p. 315.

especially in urban terrain. Protective Edge featured several contro-versial battles—from the battle of Shuja'iya at the start of the ground incursion to the invocation of the Hannibal directive (the IDF's standing instructions on how to respond to the potential kidnapping of a soldier) at the end of the ground campaign. These engagements became the subject of intense legal scrutiny and a UN-led inquiry, "The United Nations Independent Commission of Inquiry on the 2014 Gaza Conflict." The latter review called into question the IDF's use of explosive weapons with wide-area effects in densely populated areas, the Hannibal directive, and other tactics.[19]

Third, the conflict underscores how difficult it is to "read" the Middle East. Indeed, if the IDF could misjudge Hamas despite being their next-door neighbors, then the U.S. military needs to be even more wary about misunderstanding the region.

Protective Edge also yields operational, tactical, and technological lessons for the U.S. Army and the joint force. It highlights the limits of precision firepower, particularly in dense urban terrain, and exposes the challenges inherent in subterranean warfare. Despite substantial investments in airpower and intelligence, IAF air strikes proved unable to destroy either the Hamas rocket threat from Gaza or the tunnel infrastructure. Moreover, IDF units found that they needed to rely on significant amounts of artillery support when they met resistance, like in Shuja'iya. At the same time, the conflict also highlights the value of armor and active protective systems, which allowed IDF units to maneu-ver inside Gaza without incurring significant casualties. The conflict also proves the potential for missile defense. While Iron Dome's exact effectiveness rates are frequently debated by outside experts, nearly all Israeli experts—inside the IDF and outside government—believe the

---

Charles Dunlap is a retired U.S. Air Force major general and served as that service's deputy staff judge advocate. He is currently the executive director at the Center on Law, Ethics, and National Security at Duke University Law School. For a discussion of lawfare and the evolution of the Law of Armed Conflict, see Bryan Frederick and David E. Johnson, *The Continued Evolution of U.S. Law of Armed Conflict Implementation: Implications for the U.S. Military*, Santa Monica, Calif.: RAND Corporation, RR-1122-OSD, 2015.

[19] UN General Assembly, *Report of the Independent Commission of Inquiry Established Pursuant to Human Rights Council Resolution S-21/1*, OHCHR.org, A/HRC/29/2, June 24, 2015, p. 20.

system works. If true, Iron Dome likely saved lives and limited property damage, and even if not, it certainly relieved political pressure on senior Israeli leaders to bring the conflict to a speedy conclusion and allowed for a more deliberate, if slower, operation.

Recommendations

Ultimately, this report makes three basic recommendations for the U.S. Army and the joint force based on Israel's experience during the wars in Gaza. First, on the most basic level, the Israeli operations in Gaza underscore how important situational awareness is, but also just how difficult it is to gain that understanding — even if the adversary is just next door. Second, the U.S. Army should invest in active protection systems and armored vehicles. Third, it should further develop and field rocket and missile defense capabilities.

Acknowledgments

Introduction

For nearly a decade, Israel has clashed with Hamas in Gaza, in cycles of violence defined by periods of intense fighting followed by relative lulls. This report covers a five-year period of this conflict: from the end of Operation Cast Lead in 2009 to the end of Operation Protective Edge in 2014.[1] This report is about many topics. Most directly, it analyzes the changing face of urban warfare and how an advanced military fought a weaker, yet highly adaptive, irregular force. It is also a case study of military innovation. It describes how the Israel Defense Forces (IDF) evolved operationally, organizationally, and technologically to meet ongoing asymmetric challenges. Most broadly, however, this is a story of deterrence. Israel never strived for a decisive victory in Gaza. While it could militarily defeat Hamas, Israel could not overthrow Hamas without risking the possibility that a more radical organization would govern Gaza.[2] Nor did Israel want to be responsible for governing Gaza in the event of a postconflict power vacuum. As a result, Israel's grand strategy became what some Israeli analysts term "mowing the grass" — i.e., accepting the IDF's inability to permanently solve the problem and instead repeatedly targeting leadership of

---

[1] For analysis of the IDF's earlier campaign in Gaza, see David E. Johnson, *Hard Fighting: Israel in Lebanon and Gaza*, Santa Monica, Calif.: RAND Corporation, MG-1085-A/AF, 2011a.

[2] This perspective assumed that the Palestinian Authority (PA), perceived by many to be more moderate, was too weak and unpopular in Gaza to establish effective control.

Palestinian militant organizations to keep violence manageable.[3] As a result, success is measured by the lengths of relative calm between conflicts. Dealing with Hamas in Gaza thus puts Israel in a strategic quandary: It needs to exert enough force to deter Hamas from attacking but not so much that it topples the regime. As one Israeli defense analyst put it, "We want to break their bones without putting them in the hospital."[4]

For an American audience—particularly for the U.S. Army—the IDF experience in Gaza does not provide a perfect analog for future operations. A small, homogeneous country surrounded by Arab states, Israel operates in ways that are very different from the U.S. military. Moreover, since Gaza is contiguous to Israel and poses a protracted threat, the IDF does not face the same logistical and intelligence hurdles that United States routinely confronts when conducting expeditionary operations a half a world away. That said, the IDF's experiences in Gaza can offer valuable lessons about employing different types of military technology and operational concepts, conducting urban combat under intense legal and public scrutiny, and deterring nonstate actors.

A Short History of the Long Tradition of American-Israeli Military Learning

Why should the U.S. Army and the joint force study Israel's operations in Gaza? For decades, the U.S. Army and the IDF have learned from each other's campaigns; Israel's most recent campaigns are no exception. The two nations have enjoyed a strong bilateral relationship since the 1940s, and Israel has received more assistance from the United States than any other country since World War II, some $124.3 billion.[5] The

---

[3] See Efraim Inbar and Eitan Shamir, "Mowing the Grass: Israel's Strategy for Protracted Intractable Conflict," *Journal of Strategic Studies*, Vol. 37, No. 1, February 2014.

[4] Meeting with Israeli academics, Begin-Sadat Center for Strategic Studies, Bar Ilan University, Tel Aviv, May 22, 2016.

[5] Jeremy M. Sharp, *U.S. Foreign Aid to Israel*, Washington, D.C.: Congressional Research Service, RL33222, June 10, 2015, p. 1.

vast majority of U.S. aid is now in military assistance, with the objective of maintaining Israel's military advantage over neighboring militaries. "The rationale for [a qualitative military edge] is that Israel must rely on better equipment and training to compensate for being much smaller geographically and in terms of population than its potential adversaries."[6] The military aid serves a more instrumental purpose as well: For decades, Israel's wars have served as harbingers of changes in the character of warfare for the United States.

Israel became a test bed for how U.S. weapons performed in combat, as well how they fared against weapons provided to Israel's adversaries. This was particularly true in the aftermath of the 1973 Yom Kippur War, when the Israelis had enormous difficulty countering Syrian and Egyptian surface-to-air missiles, antitank guided missiles (ATGMs), and other advanced weapons provided by the Soviet Union. The United States, just ending its engagement in Vietnam, found these advances in Soviet weaponry alarming. Furthermore, the U.S. Army was turning its attention back to the defense of the North Atlantic Treaty Organization (NATO), where—like the Israelis in 1973— it would be outnumbered.

As a consequence of its assessment of the 1973 war, the Army laid the foundations for fielding the so-called Big Five programs—the Abrams main battle tank, the Bradley fighting vehicle, the Apache attack helicopter, the Black Hawk utility helicopter, and the Patriot air defense missile system.[7] All of these systems are still in use today.[8]

Because of the Israeli experience during the Yom Kippur War, the U.S. Army also revamped its warfighting doctrine, initially with

---

[6] Sharp, 2015, p. 1.

[7] See Paul H, Herbert, *Deciding What Has to Be Done: William E. DePuy and the 1976 Edition of FM 100-5*, Fort Leavenworth, Kan.: Combat Studies Institute, U.S. Army Command and General Staff College, 1988; John L. Romjue, *From Active Defense to Airland Battle: The Development of Army Doctrine, 1973–1982*, Fort Monroe, Va.: Historical Office, U.S. Army Training and Doctrine Command; and David C. Trybula, *"Big Five" Lessons for Today and Tomorrow*, Alexandria, Va.: Institute for Defense Analyses, 2012.

[8] Richard M. Swain, *Selected Papers of General William E. DePuy*, Fort Leavenworth, Kan.: Combat Studies Institute, U.S. Army Command and General Staff College, 1994, pp. vii–viii.

Active Defense, followed by AirLand Battle.[9] Furthermore, the Army entered into a period of close cooperation with the U.S. Air Force to jointly address the challenges posed by war with the Soviets in Central Europe.[10] Ultimately, although the United States never fought the Soviet Union, the systems it fielded and the doctrines used to employ them soundly defeated the Iraqi Army, which was organized and equipped along Soviet lines, in Operations Desert Storm (1990–1991) and Iraqi Freedom (2003).

Ironically, both the United States and Israel found their doctrinal approaches and capabilities inadequate for the full range of operations they eventually faced. After a rapid victory over Saddam Hussein's military during Operation Iraqi Freedom, the U.S. military found itself unprepared for the insurgency that followed. The Israelis had great difficulty in 2006 in Lebanon against Hezbollah, an adversary that used concealment to thwart Israeli air and intelligence, surveillance, and reconnaissance (ISR) advantages, standoff weapons to bloody IDF ground forces, and rockets to attack the Israeli homeland.

In the aftermath of the 2006 Lebanon War, the IDF adapted its military approaches, particularly in the areas of air-ground integration and combined arms maneuver.[11] These adaptations paid off during Operation Cast Lead and Operation Protective Edge. Furthermore, the Israelis seem to have realized that there is no achievable strategic end state in the foreseeable future that will guarantee an enduring peace against such nonstate actors as Hezbollah and Hamas. Consequently, Israel's strategic approach since 2006 has been to deter these adversaries and, when deterrence fails, to strike to erode their capabilities and restore deterrence until the next round of fighting. In other words, the IDF aimed to create the longest possible periods of

---

[9] For more on the nature of the learning between the two militaries, see Saul Bronfeld, "Fighting Outnumbered: The Impact of the Yom Kippur War on the U.S. Army," *Journal of Military History*, Vol. 71, No. 2, April 2007.

[10] Richard G. Davis, *The 31 Initiatives: A Study in Air Force Army Cooperation*, Washington, D.C.: Office of Air Force History, U.S. Air Force, 1987.

[11] The 2006 Lebanon War, subsequent IDF adaptations, and Operation Cast Lead are assessed in Johnson, 2011a.

quiet between conflicts. The IDF employed this approach in Gaza. Between larger actions—Operations Cast Lead, Pillar of Defense, and Protective Edge—the Israelis "mow the grass" to "inflict damage on valuable assets and capabilities," with the additional goal of "lowering the motivation of the enemy to harm Israel."[12]

The U.S. Army and the joint force also learned from the 2006 Lebanon War—and, to a lesser degree, Operation Cast Lead—because Hezbollah represented a more capable hybrid adversary than Hamas.[13] The IDF's lessons once again proved useful. While the official U.S. policy is "to degrade and ultimately defeat the Islamic State of Iraq and the Levant (ISIL) in Iraq and Syria,"[14] in practice, the U.S. approach often has looked similar to the Israeli one of "mowing the grass," with its extensive reliance on airpower, and special forces to strike high-value terrorist targets around the world over the past 15 years.

The Israeli experiences in the conflicts against Hezbollah and Hamas also highlighted for the U.S. Army and the joint force the rise of another type of adversary—a state-sponsored nonstate adversary—that the United States will likely have to confront in the future. Army doctrine defines these types of hybrid adversaries:

> **A *hybrid threat* is the diverse and dynamic combination of regular forces, irregular forces, terrorist forces, or criminal elements unified to achieve mutually benefitting threat effects.**
> Hybrid threats combine traditional forces governed by law, mili-

---

[12] Inbar and Shamir, 2014, p. 11.

[13] See David E. Johnson, Jennifer D. P. Moroney, Roger Cliff, Matthew Wade Markel, Laurence Smallman, and Michael Spirtas, *Preparing and Training for the Full Spectrum of Military Challenges: Insights from the Experiences of China, France, the United Kingdom, India, and Israel*, Santa Monica, Calif.: RAND Corporation, MG-836-OSD, 2009; David E. Johnson, *Military Capabilities for Hybrid War: Insights from the Israel Defense Forces in Lebanon and Gaza*, Santa Monica, Calif.: RAND Corporation, OP-285-A, 2010; David E. Johnson and John Gordon, IV, *Observations on Recent Trends in Armored Forces*, Santa Monica, Calif.: RAND Corporation, OP-287-A, 2010; Johnson, 2011a; David E. Johnson, *Heavy Armor in the Future Security Environment*, Santa Monica, Calif.: RAND Corporation, OP-334-A, 2011b; David E. Johnson, *Preparing for "Hybrid" Opponents: Israeli Experiences in Lebanon and Gaza*, Santa Monica, Calif.: RAND Corporation, RB-9620-A, 2011c.

[14] White House, *National Security Strategy*, Washington, D.C., February 2015, p. i.

tary tradition, and custom with unregulated forces that act with no restrictions on violence or target selection. These may involve nation-state actors, possibly using proxy forces to coerce and intimidate, or nonstate actors such as criminal and terrorist organizations that employ protracted forms of warfare using operational concepts and high-end capabilities traditionally associated with states. Such varied forces and capabilities enable hybrid threats to capitalize on perceived vulnerabilities, making them particularly effective.[15]

The concept of hybrid adversaries owes its place in U.S. doctrine to lessons coming out of the IDF's experiences in the Second Lebanon War, although some analysts trace the roots of this concept back far earlier.[16]

Thus far, however, the U.S. Army's and the joint force's understanding of these adversaries has been largely an academic exercise. The U.S. Army has not had to fully face true hybrid adversaries during the wars in Afghanistan and Iraq.[17] Rather, it engaged irregular adversaries whose arsenals are limited to small arms, rocket-propelled grenades (RPGs), improvised explosive device (IEDs), and occasional mortar or rocket fire. The Army adapted to this irregular threat after Operation Iraqi Freedom across the domains of doctrine, organization, training, materiel, leadership and education, personnel, facilities, and

---

[15] Army Doctrine Reference Publication No. 3-0, *Operations*, Washington, D.C.: Headquarters, Department of the Army, November 2016, p. 1-3. Emphasis in the original.

[16] See Johnson, 2011a. For a history of hybrid warfare throughout the ages, see Williamson Murray and Peter Mansoor, eds., *Hybrid Warfare: Fighting Complex Opponents from the Ancient World to the Present*, Cambridge, UK: Cambridge University Press, 2012. More recently, the term *hybrid warfare* has attracted significant debate. Some analysts argue that the term is too vague to provide much analytical utility and that, consequently, the term has been misunderstood and misapplied. For example, see Franz-Stefan Gady, "A Tempest in a Teacup: Forget Hybrid Warfare!" *The Diplomat*, February 14, 2015; Nadia Schadlow, "The Problem with Hybrid Warfare," *War on the Rocks*, April 2, 2015; Jyri Raitasalo, "Hybrid Warfare: Where's the Beef?" *War on the Rocks*, April 23, 2015. For an explanation and defense of this term, see Frank G. Hoffman, "Hybrid Warfare and Challenges," *Joint Forces Quarterly*, Vol. 52, No. 1, 2009.

[17] Perhaps the closest comparable adversary was in the Battle for Sadr City—but even then, the Mahdi Militia still did not have access to full backing a of state. For more, see David E. Johnson, Matthew Wade Markel, and Brian Shannon, *The 2008 Battle of Sadr City: Reimagining Urban Combat*, Santa Monica, Calif.: RAND Corporation, OP-335-A, 2012.

policy (DOTMLPF-P).[18] At its height, the Islamic State came closer to being a true hybrid adversary. After it plundered Iraqi arsenals, it enjoyed many state-like military capabilities. That said, relatively few U.S. Army soldiers so far have had to directly fight the Islamic State. The United States has not committed land forces to this war thus far, and much of the fighting has largely been relegated to U.S. partners on the ground, although those partners have been enabled by U.S. air-power, special forces, intelligence assets, and forces to train and advise the Iraqi Security Forces.[19]

In the future, however, the U.S. Army and the joint force likely will need to confront hybrid and state actors, even if operating outside of the Middle East or against adversaries other than radical Islamic groups. Russian actions in Crimea, Ukraine, and Syria (along with the prospects for Russian aggression in the Baltics), coupled with the rebalance to the Pacific to address a rising China, place a new premium on state-sponsored conflict. Regardless of whether the United States will ever directly fight either or both of these two states, it will likely face adversaries armed with their weaponry. Thus, there is a renewed attention in the U.S. joint force on addressing the DOTMLPF-P gaps between U.S. forces and those of near-peer and hybrid adversaries. This is why understanding the wars in Lebanon, Gaza, Ukraine, Syria, and Iraq are important: They demonstrate the types of capabilities the United States will confront in future conflicts.

Israel's operations from the 2006 Lebanon War through Operation Protective Edge show the operational challenges the joint force could face against state-sponsored adversaries. These include rockets and missiles, air defense systems (ranging from man-portable air-defense systems [MANPADS] to longer-range advanced systems),

---

[18] See Chairman of the Joint Chiefs Instruction 3010.02E, *Guidance for Developing and Implementing Joint Force*, Washington, D.C.: U.S. Department of Defense, August 17, 2016, p. A-3. Joint concepts identify capabilities required to achieve stated objectives or address future joint force challenges. These concept-required capabilities provide focus for capability development recommendations that may lead to changes in DOTMLPF-P.

[19] For an assessment of the U.S. strategy against the Islamic State, see David E. Johnson, "Fighting the 'Islamic State': The Case for U.S. Ground Forces," *Parameters*, Vol. 45, No. 2, Summer 2015.

unmanned aerial systems (UASs), and ATGMs. Confronting these types of adversaries could force changes in how the joint force fights — e.g., restricting the use of helicopters and low-altitude close air support (CAS). It also exposes the vulnerability of the joint force to such stand-off weapons as missiles and ATGMs. These challenges require new concepts and capabilities, as the Israelis learned in Lebanon in 2006. Thus, Israeli adaptation to hybrid capabilities, as demonstrated in Operations Cast Lead and Protective Edge, are instructive for U.S. force development efforts.

Tactically, Israeli operations in Lebanon and Gaza are important at many levels. They show the need for tightly integrated combined arms operations to defeat adversary stand-off weapons (surface-to-surface missiles and rockets, artillery, mortars, ATGMs, air defense systems) and new concepts and capabilities to operate in complex terrain. More amorphously, Israel's experiences also show the challenges posed by lawfare — where international law becomes a tool of combat — and conducting warfare in an age of new media — where public perceptions matter and militaries struggle to control the narrative.[20] All in all, while the United States may never confront a situation entirely analogous to that of Israel's with Gaza, the IDF's actions can provide a host of strategic, operational, and tactical lessons for the U.S. Army and the joint force and consequently are worthy of study.

Scope, Methodology, and Structure of the Report

This report looks at three principal questions. First, how did the IDF operate in Gaza? Second, what strategic, operational, tactical, and technological lessons did the IDF learn about urban operations from their experiences in Gaza? Finally, what lessons can the joint force — and the U.S. Army in particular — learn from the Israeli experience? Perhaps just as important, however, are the areas *not* covered by this report. It

---

[20]   See for example, William B. Caldwell, IV, Dennis M. Murphy, and Anton Menning, "Learning to Leverage New Media: The Israel Defense Forces in Recent Conflicts," *Military Review*, May–June 2, 2009.

was sponsored by the U.S. Army, so its concerns are restricted to those of military relevance, and it does not examine broader political questions (i.e., what should Israel's policy be toward Gaza going forward or how the United States could restart the Arab-Israeli peace process). Similarly, it does not explore the legal or humanitarian aspects of the conflict in detail, as other reports have done. Rather, the focus remains on the three aforementioned questions and issues of direct military relevance.

The report draws from a variety of reporting from journalists, think tanks, academic and international organizations, and official accounts about the IDF's actions in Gaza that have been published in the past several years by U.S., Israeli, and international authors from across the political spectrum. The bulk of the research for this report, however, consisted of more than three dozen interviews conducted in Israel during May 2016. The RAND research team met with Israeli defense academics, journalists, think-tank analysts, government officials, and retired IDF officers to get a full cross section of perspectives on the conflict.

Additionally, with the help of the Dado Center and the IDF General Staff's J5 section, RAND also interviewed serving IDF officers ranging in rank from major to major general who participated in one or more of Israel's operations in Gaza. These officers served in both command and staff positions from the battalion level through Southern Command and on the General Staff. In exchange for being granted access, RAND researchers agreed to have a representative of the Public Appeals Office, Spokesperson's Unit, in the room for all interviews with all active duty officers. RAND also agreed to submit a prepublication version of this report to the IDF's Spokesperson's Unit for security review to ensure no IDF proprietary or classified information was inadvertently disclosed. RAND, however, retained full editorial control over the report. All analytical judgments made in the report are judgments of the authors of this study and theirs alone.

The sourcing of this report is lacking in at least one key dimension. Due to U.S. Department of Defense instructions and safety considerations of the research team, no interviews were conducted within Gaza itself, nor were Hamas officials interviewed. While the research team

tried to compensate for this deficiency to the extent possible through using secondary sources from media accounts and from international and nongovernmental organizations, this lack of field research does pose important, if unavoidable, limits on this report and its findings.

The remainder of this report consists of six chapters. Chapter Two provides an overview of Gaza, its geography, and its history. Chapter Three gives an overview the 2012 weeklong air campaign called "Operation Pillar of Defense." Chapter Four details the 51-day 2014 Operation Protective Edge, broken down into its three phases—the air campaign, ground campaign, and off-and-on fighting until the eventual cease-fire. Chapter Five looks at Protective Edge's other fronts. While much of the public attention rightly focused on the combat operations in and around Gaza, air defense, intelligence, legal, and cyber soldiers fought on their own fronts, and their battles proved no less crucial to the campaign's overall outcome. Chapter Six breaks down the strategic, operational, tactical, organizational, and technical lessons the Israelis learned from Operation Protective Edge. Finally, Chapter Seven applies the lessons of Israel's wars in Gaza to the U.S. Army and the joint force more broadly.

This reports details the IDF's limited wars in Gaza, where it aimed not to destroy but rather to attrit Hamas and reestablish deterrence. This report also recounts Hamas's transformation away from a "standard" terrorist group into an increasingly sophisticated hybrid organization—part terrorist group and part state—with the ability to strike further into Israel. Ultimately, the IDF's battles in Gaza provide a number of lessons for modern Western armies operating in urban terrain, from the importance of armored vehicles and active protection systems to methods of CAS and ISR integration. It also underscores the emergence of this type of hybrid adversary—which the U.S. Army and the joint force will need to confront both now and in the future. Most of all, the Israeli experience in Gaza underscores the increasing challenge of striking a delicate balance between the intense international legal public scrutiny and the hard operational realities of modern urban warfare.

Israel in Gaza: A Brief Background

Physically, the Gaza Strip is not a particularly striking location. It is 360 square kilometers (km) of flat to rolling plains covered in sand and dunes, and it is slightly larger than twice the size of Washington, D.C.[1] This sliver of land shares borders with Egypt (13 km) and Israel (59 km). Its coastline along the Mediterranean is 40 km. Figure 2.1 provides an aerial view of Gaza. With a population of 1.87 million Palestinians, or roughly three times the population of Washington, D.C., the Gaza Strip is one of the most densely populated areas in the world.[2]

Located on the strategically important land bridge between Egypt and the Levant, the Gaza Strip historically has served as a crossroad, generally functioning as a province within a broader empire, rather than an independent political entity. The area we now think of as Israel and Palestine was first settled in the Stone Age and was part of several Semitic kingdoms, as well as an Egyptian province before the rise of the biblical Kingdom of Israel. While this period of independence is critical to the cultural narrative of the modern State of Israel, it was short-lived, and the region became a province of a series of Middle Eastern and Hellenistic empires before being conquered by the Roman Empire in 63 BCE. Roman rule was characterized by rebellion and suppression of the Jewish population, and it ushered in the establishment and spread of Christianity. As the new religion rose to promi-

---

[1] Central Intelligence Agency, "Middle East: Gaza Strip," *World Factbook*, 2016.

[2] Johnson, 2011a.

Figure 2.1
Aerial View of the Gaza Strip

SOURCE: "Gaza Strip, May 2005," Perry Castaneda Map Collection, courtesy of the University of Texas Libraries, the University of Texas at Austin.
RAND *RR1888-2.1*

nence in the Roman and later Byzantine empires, Jerusalem became an important center of Christian pilgrimage, generating great cultural, if not political, power. The region was conquered by Muslims in 638 CE, who identified Jerusalem as an important religious site in the life of the prophet Mohammad. Gaza remained under Arab Muslim caliph-

ates until Crusaders seized control of the area at the beginning of the 12th century. After a short period of Christian administration, control of Gaza alternated among the Mamluks, Ottomans, and Egyptians until the fall of the Ottoman Empire at the end of World War I.[3]

Gaza has been a center of agriculture and trade, but it has lacked the religious and cultural salience of Jerusalem and the Jordan Valley. Gaza City, with its close natural harbor, historically has served as a trading town between the larger hubs of Alexandria and Jaffa. Perhaps more importantly, the Gaza valley's rich soil made it a center of agriculture for cereals, notably barley, and for citrus fruits. While frequently the site of military conflicts between empires seeking to annex the region, it never gained the political or military importance of the regions to its east and west. In recent times, however, Gaza has emerged as a focus of political and military conflict between Israel and the Palestinians.[4]

Emergence of Palestinian Armed Opposition to Israel and the 1967 War

During World War I, British forces seized control of Gaza from the Ottoman Turks and ultimately incorporated Gaza into the British Mandate of Palestine. Both Jewish and Arab communities contested British colonialism, each arguing for self-rule on the basis of ethnonationalism. In 1947, the United Nations (UN) sought to end intensifying conflict by creating two states, one Arab and one Jewish; while the Jews accepted the UN plan, the Arabs did not, and fighting on the ground between armed militias continued to escalate. The 1948 Israeli declaration of independence led to a declaration of war on Israel by neighboring Arab states. In the fighting, approximately 700,000 Arab residents of Palestine were uprooted, an event now known among Pal-

---

[3]   Gudrun Kramer, *A History of Palestine: From Ottoman Conquest to the Founding of the State of Israel*, Princeton, N.J.: Princeton University Press, 2011.

[4]   Jean-Pierre Filiu, "Gaza, Victim of History," *New York Times*, August 26, 2014.

estinians as *al-Nakba*, which is the Arabic word for disaster.[5] When fighting ceased in 1949, Palestinian Arabs were scattered between Egyptian-controlled Gaza and the Jordanian-controlled West Bank, as well as in sizable diaspora communities in Lebanon and Syria.

After the establishment of Israel and displacement of Palestinians, Palestinian nationalism waned. In the late 1950s, this began to change. Nationalist governments in Egypt and Iraq, both leaders in the Arab world, pressed for the creation of a Palestinian political apparatus. Simultaneously, Palestinian groups committed to armed resistance against Israel began to emerge. The Fatah movement started in Syria, Lebanon, Jordan, and the Gulf states in the fall of 1959. At the 1964 Arab League summit in Cairo, the goal of politically organizing Palestinians was announced, and the following year the Palestine Liberation Organization (PLO) was formally created to facilitate this effort. Fatah soon became the dominant wing of the PLO. The PLO's covenant called for the destruction of the State of Israel, which the PLO sought to achieve through both overt coordination with Arab regimes and covert violence.[6]

In an effort to further its cause, the PLO in 1964 began to execute a deliberate policy of provocation and instigation of conflict on Israel's borders that would draw in neighboring Arab states.[7] This policy appeared to succeed in 1967, when, following escalating tensions and military mobilization by both Syria and Egypt, Israel launched a preemptive attack and dealt a devastating blow to the Syrian and Egyptian air forces on June 5 of that year.[8] During the first two days of this six-day campaign, known as the 1967 War or Six Day War, Israel battled

---

[5]   Joel Beinin and Lisa Hajjar, *Palestine, Israel, and the Arab-Israeli Conflict: A Primer*, Washington, D.C.: Middle East Research and Information Project, February 2014.

[6]   Khalil Barhoum, "The Origin and History of the PLO," web page, Trans Arab Research Institute, undated.

[7]   Chaim Herzog, *The Arab-Israeli Wars*, second edition, New York: Vintage Books, 2005, p. 147; Michael B. Oren, *Six Days of War: June 1967 and the Making of the Modern Middle East*, New York: Ballantine Books, 2002, p. 1.

[8]   Herzog, 2005, pp. 148–149; Office of the Historian, "The 1967 Arab-Israeli War," web page, U.S. Department of State, undated.

Egyptian and irregular Arab forces in the Gaza Strip and solidified its hold on the territory by June 7, marking the beginning of an occupation that would last nearly 40 years.[9] In addition to capturing Gaza, Israel gained control of Jerusalem and the West Bank (from Jordan), the Golan Heights (from Syria), and the Sinai Peninsula up to the Suez Canal (from Egypt).[10] While Israel fully withdrew from the Sinai Peninsula in 1982 as part of the Israeli-Egyptian Camp David accords, the other territories — including Gaza — remained in Israeli hands.

The First Intifada and the Emergence of Hamas

Following the 1967 War, Israel placed Gaza and the West Bank under military administration, limiting Palestinian political rights in an attempt to manage the security threat posed by the PLO.[11] In the late 1970s, Israeli Prime Minister Menachem Begin attempted to solidify Israeli control and sovereignty over the occupied territories by encouraging thousands of Israelis to settle in the West Bank and Gaza Strip.[12] By the mid-1980s, Palestinians grew increasingly frustrated over the growing number of settlers, continued economic stagnation, and seeming lack of political options.[13] By 1985, Palestinians protested the occupation by throwing stones, exploding homemade firebombs, and erecting roadblocks, and Israel implemented such punitive measures as detentions and expulsion in response. On December 8, 1987, an

---

[9] Herzog, 2005, p. 165.

[10] "Key Maps: Six-Day War," BBC, undated.

[11] Beinin and Hajjar, 2014, p. 7.

[12] Jim Zanotti, *Israel: Background and U.S. Relations*, Washington, D.C.: Congressional Research Service, October 28, 2016, p. 41.

[13] Khaled Hroub, *Hamas: Political Thought and Practice*, Washington, D.C.: Institute for Palestine Studies, 2000, p. 37. While the first intifada was very much a reaction to the growth of settlements in occupied territories, the violence failed to stem flow of settlers moving into Palestinian areas. When the intifada broke out in 1987, only 2,500 Jewish settlers lived in the Gaza Strip, while 67,000 lived in the West Bank. By 2001, 9,000 Israelis were living in the Gaza Strip, and the Jewish population of the West Bank had nearly tripled. For more information, see Herzog, 2005, p. 402.

Israeli truck driver killed four Palestinians in the Jebaliya refugee camp in the Gaza Strip. That night, protesters stormed the IDF outpost in Jebaliya, and the next day, violent protests and demonstrations swept Gaza. Though not known at the time, December 9, 1987, would mark the beginning of the first intifada.[14]

Hamas, the militant Islamist group that governs Gaza today, emerged amid the turmoil of the intifada's early days.[15] Leftist secular groups, such as Fatah and the PLO, were losing influence, and an Islamic awakening that was occurring throughout the region had spread religious fervor in the occupied territories.[16] In December 1987, a Palestinian cleric named Sheik Ahmed Yassin established Hamas in the Gaza Strip as a nationalist, political arm of Egypt's Muslim Brotherhood.[17] On December 11 and 12, Hamas distributed a communiqué throughout Gaza, claiming that "the intifada of our steadfast people in the occupied land constitutes a rejection of the occupation and its oppression," and that "our people know the right path—the path of sacrifice and martyrdom."[18] Hamas's reputation for integrity and discipline attracted followers in both Gaza and the West Bank,[19] and the organization also began establishing education and social programs for Palestinians while attacking Israeli soldiers and settlers.[20]

---

[14] Herzog, 2005, pp. 397–398.

[15] Ironically, some of Israel's actions in the years preceding the first intifada facilitated the rise of Hamas. The Muslim Brotherhood, which was banned in Egypt, was allowed to operate openly in Gaza after Israel regained control of the territory in 1967. In the late 1970s, Israel also officially recognized an Islamic group founded by Sheik Yassin that operated schools, clinics, and a library in Gaza. That organization, initially called *Mujama al-Islamiya*, eventually became Hamas. For more information, see Ishaan Tharoor, "How Israel Helped Create Hamas," *Washington Post*, July 30, 2014.

[16] Hroub, 2000, p. 38.

[17] Zachery Laub, "Hamas," web page, Council on Foreign Relations, August 1, 2014.

[18] Hroub, 2000, p. 40.

[19] Tim Youngs and Ben Smith, "Hamas and the Seizure of Gaza," United Kingdom House of Commons Library, Research Paper 07/60, July 6, 2007, p. 7.

[20] Alyssa Fetini, "The Gaza Strip," *Time*, January 7, 2009.

Although the violence subsided by the end of 1990, the intifada did not officially end until September 1993, when the Oslo Peace Accords were signed.[21] The Oslo Accords divided Hamas and the Fatah-dominated PLO. The agreement created the PA as the governing body of the Palestinian people and stipulated that the PLO would recognize Israel's right to exist and renounce its goal of destroying the state in exchange for Israel recognizing the PLO.[22] Hamas accused the PLO of facilitating Israel's continued occupation of the territories through the Oslo process, rejected the idea of negotiating an end to the conflict, and remained committed to the goal of creating a Palestinian state in the entirety of historic Palestine.[23] Hamas and Fatah were now at strategic odds, as well as ideological ones. The Oslo Accords failed to produce peace. Between 1993 and the outbreak of the second intifada in 2000, Hamas and Palestinian Islamic Jihad (PIJ) carried out approximately 30 suicide attacks against Israel.[24] The PLO and its main faction (Fatah) initially opposed these attacks as detrimental to the peace process. PLO and Fatah leader Yasser Arafat declared Hamas illegal and began arresting Hamas members in response to the group's continued violence against Israel.[25] But Hamas's popularity climbed as the peace process stalled, Jewish settlements in the West Bank and East Jerusalem expanded, and the popular perception of Fatah as corrupt and excessive became widespread. Ultimately, frustration over delays in implementing the Oslo Accords and tensions over Israel's continued grip on the Palestinians boiled over, sparking the second intifada in fall 2000.

---

[21] Herzog, 2005, p. 404.

[22] Jodi Rudoren, "What the Oslo Accords Accomplished," *New York Times*, September 30, 2015; also see "Oslo I Accords (Declaration of Principles of Interim Self-Government Agreements)," Council on Foreign Relations, web page, September 13, 1993.

[23] Youngs and Smith, 2007, p. 8; also see Anat Kurz, *A Conflict Within a Conflict: The Fatah-Hamas Strife and the Israeli-Palestinian Peace Process*, Institute for National Security Studies, 2009.

[24] Yoram Schweitzer, "The Rise and Fall of Suicide Bombings in the Second Intifada," *Strategic Assessment*, Vol. 10, No. 3, October 2010.

[25] Jerusalem Media and Communications Centre, "Hamas-Fatah Conflict," web page, January 24, 2009.

The Second Intifada

The second intifada alleviated some of the tensions between Hamas and Fatah; while ideological differences remained, a focus on day-to-day perpetration of violence minimized the distance between the groups. When violence first erupted, Fatah planned and executed attacks on IDF soldiers and Israeli civilians.[26] Many members of Hamas and PIJ were incarcerated at the outbreak of the crisis, but later joined the effort after being released from Israeli prisons. Suicide attacks became the primary weapon used against Israel during the next five years. Between 2000 and 2005, 146 suicide attacks were conducted, while another 389 were foiled.[27] Israel eventually settled on a policy of arrests and targeted killings of members of militant groups. This approach made recruiting suicide bombers easier for such groups as Hamas and Fatah, thus perpetuating the violence.[28]

Israel also began to fortify its border with Gaza, constructing a wall along the Gaza border beginning in the mid-1990s, but as the violence increased, so, too, did the fortifications, a trend that has continued to the present day. Eventually, the border between Israel and the Gaza Strip was placed under constant surveillance; the same was done for the coastline. Today, robotic monitoring systems are integrated into a system of physical barriers, security checkpoints, manned and unmanned ground and air patrols, and rapid-response security forces. Remote control weapons stations are used on the pillbox towers that monitor the Gaza border. Israel also has used buffer zones — areas where Palestinians are prohibited from entering — during crises to bolster the border.[29] Figure 2.2 shows a portion of the border fence in its current incarnation.

In February 2005, Mahmoud Abbas, the leader of Fatah, and Israeli Prime Minister Ariel Sharon signed the Cairo Declaration,

---

[26] Schweitzer, 2010, pp. 41–42.

[27] Schweitzer, 2010, p. 39.

[28] Schweitzer, 2010, pp. 43–44.

[29] Lazaro Gamio, Richard Johnson and Adam Taylor, "The Crisis in Gaza," *Washington Post*, August 1, 2014.

Figure 2.2
Fortifications Along the Israel-Gaza Border

SOURCE: Tsafrir Abayov, Associated Press, February 3, 2016.
NOTE: Israeli drills search for fighting tunnels on the Israel and Gaza border, seen in the background.
RAND *RR1888-2.2*

thereby bringing an end to the second intifada.[30] Hamas endorsed the plan, agreeing to stop attacking Israel for the remainder of 2005, enter into discussions about joining the PLO, and participate in the Palestinian parliamentary elections, marking the first time Hamas would participate in the Palestinian political process.[31] The Cairo Declaration seemed finally to bring some harmony to the Hamas-Fatah relationship.

---

[30] Jerusalem Media and Communications Centre, 2009.

[31] Graham Usher, "The New Hamas: Between Resistance and Participation," web page, The Middle East Research and Information Project, August 21, 2005; also see Jerusalem Media and Communications Centre, 2009.

Israel's Withdrawal from Gaza

One of the most notable events that occurred during the second intifada was Israel's withdrawal from the Gaza Strip and northern sections of the West Bank after nearly 40 years of occupation. Israel withdrew from Gaza unilaterally, without Palestinian participation in the decision. At the time, polls indicated that about 60 percent of Israelis and nearly all Palestinians supported the withdrawal.[32] Still, many in Israel's right-wing and religious political parties opposed the plan. The evacuation of Gaza began on August 15, 2005, and was completed on August 22 of that year. Approximately 50,000 IDF soldiers escorted and at times forcibly removed settlers from the Gaza settlements.[33] Seven thousand police officers were called in to handle protesters.

The withdrawal reflected an evolution of priorities in Israeli politics, particularly in the Likud Party, away from the idea of Eretz Yisrael, meaning the goal of establishing a Jewish state in the area of the Levant, which some Jews believe God intended for them to inherit and inhabit.[34] By giving up the Gaza Strip and certain parts of the West Bank, the ruling Likud Party instead shifted focus toward preserving Israel's Jewish identity, democracy, and security. At the time of the withdrawal, only 8,500 Israeli settlers lived in Gaza, among a population of 1.375 million Palestinians, but they required about 3,000 soldiers, a substantial monetary cost and potential source of risk.[35] Furthermore, demographic projections predicted that Palestinians would outnumber Israelis in Israel, the West Bank, and Gaza.[36] By turning authority of Gaza over to the PA and removing Israeli settlers in the

---

[32] Jeffrey Morley, "Israeli Withdrawal from Gaza Explained," *Washington Post*, August 10, 2005.

[33] Esther Pan, "Middle East: The Gaza Withdrawal," web page, Council on Foreign Relations, August 18, 2005.

[34] Jonathan Rynhold and Dov Waxman, "Ideological Change and Israel's Disengagement from Gaza," *Political Science Quarterly*, Vol. 123, No. 1, 2008, p. 23.

[35] Daniel Byman, "Israel's Gaza Withdrawal 10 Years Later: More Successful Than You Think," *War on the Rocks*, August 13, 2015.

[36] The conventional wisdom surrounding the future demographic balance of Israel is now contested, because of declining Palestinian birth rates, rising Israeli birth rates and immigra-

area, Israel alleviated concern over what one former Sharon advisor called a "demographic time bomb" that Arabs could someday outnumber Jews under Israeli control and create a dilemma for Israel.[37] Furthermore, then–Prime Minister Sharon worried that international frustration over the continued occupation of Gaza would cause Israel to lose control over the peace process and force it to accept a resolution that undermined Israeli security.[38]

In contrast with the Israeli narrative of the withdrawal that focused on internal Israeli concerns, Hamas claimed Israel's decision to evacuate the Gaza Strip and certain areas of the West Bank were the result of the group's armed resistance against Israel.[39] While some Palestinians certainly believed Hamas's claim, the actual evidence is mixed. Sharon announced plans to evacuate the Gaza Strip on December 16, 2003, after the number of suicide attacks had already fallen drastically.[40] In 2002, 53 suicide attacks were successfully carried out, while in 2003 that number fell by 50 percent to 26 attacks.[41] In 2004, Israelis endured 12 successful suicide attacks, but managed to foil 159 other plots. In 2005, the year of the evacuation, only eight suicide attacks were successfully executed, while 46 were foiled, suggesting the overall level of violence had decreased significantly by the time the evacuation occurred.[42] In addition to the decline in the number of attacks being conducted from 2002 to 2005, the number of Israeli casualties peaked in 2002 before decreasing by 30 percent in 2003, another 50 percent in 2004, and yet another 50 percent in 2005.[43]

---

tion, and data disputes. For more, see Yaroslav Trofimov, "Jewish Baby Boom Alters Israeli-Palestinian Dynamic," *Wall Street Journal*, July 14, 2016.

[37] Byman, 2015.

[38] Rynhold and Waxman, 2008, p. 23.

[39] Youngs and Smith, 2007, p. 9.

[40] "Disengagement Timeline," *Haaretz*, August 19, 2005.

[41] Schweitzer, 2010, p. 42.

[42] Schweitzer, 2010, pp. 42, 45.

[43] Rynhold and Waxman, 2008, p. 29.

Despite the Israeli public largely supporting the evacuation at the time, opposition has since increased. The decade after the withdrawal from Gaza proved to be a tumultuous and violent one, with clashes with Hamas occurring every few years. In 2015, a decade after the evacuation, 63 percent of Israelis believed the evacuation was a mistake.[44] Perhaps more important, while the evacuation was supposed to bring peace to the Israel-Gaza region, it instead marked a new phase in the ongoing Israeli-Palestinian conflict.

Conflict Between Hamas and Fatah

Shifts in the balance of power between Fatah and Hamas around the time of the withdrawal set the stage for conflict between the Palestinian factions. In November 2004, Arafat, the leader of the PLO and the PA, died. In January 2005, longtime Fatah member Mahmoud Abbas was elected president of the PLO with 62 percent of the vote.[45] The next month, however, Hamas endorsed the Cairo Declaration, which called for the group's future participation in the Palestinian political process, threatening Fatah's dominance over the PA.[46] This was compounded by the Israeli withdrawal, which opened a space for Hamas-Fatah competition for control of Gaza.

During the months following Israel's evacuation from Gaza, the PA struggled to maintain its control over Gaza as intra-Palestinian violence escalated.[47] In January 2006, elections for the Palestinian Legislative Council were held, in which Hamas won 74 seats to Fatah's 45.[48] This election ended Fatah's decadelong dominance of the Palestinian legislative body.

---

[44] Luke Baker, "Shadow of Israel's Pullout from Gaza Hangs Heavy 10 Years On," Reuters, August 10, 2015.

[45] Youngs and Smith, 2007, p. 9.

[46] Usher, 2005.

[47] Youngs and Smith, 2007, p. 9.

[48] Scott Wilson, "Hamas Sweeps Palestinian Elections, Complicating Peace Efforts in Mideast," *Washington Post*, January 27, 2006.

Negotiations between Hamas and Fatah over creating a coalition government failed because some leading Fatah members refused to hand over power, and disputes over who could control the Palestinian security agencies remained contentious.[49] On March 27, Hamas's designated Prime Minister, Ismail Haniya, presented President Abbas with a list of Hamas members he wanted the parliament to appoint to the cabinet.[50] Without Fatah members willing to join a coalition, Hamas formed a Hamas-only government, marking the first time in 13 years that Fatah had not run the PA.[51] While Fatah concentrated power under the president and began receiving support from outside powers in an effort to topple Hamas, the latter took power from the cabinet and formed its own police force. Efforts to reconcile the two sides throughout 2006 and early 2007 failed as levels of violence between the factions fluctuated.

Heavy fighting in Gaza resumed in spring 2007 and escalated further in May. As clashes ensued, Hamas increased its control over territory in Gaza and, by June 12, controlled much of central and northern Gaza.[52] On June 14, Fatah announced it would not participate in the National Unity Government formed that spring, and later that day Hamas seized Rafah, the city on Gaza's border with Egypt, completing its takeover of the Gaza Strip. Fatah soon solidified its control over the West Bank and formed a new cabinet, functionally creating two Palestinian governments, both of which claimed to be the legitimate government of the Palestinian people, a division that persists today.[53]

---

[49] Jerusalem Media and Communications Centre, 2009.

[50] Youngs and Smith, p. 10.

[51] Jerusalem Media and Communications Centre, 2009.

[52] Jerusalem Media and Communications Centre, 2009.

[53] Jerusalem Media and Communications Centre, 2009.

Israel's First Gaza War: Operation Cast Lead

Hamas's takeover of Gaza marked a change for the organization. For the first time, it was more than a terrorist group; it was slowly becoming a hybrid actor, part terrorist organization and part pseudostate—an evolution that would continue to play out over the next decade.

The takeover also ushered in a new era of Israeli-Palestinian relations. After Hamas seized the Strip, Israel sealed the Gaza border, citing the fact that Fatah was no longer providing security.[54] Israel hoped the blockade would undermine Hamas's popularity. Meanwhile, Hamas continued to launch rockets into Israeli communities near the Gaza border and Israel would often respond with air strikes.

In June 2008, Hamas and Israel agreed to a cease-fire in which Hamas would end the rocket and mortar fire against Israeli towns in exchange for Israel ending its strikes against Gaza and easing the economic blockade.[55] The cease-fire was tenuous. Israel only allowed between 70 and 90 trucks to cross into Gaza daily, significantly less than the 500 to 600 trucks Hamas expected.[56] Hamas reduced the number of rocket attacks into Israel but did not end attacks completely. Hamas also refused to release Gilad Shalit, an Israeli soldier whom Hamas captured in 2006 and held prisoner for more than five years.[57] Egypt attempted to extend the six-month cease-fire before its December 9, 2008, expiration, but failed to do so amid accusations from each side that the other was violating the terms of the agreement.

On December 24, Hamas launched 88 rockets into Israel and another 44 on December 25 in the opening salvos of what would

[54] Isabel Kershner, "Abbas's Premier Tells Israel to Reopen Gaza," *New York Times*, December 14, 2007.

[55] Isabel Kershner, "Israel Agrees to Truce with Hamas on Gaza," *New York Times*, June 18, 2008.

[56] Ethan Bronner, "A Gaza Truce Undone by Flaws May Be Revived by Necessity," *New York Times*, December 18, 2008.

[57] Jim Zanotti, Carol Migdalovitz, Jeremy M. Sharp, Casey L. Addis, Christopher M. Blanchard, and Rhoda Margesson, *Israeli and Hamas Conflict in Gaza (2008–2009)*, Congressional Research Service, February 19, 2009.

come to be called the First Gaza War.[58] In response, Israel launched Operation Cast Lead. The goal of Cast Lead was to "create conditions for a better security situation in southern Israel."[59] To achieve this objective, Israel sought to damage Hamas, reduce the number of terror and rocket attacks coming from Gaza, and bolster Israel's military deterrent. Israel launched a massive coordinated air campaign against preselected targets, which caught Hamas by surprise. On January 3, 2009, Israel sent ground troops, tanks, armored personnel carriers, and artillery divisions into Gaza to destroy rocket launch sites.

In an effort to demonstrate the competence of its fighting force and willingness to use them, the Israeli government announced on January 11, 2009, that IDF reserves would join the conflict.[60] Fighting continued in Gaza City for the next week. Israel conducted air and ground raids in southern Gaza. Hamas was unprepared to handle Israel's use of intense firepower and was driven out of well-organized and prepared positions into less optimal fighting positions.[61] Overall Israel faced little resistance, and Hamas's leaders remained in hiding during the conflict. On January 17, Israel announced a unilateral withdrawal, which was completed by January 21.

Was Israel successful in achieving its goals? The answer is somewhat in dispute. In the immediate aftermath of the conflict, rocket launches into Israel were lower than preconflict levels, and these were likely perpetrated by smaller terrorist groups, not Hamas.[62] Israel did strike a substantial blow to Hamas and destroyed much of its support infrastructure, including police stations, ministries, educational facilities, tunnels, and factories. The IDF, however, killed only a fraction of Hamas's fighters and failed to kill many of its leaders, thereby leaving Hamas as a functioning organization. Moreover, many ana-

---

[58] Zanotti et al., 2009, p. 7.

[59] Johnson, 2011a, p. 111.

[60] Johnson, 2011a, p. 114, also see Zanotti et al., 2009, p. 4

[61] Johnson, 2011a, p. 117; also see Zanotti et al., 2009, p. 4.

[62] Zanotti et al., 2009, p. 7.

lysts suggest Israel's goals may have broadened during the course of the campaign to include ousting Hamas from power.[63] If this truly was an unspoken objective, Israel fell short.

---

[63] Zanotti et al., 2009, p. 7.

Operation Pillar of Defense, 2012

Operation Cast Lead concluded in January 2009 when Israel declared a unilateral cease-fire and the UN Security Council adopted Resolution 1860 to enforce it. Hamas and Israel largely maintained the cease-fire until early 2011. In March 2011, Hamas began conducting periodic rocket and IED attacks against Israel, leading to short periods of intensified violence. In April and August 2011 and in March and June 2012,[1] more than 140 rockets were fired on Israel. In response, the Israeli Air Force (IAF) responded with targeted killings of militants, attacks on rocket launching squads, and strikes on tunnels used for smuggling weapons. Israel also deployed defensive measures. Just as the indirect fire threat was picking up, Israel's Iron Dome, an active antimissile defense system, became operational and began intercepting rocket fire from Gaza primarily around the southern cities of Be'er Sheba, Ashdod, and

---

[1] According to the Israeli Security Agency (Shin Bet), Palestinians in Gaza Strip fired 45 rockets and 18 mortar shells at Israel in April 2011. In addition, an antitank rocket from Gaza hit a school bus near Kibbutz Nahal Oz, killing a 16-year-old Israeli (Israeli Security Agency [Shin Bet], "Monthly Summary — April 2011," May 2011a). In August 2011, Palestinians in Gaza fired 107 rockets and 27 mortar shells, and there was one small-arm shooting in 132 attacks. In addition, eight Israelis were killed and 28 injured as a result of small arms shooting in a combined attack August 18 near the Israel-Egypt border; three casualties were security personnel (Israeli Security Agency [Shin Bet], "Monthly Summary — August 2011," September 2011b). In March 2012, 280 rockets were fired at Israel (Israeli Security Agency [Shin Bet], "Rocket Fire Compared to Rounds of Escalation That Took Place in 2011," April 2012a). In June 2012, 83 rockets and 11 mortar shells were fired at Israel from Gaza in 99 separate attacks and there were three shootings. Two Israelis were killed and seven were injured (Israeli Security Agency [Shin Bet], "Monthly Summary — June 2012," July 2012b).

Ashkelon.[2] In parallel, Israel tightened the closure around Gaza's fishing zone, limiting Gazan fishermen to fishing within three nautical miles instead of 20, as stipulated in the Oslo Accords. According to the Palestinian Center for Human Rights, there were 92 Israeli attacks against Palestinian fishermen in the first six months of 2012, which led to dozens of arrests, boat confiscation, and property damage.[3] Israeli actions against Gaza's fishermen continued into the second half of 2012, adding to the escalating tensions.[4] By October 2012, a little more than a month prior to Pillar of Defense, the infrequent bursts of fire turned into prolonged violence with barely any lulls.[5] Ultimately, this escalating violence set the stage for Operation Pillar of Defense, which began on November 14, 2012, and lasted eight days, until Egypt brokered a cease-fire between Israel and Hamas on November 21, 2012.[6]

The Road to War: Internal Rivalries and Regional Turmoil

The main reason for the increase in violence was the emergence and strengthening of various armed groups in Gaza—other than Hamas and PIJ—including such extremist organizations as Jaish al-Islam, Jund Ansar Allah, and al-Tawhid wal-Jihad.[7] These groups were ideologically and often organizationally affiliated with al-Qaeda and Islamist groups

---

[2] Anshel Pfeffer and Yanir Yagna, "Iron Dome Successfully Intercepts Gaza Rocket for First Time," *Haaretz*, April 7, 2011.

[3] Palestinian Center for Human Rights (PCHR), "Israeli Attacks on Palestinian Fishermen in the Gaza Sea," fact sheet, July 2, 2012a.

[4] PCHR, "Israeli Attacks on Palestinian Fishermen in Gaza Sea," fact sheet, October 1, 2012b.

[5] In October, Palestinians in Gaza fired 116 rockets and 55 mortar shells at Israel in 92 separate attacks (Israeli Security Agency [Shin Bet], "Monthly Summary—October 2012," November 2012c).

[6] Shlomo Brom, ed., *In the Aftermath of Operation Pillar of Defense, the Gaza Strip*, Tel Aviv, Israel: Institute for National Security Strategies, November 2012, p. 7.

[7] Michael Herzog, "Powder Keg in Gaza," PolicyWatch 1994, The Washington Institute, November 1, 2012.

in Egypt's Sinai Peninsula and did not necessarily consider themselves bound by the rules of the Hamas-Israel cease-fire.[8]

Such groups posed a dilemma for Hamas. On one hand, as an Islamist and Palestinian nationalist organization, Hamas sought to maintain its reputation as committed to Israel's destruction through "armed resistance" and defend itself from accusations that it was collaborating with Israel.[9] On the other hand, as the governing body of Gaza, Hamas needed to maintain order and control violence in the Strip. This quandary required Hamas to strike a delicate balance between turning a blind eye to these smaller jihadist groups' attacks against Israel while ensuring they did not provoke substantial Israeli response or undermine Hamas rule in Gaza.[10] The balance proved difficult to maintain. When these militant groups stepped up their attacks, Israel responded gradually with preventive air strikes and interceptive strikes against jihadist leaders. As tensions escalated in the several weeks prior to Pillar of Defense, Hamas began to enable and fund attacks by these smaller factions and even joined in and claimed public responsibility for attacking Israel.[11]

While it is not clear that Hamas meant to start a large-scale confrontation with Israel, the timing of its escalatory behavior suggested that an additional intra-Palestinian political motivation may have been in play. On November 29, 2012, the UN General Assembly was scheduled to vote on whether to grant the Fatah-dominant PA status as a nonmember state.[12] Analysts have argued that through the uptick in violence, Hamas may have tried to maintain its status as the real champion of the Palestinian cause and overshadow an upcoming diplomatic achievement for Fatah.[13]

---

[8]   Amos Harel and Avi Issacharof, "Escalation in the South: Did Hamas Plan This Act or Was It Dragged into It by Extreme Factions?" *Haaretz*, November 11, 2012.

[9]   Isabel Kershner, "Four Palestinian Militants Killed in Israeli Airstrikes," *New York Times*, October 24, 2012.

[10]   Herzog, 2012.

[11]   Harel and Issacharof, 2012; Herzog, 2012.

[12]   UN, "General Assembly Votes Overwhelmingly to Accord Palestine 'Non-Member Observer State' Status in United Nations," November 29, 2012b.

[13]   Elliott Abrams, "Winners & Losers," *Weekly Standard*, November 22, 2012.

Hamas Sees Arab Spring as Playing into Its Hands

Hamas also benefited from the Arab Spring and the regional turmoil in the Middle East. It gained greater access to sophisticated weapons, primarily large amounts of shoulder-fired missiles and rockets, which were smuggled in large quantities from Libya to Gaza.[14] More importantly, the Arab Spring brought about change in Egypt, where the Muslim Brotherhood rose to power in 2012. Unlike Hosni Mubarak's regime, which had considered Hamas a threat to stability and an Iranian proxy, the new government of President Mohamad Morsi had strong ideological and practical ties with Hamas, which perceived this favorable leadership change in Egypt as a chance to elevate its own status.[15] A senior Israeli defense correspondent explained,

> Hamas was trying to change the nature of the arrangement that had ended Cast Lead because the Arab Spring had started, the Muslim Brotherhood was in power in Egypt, and Hamas now thought it had the upper hand.[16]

Despite the close relations between the Muslim Brotherhood in Egypt and Hamas, however, Morsi's government did not completely alter policy toward Hamas during its short tenure. Egypt remained Gaza's main gateway to the outside world, and although the Morsi government was less inclined to block Hamas's efforts to smuggle goods, people, and weapons into the Gaza Strip through its tunnel network,[17] it continued to restrict the movement of people and goods across the main Rafah crossing between Gaza and Egypt and chose not to challenge Jerusalem over Israel's blockade of Gaza. Moreover, when violence between Israel and Hamas erupted — before and after Pillar of Defense — Egypt quickly attempted to broker a cease-fire. Thus, while

---

[14] According to the head of the Israeli Security Agency, Yoram Cohen, as cited in Lahav Harkov, "Rise in Terror Plots Against Israelis, Jews," *Jerusalem Post*, May 30, 2012.

[15] Benedetta Berti, "No Blank Cheques: Morsi and Hamas," *Fathom*, Spring 2013.

[16] Interview with senior Israeli defense correspondent, Tel Aviv, May 24, 2016.

[17] Sarah Lynch, "Gaza Conflict Puts Crimp in Tunnel Smuggling Biz," *USA Today*, November 22, 2012.

Hamas was one of the Brotherhood's close ideological and religious partners, the Morsi government was required to balance ideology carefully with pragmatism and remained more concerned about maintaining the status quo than about supporting its ally in Gaza.

There are multiple possible reasons for Morsi's calculations. First, he was not seeking to openly defy the international community, much of which (especially in the West) considers Hamas a terrorist organization.[18] Moreover, although diplomatic relations with Israel deteriorated during Morsi's tenure, security cooperation between Israel and Egypt remained strong. Avoiding confrontation with Israel was important for Egypt both in terms of its own stability, which direct conflict with Israel would have jeopardized, and in terms of continuation of U.S. aid, which could have been suspended in the event of confrontation with Israel.[19] Further, although they differed in rhetoric about Gaza's border crossings, Morsi and Mubarak had similar concerns about Egypt's border security, particularly about smuggling of weapons to and from Gaza and the tunnel enterprise that risked stability in Sinai. Finally, by acting as a mediator rather than solely as a Hamas ally, Morsi was trying to get Israel to relax its border restrictions and not make Egypt the sole point of entry of goods into Gaza.[20]

Regional Turmoil and Political Considerations Constrain Israeli Freedom of Action

The leadership change in Egypt not only affected Hamas's behavior, but also influenced Israel's considerations. According to reports, despite its cordial relations with the Morsi government, Israel feared the emergence of closer ties between Egypt and Hamas and deteriora-

---

[18] Berti, 2013.

[19] Ephraim Kam, "Following the Operation: The Balance Between the Two Sides" in Shlomo Brom, ed., *In the Aftermath of Operation Pillar of Defense: The Gaza Strip*, Tel Aviv, Israel: Institute for National Security Studies, November 2012, p. 17.

[20] Kam, 2012, p. 18.

tion of its peaceful, yet fragile, relations with Egypt. As a result, Israel felt constrained in its ability to act in Gaza.[21]

Israel was also constrained in the month preceding Pillar of Defense by looming national elections scheduled for January 2013. Analysts argue that Hamas assumed that Israel would refrain from a large-scale operation and risk high casualty rates before the election. Indeed, this thinking was reflected in statements by Israeli politicians.[22] At the same time, failure to stop the rocket fire from Gaza also had political ramifications. The media accused the government of "neglecting" the communities bordering Gaza,[23] and leaders of southern Israeli communities near Gaza protested what they perceived as government inaction.[24] Hence, in late 2012, the Israeli government faced a political conundrum—either be accused of "abandoning the kibbutzim near Gaza" or risk a potentially costly war.[25]

Israel was also still reeling from the international criticism of Cast Lead. In April 2009, the UN Human Rights Council (UNHCR) appointed the UN Fact Finding Mission on the Gaza Conflict, headed by Richard Goldstone, to investigate alleged Israeli violations of international law on human rights. The commission's report, published in September 2009 and known as the Goldstone Report, blamed both

---

[21] Avner Golov, "The Campaign to Restore Israeli Deterrence," in Shlomo Brom, ed., *In the Aftermath of Operation Pillar of Defense: The Gaza Strip*, Tel Aviv, Israel: Institute for National Security Studies, November 2012, p. 24.

[22] For example, then–foreign minister Avigdor Lieberman said in an interview that, "[T]wo months before elections, the Government cannot make such a decision [on a ground invasion]. . . . If there is no choice, this decision should be left for the next government" (Avigdor Lieberman, interview with Ynet Studio [translated from Hebrew], November 20, 2012).

[23] For example, Head of Regional Council Eshkol Haim Yalin said in an interview that "Netanyahu and Barak, both excellent Sayeret Matkal [equivalent to the United Army's Delta Force] soldiers, forgot in their political chairs what comradeship and mutual guarantee mean and not to abandon residents" (Eshkol Haim Yalin, "Seven More Rockets to the South; No School in Ashkelon," interview with *Haaretz* [translated from Hebrew], June 21, 2012).

[24] Philip Podolsky, "Sderot Mayor Hunger Strikes to Protest Budget Shortfall for Rocket-Clobbered Town," *Times of Israel*, October 25, 2012.

[25] Interview with senior Israeli defense correspondent, Tel Aviv, May 24, 2016.

Israel and Hamas for war crimes.[26] The report was considered controversial and was rejected by the government of Israel as biased and factually wrong.[27] Moreover, in 2011, Goldstone himself retracted one of the report's most controversial accusations that Israel deliberately targeted Palestinian civilians.[28] Nonetheless, the report received wide publicity and broad support among UN member states,[29] raising Israeli awareness of the implications of acting in Gaza, as explained by a senior Israeli defense correspondent:

> [T]he Goldstone Report, which was pro-Palestinian, anti-Israeli, and judged Israel by harsher standards than those applied to other militaries under similar circumstances . . . made Israel look bad internationally. The international community didn't understand the ramifications of fighting an enemy that uses civilians as a shield and a way to hide in a densely populated area. Later on, Israel realized they [the IDF] went too far [in the fighting] and needed to work on the rules of engagement to avoid international issues stemming from military actions. As a result, Cast Lead was seen in Israel as a failure even though Hamas was badly beaten and the Gazan population suffered.[30]

Finally, Hamas was simply not at the top of Israel's security agenda. Since beginning its 2009 term, Israeli Prime Minister Benjamin Netanyahu's government had focused on convincing the international

---

[26] UN, "UN Mission Finds Evidence of War Crimes by Both Sides in Gaza Conflict," September 15, 2009a.

[27] Barak Ravid et al., "Delegitimization of Israel Must Be Delegitimized," *Haaretz*, October 16, 2009.

[28] Richard Goldstone, "Reconsidering the Goldstone Report on Israel and War Crimes," *Washington Post*, April 1, 2011.

[29] Of the UN's General Assembly members, 114 voted in favor of adopting the report's findings and recommendations versus 18 votes against it and 44 abstentions. See UN, "By Recorded Vote, General Assembly Urges Israel, Palestinians to Conduct Credible, Independent Investigations into Alleged War Crimes in Gaza," November 5, 2009b.

[30] Interview with senior Israeli defense correspondent, Tel Aviv, May 24, 2016.

community of the need to act against Iran's nuclear program.[31] Despite statements by Israeli officials, including the prime minister himself, that Israel would not tolerate attacks on its citizens emanating from Gaza,[32] in practice, Hamas was a lower priority and Israel was willing to settle for rhetoric and very limited response to the organization's provocations.[33]

Tit-for-Tat Dynamic Turns into Full-Scale Military Confrontation
Even two weeks before Operation Pillar of Defense, it still remained unclear whether Israel and Hamas were bound for another full-scale military confrontation. Though defense analysts estimated that neither Israel nor Hamas was interested in a large-scale conflict, they noted that further intensification of violence by either side could lead to this undesired outcome.[34]

On October 23, 2012, an IDF soldier was severely injured by an IED explosion on the Gaza border for which both Hamas and a smaller militant group in Gaza claimed joint responsibility.[35] Hamas's military wing, the Izzedine al-Qassam Brigades, stated that the act was a "response to the ongoing aggression against the Palestinian people."[36] This incident occurred hours before a landmark visit to Gaza by the Qatari emir, Sheik Hamad bin Khalifa al-Thani, the first head of state to visit to Gaza since Hamas took control of the Strip in 2007. During his visit, the emir granted Hamas $400 million in aid.[37] Simultaneously, a major U.S.-Israeli joint military exercise was under way in Israel. The same day, a series of explosions destroyed the Yarmouk arms factory in south Khar-

---

[31] Golov, 2012, p. 26.

[32] For example, the Ministry of Foreign Affairs stated, "The IDF will not tolerate any attempt to harm Israeli civilians, and will continue to operate with strength and determination against any terrorist organization using terror against the State of Israel. The Hamas terrorist organization is solely responsible for any terrorist activity emanating from the Gaza Strip" (Ministry of Foreign Affairs, "Israel Under Fire—April 2011," statement, April 10, 2011).

[33] Golov, 2012, p. 26.

[34] Herzog, 2012.

[35] Kershner, 2012.

[36] Kershner, 2012.

[37] Chorev and Shumacher, 2014.

toum, Sudan, a facility believed to be used by Iran to support the trans-shipment of weapons into Gaza. Sudanese authorities blamed the IAF in the attack.[38] While both Hamas and Israel refrained from acting during the Qatari emir's visit, hours after his departure, Palestinian militants in Gaza fired more than 70 rockets into Israel overnight and the following morning, hitting several houses and wounding three Thai workers, two critically, in an Israeli border community.[39] On October 24, Israel carried out several air strikes against rocket-launching groups, killing four militants, three of whom were affiliated with Hamas.[40] On November 5, the IDF killed a 20-year-old Palestinian man who approached the border fence despite warning shots and calls to step back. According to Palestinian sources, the man was unarmed and mentally ill.[41]

On November 8, a booby-trapped tunnel exploded near an IDF force conducting routine maintenance work along the border fence, injuring one soldier. A 13-year-old Palestinian boy was killed during an exchange of fire after the explosion.[42] Palestinian medics said that the boy was killed by machine-gun fire from either Israeli helicopters or tanks involved in the incident.[43] On November 10, a Hamas anti-tank Milan missile struck an IDF armored jeep on the Israeli side of the border fence, severely injuring four soldiers on patrol. The IDF responded with tank fire and air strikes into Gaza targeting the suspected source of fire in the neighborhoods of Zeitun and Shuja'iya,[44] killing four Palestinians — all civilians between the ages of 16 and 18,

---

[38] "Operation Pillar of Defense," Globalsecurity.org, March 3, 2013.

[39] IDF, "Updating: Over 70 Rockets Fired at Israel from Gaza," blog post, October 24, 2012a.

[40] Kershner, 2012.

[41] "Soldiers Shoot Dead 20-Year-Old Man Near Gaza Border," Reuters via *Ma'an News*, November 5, 2012.

[42] "Timeline: Israel Launches Operation Pillar of Defense Amid Gaza Escalation," *Haaretz*, November 20, 2012.

[43] "Israeli Gunfire Kills Palestinian Boy in Gaza Clash: Medics," Reuters, November 8, 2012.

[44] Yoav Zitun and Elior Levy, "Four Soldiers Injured from Anti-Tank Rocket Fired from Gaza," *Ynet*, November 10, 2012.

according to Gaza's health ministry spokesperson[45] — and wounding an additional 25, including children.[46] Hamas spokesman Fawzi Bar-houm reportedly communicated with journalists via text messages and threatened to respond, saying that "targeting civilians is a dangerous escalation that cannot be tolerated. The resistance has the full right to respond to the Israeli crimes."[47] That night and the morning after, 116 rockets and mortar rounds targeted Israeli communities surrounding Gaza, including the cities of Ashdod and Ashkelon.[48] Palestinian sources said that Israel retaliated with tank and machine gun fire toward residential areas, as well as with targeted killings.[49] Between November 11 and 13, more than 200 rockets and a number of mortar rounds were fired into Israel from Gaza, wounding dozens of civilians and damaging property.[50] In a November 13 meeting in Be'er Sheba with the heads of regional councils in the south, Netanyahu said:

> Whoever believes they can harm the daily lives of the residents of the south and not pay a heavy price is mistaken. I am responsible for choosing the right time to collect the highest price and so it shall be.[51]

Israel launched Operation Pillar of Defense the next day, November 14, with the assassination of Ahmed Jabari (head of the Izzedine al-Qassam

---

[45] Ibrahim Barzak, "After Attack on Jeep, Israeli Army Kills 4 in Gaza," Associated Press, November 10, 2012.

[46] "Timeline: Israel Launches Operation Pillar of Defense Amid Gaza Escalation," 2012; Barzak, 2012.

[47] "Timeline: Israel Launches Operation Pillar of Defense Amid Gaza Escalation," 2012; Barzak, 2012.

[48] Yoav Zitun and Elior Levy, "A House Hit in Sderot. Launches at Netivot; No Casualties," Ynet.co.il (translated from Hebrew), November 11, 2012.

[49] Barzak, 2012.

[50] Israel Ministry of Foreign Affairs, "Rocket Fire from Gaza and Ceasefire Violations After Operation Cast Lead," January 10, 2009.

[51] Aron Kalman and Associated Press, "Netanyahu Says It's His Responsibility to Exact Price for Rockets on the South," *Times of Israel*, November 13, 2012.

Brigades, Hamas's military wing in Gaza) and pinpoint attacks against other targets.[52] Hamas and PIJ vowed to avenge the killing of Jabari.[53]

How the Campaign Unfolded

After Hamas's barrage of rockets on November 13, 2012, Israel's security cabinet met to decide on an operation that would include a broad air attack on Hamas infrastructure in Gaza. In addition, the security cabinet approved targeted killings of key Hamas leaders, hoping to achieve maximum effect on the enemy early in the operation. At the same time, to ensure operational surprise, an effort was undertaken to mislead Hamas into believing that an attack was not imminent. Israel sent a number of diplomatic messages that sought to explore a ceasefire, while Prime Minister Netanyahu and Defense Minister Ehud Barak went on a tour of the Golan Heights on November 14; both measures sought to obscure Israeli intentions.[54]

The campaign began on the afternoon of November 14 with a series of IAF air strikes on 20 Hamas targets. The IDF conducted additional air and naval strikes on Hamas missile and rocket infrastructure, including (according to the IDF) most of Hamas's long-range missiles and missile launchers and the organization's stock of UASs.[55] In the attack, according to the health ministry in Gaza, ten civilians were killed, including three children and a pregnant woman, and an additional 40 were wounded.[56] Following the initial IAF strikes, Barak announced that

---

[52] Olga Khazan, "Israel Army Says Jabari Had 'Blood on His Hands,'" *Washington Post*, November 14, 2012.

[53] Nidal al-Mughrabi, "Israel Hammers Hamas in Gaza Offensive," Reuters, November 14, 2012a.

[54] Udi Segal, "Under the Radar: The Israeli Deception that Preceded the Operation in Gaza," *Mako*, November 15, 2012.

[55] "Timeline: Israel Launches Operation Pillar of Defense Amid Gaza Escalation," 2012; Yoav Limor, "Gantz's Halftime Test," *Israel Hayom* (translated from Hebrew), January 25, 2013.

[56] al-Mughrabi, 2012a.

they had destroyed the majority of Hamas's longest-range Fajr-5 rockets "within minutes" of the first sorties.[57] Despite this initial blow, Hamas was not defeated. Over the next eight days, IAF airpower was pitted against Hamas' rockets in brief but deadly conflict that ultimately cost six Israelis (including one military) and 167 Palestinians (including at least 30 Hamas and PIJ) militants their lives.[58]

Israel States Its Goals

In a statement on November 14, 2012, then–Defense Minister Barak outlined four major objectives for the operation.[59] First and foremost, Israel wished to restore the deterrence that had been achieved after Cast Lead but eroded since 2011. While Israel viewed Hamas as a secondary threat compared with Iran and Hezbollah, it could no longer tolerate the organization's ongoing attacks on Israel and needed to reestablish deterrence.[60]

Second, Israel wanted to decrease the capability of Hamas and other militant groups to launch rockets at its civilian population. At the time, Hamas and other organizations in Gaza had an estimated inventory of 15,000 rockets of various sizes and ranges.[61] Particularly concerning, however, was that Hamas also had a small number of Iranian-manufactured Fajr-3 and Fajr-5 rockets; the latter is a 333-millimeter (mm) rocket with a 47-mile (75 km) range, sufficient to reach Tel Aviv and other heavily populated areas in central Israel.[62]

---

[57] Mitch Ginsburg, "A Stunning Initial Success for the IDF. Now What?" *Times of Israel*, November 15, 2012.

[58] The number of total Palestinian fatalities is drawn from Israeli human rights organization B'tselem. See B'tselem, "B'Tselem Reviews 2013: 5-Year High in Number of Palestinian Fatalities in West Bank," December 30, 2013.

[59] Israeli Ministry of Foreign Affairs, "Pillar of Defense — Statement by Defense Minister Ehud Barak," November 14, 2012.

[60] Golov, 2012, p. 24.

[61] Yiftah S. Shapir, "Iron Dome: The Queen of Battle," in Shlomo Brom, ed., *In the Aftermath of Operation Pillar of Defense, the Gaza Strip*, Tel Aviv, Israel: Institute for National Security Studies, November 2012, p. 39.

[62] Ian Black, "Fajr-5 Missile Gives Palestinians Rare if Short-Lived Advantage," *The Guardian*, November 16, 2012.

Third, Israel wanted to minimize the damage to its home front. Israel could not immediately prevent militants from launching rockets at Israel's civilian's population. Israel, however, was equipped with Iron Dome, an active antimissile defense system that could intercept rockets and give the IDF more room to maneuver.[63] On the eve of Pillar of Defense, the IDF had four Iron Dome batteries (a fifth was rushed into operational service in the middle of the operation).[64]

Finally, Israel sought to deliver a blow to Hamas (and other organizations in Gaza) while balancing multiple priorities. The government sought to avoid Israeli casualties, especially in light of the upcoming elections. Israel also wanted to avoid a public dispute with the Obama administration over Gaza, especially because it needed U.S. support for its top priority—the Iranian nuclear program.[65] Further, Israel did not want to strain its relations with Egypt's new Muslim Brotherhood leadership and increase regional turmoil.[66] Finally, especially in light of the Goldstone Report,[67] Israel wanted to avoid collateral damage that could inflame international public opinion. As a result of these constraints, Israel focused on the assassinations of Hamas leaders, starting with Jabari.

The selection of Jabari as the first target for assassination since 2009 was meant to surprise Hamas. The IDF chief of staff himself selected Jabari,[68] even though the military chief was considered extremely hard to locate.[69] Jabari's killing came after four failed assassination attempts, and he was considered a prime target. He was involved in capturing and releasing Israeli soldier Gilad Shalit, and he had directed dozens of terror-

---

[63] Shapir, 2012, p. 41.

[64] Shapir, 2012, p. 41.

[65] Golov, 2012, p. 26; Oded Eran, "The United States and the Middle East," in Shlomo Brom, ed., *In the Aftermath of Operation Pillar of Defense: The Gaza Strip*, Tel Aviv, Israel: Institute for National Security Studies, November 2012, p. 51.

[66] Golov, 2012, p. 26; Eran, 2012 p. 51.

[67] UN, 2009a.

[68] Limor, 2013.

[69] Nick Meo, "How Israel Killed Ahmed Jabari, Its Toughest Enemy in Gaza," *The Telegraph*, November 17, 2012.

ist strikes against Israel. Moreover, Jabari was behind Hamas's takeover of the Gaza Strip from its rival political movement Fatah in 2007,[70] and he shepherded the Hamas military wing from a ragtag militia to an organized military with "a chain of command and a host of skilled fighters."[71] While the timing of the operation was not challenged, the decision to kill Jabari exactly at that point of time raised some questions in Israel. Some analysts believed that Jabari was less radical than those who would step forward to replace him if killed, and that he might have been open to reaching a more permanent cease-fire agreement with Israel.[72]

A Campaign Intended to Restore Deterrence—Not Change the Regime

Notably absent from Israel's stated objectives were reoccupying Gaza and destroying the Hamas regime, which Foreign Minister Avigdor Lieberman said were "not on the agenda."[73] For such nonstate actors as Hamas, Israel would continue its strategy of "mowing the grass," whereby "use of force . . . is not intended to attain impossible political goals, but a strategy of attrition designed primarily to debilitate the enemy capabilities" and create ever longer periods of calm between conflicts along Israel's borders.[74] According to Israeli defense doctrine, the attrition of the enemy that repeatedly "mowing the grass" entailed was part of a longer-term strategy to achieve "cumulative deterrence" over the course of several painful conflicts that would eventually lead to the complete cessation of attacks on Israel.[75]

---

[70] Meo, 2012.

[71] Daniel Siryoti and Lilach Shoval, "Ahmed Jabari Funeral Draws Large Crowds, but No Hamas Leaders," *Israel HaYom*, November 15, 2012.

[72] Siryoti and Shoval, 2012; Reuven Pedatzur, "Why Did Israel Kill Jabari?" *Haaretz*, December 4, 2012. Editor-in-Chief Benn even wrote that, "Israel killed its subcontractor in Gaza" (Aluf Benn, "Israel Killed Its Subcontractor in Gaza," *Haaretz*, November 2012).

[73] "Cabinet Okays 75,000 Reservists for Possible Gaza Operation," *Jerusalem Post*, November 16, 2012.

[74] Inbar and Shamir, 2013.

[75] Eitan Shamir and Eado Hecht, "Gaza 2014: Israel's Attrition vs Hamas' Exhuastion," *Parameters*, Vol. 44, No. 4, Winter 2014/2015, p. 89.

Plans for the air campaign were akin to the U.S. "shock and awe" concept of employing a combination of well-prepared intelligence and targeting, precision, and mass to take down key elements of the enemy's military power in the initial hours and days of the campaign, both to reduce those capabilities and affect the will of the enemy to fight.[76] Despite the call-up of reservists, there was little consideration of use of ground forces; plans called for the air campaign to last five days, though in the end it took eight.[77]

Preparation for the air campaign was aided by an ISR "bubble" of manned and unmanned aircraft, as well as other capabilities undertaking constant surveillance of the Gaza Strip well before the war. One interlocutor noted that Israel has had "24/7 presence in the air over Gaza for more than a decade," to the extent that "every little Palestinian kid [draws] drones because for them it's like birds."[78] The IDF expanded its capacity to collect and analyze intelligence at the strategic, operational, and tactical levels to understand and respond to multiple rapidly changing threats and to improve warning of imminent hostilities. One Israeli report, quoting military intelligence sources, described a 25-percent increase in the number of military intelligence officers in the IDF to "assist in better monitoring of new strategic arenas."[79] In addition, according to General Yair Golan (currently deputy IDF chief of staff) in a speech some years ago to a public conference, special operations personnel had been present in

---

[76] For a primer on the "shock and awe" concept and the doctrine of "rapid dominance," see Harlan Ullman, James Wade, Jr., L. A. Edney, Frederick Franks, Jr., Charles Horner, Jonathan Howe, and Keith Brendley, *Shock and Awe: Achieving Rapid Dominance*, Washington, D.C.: National Defense University, October 1996.

[77] Interview with former senior IDF officers and Israeli think-tank analysts, Tel Aviv, May 23, 2016.

[78] Interview with Israeli think-tank analyst, Tel Aviv, May 25, 2016.

[79] Yoav Zitun, "Number of MI Officers on the Rise," Ynetnews.com, July 13, 2012. Israel has established a new intelligence battalion in the south to monitor development in Sinai. See Lilach Shoval and Daniel Siryoti, "Israel to Deploy New Intelligence Battalion on Egyptian Border," *Hayom*, November 21, 2011.

Gaza in between conflicts and had "touched the holes in the ground where Hamas is placing rockets."[80]

During the second full day of conflict, November 16, Hamas sought to demonstrate that, despite the initial IAF strikes, the organization remained able to strike back at Israel. And the organization felt compelled to respond to the assassination of its military chief. With a Hamas spokesman saying the group's arsenal was "far from crippled,"[81] Hamas fired an indigenously manufactured M-75 rocket toward Jerusalem and two others toward Tel Aviv, both of which fell in open areas. That night, the IAF conducted targeted strikes on a Hamas company commander in the central Gaza district of El Muazi, as well as an antitank missile operator. The IDF also revealed that it had taken out Hamas's nascent drone program after gathering intelligence on and striking test flight sites.[82]

Thus, the IDF focused on Hamas military leadership and its "strategic" capabilities early in the conflict. As the Hamas rocket fire continued under air strikes against launchers, the IAF expanded its prosecution of other target sets, including government infrastructure and tunnels used by Hamas to smuggle weapons and other materials. By Saturday, November 17, about four days into the conflict, Israeli air strikes destroyed the offices of Hamas Prime Minister Ismail Haniyeh and a police headquarters and damaged smuggling tunnels along the southern Gaza border with Egypt.[83] The house belonging to Hamas official Abu Hassan Salah was also hit.[84] Airstrikes also hit two media centers, includ-

---

[80] Interview with Israeli think-tank analyst, Tel Aviv, May 25, 2016. The public statement by a senior IDF officer that special operations forces were on the ground in Gaza before the operation was unusual for such a sensitive topic.

[81] Karin Brulliard, "Attacks Intensify Along Gaza Border," *Washington Post*, November 16, 2012.

[82] "Cabinet Okays 75,000 Reservists for Possible Gaza Operation," 2012.

[83] See Karin Brulliard and Abigail Hauslohner, "Israel Pounds Gaza From Air as Troops Assemble," *Washington Post*, November 18, 2012.

[84] Sherwood, Beaumont, and McGreal, 2012.

ing one housing Western TV networks.[85] One of the media centers housing the Hamas TV station Al Aqsa on the top floor was struck a second time the following day, killing leading PIJ militant Ramez Harb.[86] The same day, the World Health Organization (WHO) reported that Gaza hospitals were overwhelmed with casualties from Israel's bombings and faced critical shortages of drugs and medical supplies. Quoting health ministry officials in Gaza, the WHO said that 382 people (245 adults and 137 children) had been injured in Israeli air strikes.[87]

On Sunday, in an effort to assassinate a commander of Hamas rocket firing teams, an errant air strike killed 11 civilians, nine representing three generations of the al-Dalu family, including four children, as well as two of the family's neighbors.[88] The IDF said it was the result of a technical error: "either [a] failure to paint the target of the attack on the correct site or one of the munitions [used] in the strike misfired."[89] It was the deadliest single strike of the conflict, and rescue efforts were broadcast live to international audiences. Israeli journalists noted a trend in the Palestinian casualty figures over the previous one or two days, as civilian casualties were increasing while militant casualties were declining. Hamas and other combatants had taken to staying underground in tunnels and bunkers, especially during the day, and were firing rockets quickly or using remote control. Targeting became more difficult as there was a "decline in the number of quality targets available to Israeli intelligence and the Israeli Air Force," which

---

[85] Jodi Rudoren, Fares Akram, and Isabel Kershner, "Israeli Airstrike Kills Three Generations of a Palestinian Family," *New York Times*, November 18, 2012.

[86] Avi Issacharoff, Barak Ravid, Gili Cohen, Yanir Yagna, and Natasha Mozgovaya, "Live Blog: Day 6 of Israel-Gaza Conflict 2012," *Haaretz*, November 19, 2012.

[87] Stephanie Nebehay, "Gaza Hospitals Stretched, Need Supplies to Treat Wounded: WHO," Reuters, November 17, 2012.

[88] Nidal al-Noughrabi, "Dalu Family in Gaza Mourns Dead after Israel Bombs House," Reuters, November 19, 2012.

[89] Gili Cohen, "IDF: Gaza Civilians Killed Due to Faulty Airstrike," *Haaretz*, November 19, 2012.

was increasingly resorting to "attacks on empty facilities belonging to Hamas."[90]

From the beginning, Israel sought to address the international pressure it expected to face as Palestinian civilians became casualties of the war and as Hamas worked to draw attention to such "collateral damage." Noting that Hamas infrastructure, weapons storage, command and control, and other elements of its war-fighting capacity were deliberately placed in civilian residential and commercial structures, Israel's cabinet promised that the IDF would operate to the extent it could "to avoid civilian casualties and [respect] the Gazans' humanitarian needs."[91] Early on, in an attempt to separate civilians from Hamas combatants, the IDF dropped leaflets in Arabic over areas of Gaza that the IDF was likely to target. The leaflets, signed by "Israel Defense Force Command," read:

> Important announcement for the residents of the Gaza Strip: For your own safety, take responsibility for yourselves to avoid being present in the vicinity of Hamas operatives and facilities and those of other terror organizations that pose a risk to your safety. Hamas is once again dragging the region to violence and bloodshed. The IDF is determined to defend the residents of the State of Israel. This announcement is valid until quiet is restored to the region.[92]

Reportedly, antiquated A-4 Skyhawks dropped hollow "bombs" that each contained 17,000 of these messages.[93]

Moreover, in specific instances, the IAF used small munitions to "knock on the roof" of targeted buildings before an attack to warn any civilians inside to vacate to safe areas. The IDF also phoned apartments

[90] Avi Issacharoff, "As IDF Strike Kills Entire Family in Gaza, Israel Is Starting to Get in Trouble," *Haaretz*, November 19, 2012.

[91] "Gaza Rocket Fire Persists; Gov't Okays IDF Reserves Call-Up," Ynetnews.com, November 15, 2012.

[92] "IDF Pummels Gaza, Orders Call-Up, After Rockets Encroach on Tel Aviv," *Times of Israel,* November 15, 2012.

[93] Anshel Pfeffer, "War by All Means — How the IDF Fights in 2012," *Haaretz*, November 15, 2012.

in such buildings and dropped leaflets before an attack with "operational instruction" that pointed civilians to areas nearby that would not be under threat of attack. According to Israeli sources, civilians in Gaza came to understand that these areas would indeed be safe.[94] The United States reportedly has adopted this "knock-on-the-roof" approach in its air strikes on ISIL in populated areas of its strongholds in Iraq and Syria.[95] However, roof-knocking "totally destroys the element of surprise."[96]

Then again, because of legal safeguards instituted within the IDF's operational chain of command, attacks on targeted buildings may not occur if civilians remain and would risk collateral damage out of proportion to the value of the military capability that would be destroyed. Legal guidance was employed in targeting, whereby all preplanned targets in Gaza were vetted and brought to a legal advisor, who reviewed the intelligence and assessments of possible collateral damage and would ask questions and provide conclusions to commanders.[97]

But in the case of the al-Dalu family, legal review would not have helped, and Hamas sought to use the horrifying result of the errant attack to gain international support and discredit Israel—successfully. Following the incident, human rights organizations described it as "an example of blatant targeting of civilians,"[98] and said the IDF used "disproportionate" force.[99] Recep Tayyip Erdogan, Turkish prime minister at the time, accused Israel of committing "ethnic cleansing"

---

[94]   Interview with former senior IDF officer, Tel Aviv, May 25, 2016. One interlocutor said that "we bomb very accurately, and they know that if we say we are going to bomb house number 27, then they can move to number 32 and they are safe."

[95]   Barbara Starr, "Pentagon Adopts Israeli Tactic in Bombing ISIS," CNN.com/Politics, April 26, 2016. Prior to striking a house containing an ISIL "financial emir," the U.S. personnel detonated a Hellfire missile harmlessly above the roof of the house and dropped leaflets in an effort to protect a woman and children residing there.

[96]   Interview with former senior IDF officer, Tel Aviv, May 25, 2016.

[97]   Interview with former Ministry of Defense official, Tel Aviv, July 31, 2013.

[98]   PCHR, "Attempts to Rescue the al-Dalu Family Ongoing; Israeli Occupation Forces Destroy House over Its Residents," November 19, 2012c.

[99]   Human Rights Watch, "Israel/Gaza: Israeli Airstrike on Home Unlawful," December 7, 2012.

of Palestinians,[100] and British member of Parliament Gerald Kaufman accused Israel of war crimes.[101] Hamas emphasized such incidents throughout the war, using traditional as well as social media. Both sides used social media extensively during the conflict, which was dubbed the first "Twitter war."[102]

Pillar of Defense involved IDF efforts to reach internal and external audiences through Twitter, Facebook, YouTube, and a number of other social media platforms. Hamas's Al Qassem Brigades constantly tweeted updates of Palestinian civilian casualties as a result of Israeli strikes, as well as its operations to survive and strike back at Israel with missile and rocket attacks. The IDF spokesman tweeted updates detailing IAF attacks well before their release to the traditional media.[103] There were some missteps on the part of the IDF, and an independent assessment that compared the IDF's social media performance with that of Hamas was decidedly critical.[104]

The IAF continued attacking targets in Gaza up until the ceasefire agreement on November 21. According to the IDF, some 1,500 targets were struck, including

- 30 senior Hamas and PIJ terrorists
- 19 high-level command centers
- 980 underground rocket launchers
- 140 smuggling tunnels

---

[100] Al Arabiya with AFP, "Turkey and Iran Accuse Israel of 'Ethnic Cleansing' and 'War Crimes' in Gaza," Agence France Presse via *Al Arabiya*, November 20, 2012.

[101] Gerald Kaufman, "Why I Believe Israel Is Committing War Crimes," blog post, *Huffpost Politics (United Kingdom)*, November 20, 2012.

[102] See IDFblog.com, which posts updates about the IDF and links to Facebook, Twitter, YouTube, and other social media sites.

[103] See Pfeffer, 2012.

[104] The IDF was heavily criticized for posting a photo of Ahmed Jabari, the Hamas military chief Israel assassinated at the outset of Pillar of Defense, with "Eliminated" stamped across his face (see Pfeffer, 2012). An Israeli researcher analyzed the Twitter accounts of Hamas and the IDF during the conflict and concluded that "the IDF refrained almost entirely from engaging in Twitter discussions, and in doing so failed to dominate the online discourse and the messages being transmitted." Eli Ashkenazi, "Hamas Defeated IDF in Virtual Warfare During Gaza Conflict, Study Shows," *Haaretz*, January 3, 2013.

- 66 tunnels used for terrorist operations
- 42 operation centers and bases owned by Hamas
- 26 weapons manufacturing and storage facilities
- dozens of long-range rocket launchers and launch sites.[105]

The list of targets struck does not provide insight into the level of damage achieved, the effect on Hamas's capacity to launch rockets at Israel, or its will to fight.

Israel Initiates a Limited Call-Up of Reserves

Given the relatively small size of the country, Israel relies on a small active duty military that can be quickly supplemented in times of need. The IDF totals 641,500 soldiers; of these, only 176,500 are active duty personnel (mostly conscripts). The rest—more than 72 percent—are reservists.[106] These reservists—all of whom are former active duty—dedicate approximately one month per year to training and other military duties and are available for call-up within 48 hours in the event of a national emergency.[107] By some estimates, roughly 25 percent to 30 percent of even active duty units are reservists.[108] Additionally, the IDF maintains reserve armor, infantry, artillery, and support units. Consequently, as one Israeli defense analyst remarked:

> No operation could be executed without reservists—in Gaza, in Lebanon—and they will operate in the hard core of the war if you use ground forces. There are positions that are only held by reservists even in the regular units. The infantry that accompanies some of the tanks, they are reservists. Some of the reconnais-

---

[105] IDF, "Operation Pillar of Defense: Summary of Events," IDFblog.com, November 22, 2012b.

[106] International Institute for Strategic Studies (IISS), *The Military Balance 2016*, London: Routledge, 2016, p. 333. For the Army, active and reserve numbers are 133,000 and 400,000, respectively; for the Navy, 9,500 and 10,000; and for the IAF, 34,000 and 55,000.

[107] As a result, reservists all have several years of active duty service experience and therefore, can be both older and more experienced than their active component counterparts.

[108] Interview with senior reserve IDF officer, Tel Aviv, May 24, 2016.

sance, staff functions, all the HQ functions, mortars, medical, are all reserve positions.[109]

Mobilizing reservists also served another strategic function: signaling Israeli resolve to Hamas, the international community, and the Israeli public. Especially given Israel's small population, mobilizing large numbers of reservists can have significant disruptive effects on the economy and committing reservists—who are more likely than 18-year-old draftees to have families and extensive community ties—to combat operations can prove politically sensitive as well.[110] As a result, historically, Israeli governments often are hesitant to deploy reservists in force unless absolutely necessary. Ironically, partially because employing the reserve is so economically and politically costly, some analysts argue that mobilizing reservists can send a powerful signal.[111]

On November 15, the day after Israel's initiation of the campaign, the "inner cabinet" of nine ministers approved a "cap" of 30,000 reservists who could be activated for the conflict. On Friday morning, IDF Chief of Staff Benny Gantz mobilized 16,000 of these, mostly from the IDF Engineering Corps to facilitate the movement of armored forces across the Gaza border and form reconnaissance squads.[112] Later that day, Gantz requested authority from Barak to raise the cap to 75,000, which the cabinet approved during the evening of November 16 after a three-hour discussion about the possibility of a ground operation into Gaza.[113] In the end, Israel mobilized a total of 57,000 reservists. This was on a scale comparable to the call-up of reserves for the Second Lebanon War and several times larger than the call-up for Operation Cast Lead.[114]

Israel pursued a limited call-up of reservists soon after initiation of the campaign for two reasons. The first related to a lesson from the

---

[109] Meeting with Israeli academics, Begin-Sadat Center for Strategic Studies, Bar Ilan University, Tel Aviv, May 22, 2016.

[110] Interview with senior reserve officer, Tel Aviv, May 24, 2016.

[111] Interview with an Israeli journalist, Tel Aviv, May 24, 2016.

[112] "Operation Pillar of Defense: Israel Under Fire," *Haaretz*, November 15, 2012.

[113] "Cabinet Okays 75,000 Reservists for Possible Gaza Operation," 2012.

[114] Sherwood, Beaumont, and McGreal, 2012.

Second Lebanon War, when then–Chief of Staff General Dan Halutz decided not to call up the reserves until he was sure he would need them some ten days after the campaign began and after IDF ground units were already engaged in Southern Lebanon. But it would take some time to get the reservists and their equipment into the fight. Thus, the call-up toward the beginning of Pillar of Defense was meant to ensure that the forces would be ready in the event they were needed. Second, the call-up also indicated to Hamas — as well as other audiences, such as the Egyptians and other international observers — that the threat of a ground assault against the group in Gaza was real. As stated by one Israeli planner, "if I want a threat, I must a have a force in being."[115]

In Pillar of Defense, reservists replaced active units in other operating areas, such as the West Bank and the Lebanon border. By and large, reservists were not deployed to the Gaza border in preparation for an assault.[116] Israel sees the mobilization of reserves as an important signal to its adversaries, as well as the Israeli public. According to a former senior Israeli official, "When Israel calls the reserves, it means it wants to open the option for a bigger operation."[117]

Iron Dome and the Counter-Rocket Fight During Pillar of Defense

Operation Pillar of Defense was the first campaign in which Israel introduced active defense against enemy rockets and missiles. Over the eight-day conflict, Hamas and PIJ fired more than 1,456 rockets into Israel,[118] hitting Tel Aviv for the first time since Iraqi Scud attacks during the 1991 Gulf War.[119] Were it not for Israeli advances in missile defense, Pillar of Defense would have looked very different. Indeed, the use of Iron Dome during the operation is widely seen as

---

[115]   Interview with former senior IDF officer, Tel Aviv, May 24, 2016.

[116]   Interview with Israeli journalist, Tel Aviv, May 24, 2016.

[117]   Interview with former senior Israeli government official, Tel Aviv, May 25, 2016.

[118]   United Nations, "Secretary-General's Remarks to the Security Council (as delivered)," web page, November 21, 2012a.

[119]   Yaakov Lappin et al., "Gaza Terrorists Fire Two Rockets at Tel Aviv," *Jerusalem Post*, November 16, 2012.

a "game changer."[120] While the precise effectiveness of the system is debated and has not been independently verified, Iron Dome is generally credited with greatly reducing the threat posed by rockets, the primary strategic weapon in Hamas's arsenal.[121] However, the short conflict also revealed trade-offs and limitations of the system, only some of which have since been mitigated.

The use of rockets by Hamas and other Palestinian militant groups in Gaza dates back to before Israel's withdrawal from Gaza in 2005. In 2012 alone, before the beginning of Operation Pillar of Defense, more than 500 mortars and rockets were fired on Israel, including several longer-range rockets.[122] At the outset of the conflict, Hamas had an estimated 15,000 rockets at the beginning of the Pillar of Defense. One analyst estimated that 95 percent of the stockpile was short-range, 107-mm type missiles, many of which were Palestinian-manufactured Qassams. These rockets are inaccurate, unreliable, and do relatively little damage, and the risk to the population could be mitigated using the existing warning and shelter system.[123] Hamas and PIJ gained access to medium-range 122-mm Grad and ATGMs, as well as longer-range (75 km) Fajr-3,[124] Fajr-5, and M-75 missiles in small numbers.[125] The ranges of each rocket type are illustrated in Figure 3.1. The majority of these longer-range weapons were imported from international allies, like Iran, and in some cases they were even specially designed to facilitate smuggling into Gaza.[126] As a result, Hamas's missile arsenal was more advanced than it was during Operation Cast Lead.

---

[120] Interview with Israeli think-tank analyst, Tel Aviv, May 23, 2016.

[121] Interview with Israeli think-tank analyst, Tel Aviv, May 26, 2016.

[122] International Crisis Group, *Israel and Hamas: Fire and Ceasefire in a New Middle East*, Middle East Report, No. 133, 2012, p. 8

[123] Interview with Israeli think-tank analyst, Tel Aviv, May 25, 2016.

[124] Shapir, 2012, p. 40.

[125] International Crisis Group, 2012, p. 8.

[126] Interview with Israeli think-tank analyst, Tel Aviv, May 25, 2016. According to some, Palestinian-made Grads were fired during Pillar of Defense (e.g., Shapir, 2012, p. 40). In contrast, other analysts state that only imported Grads were used in 2012 (e.g., Uzi Rubin, *Israel's Air and Missile Defense During the 2014 Gaza War*, Tel Aviv, Israel: Begin-Sadat

Figure 3.1
Rocket Ranges from Gaza into Israel During Pillar of Defense
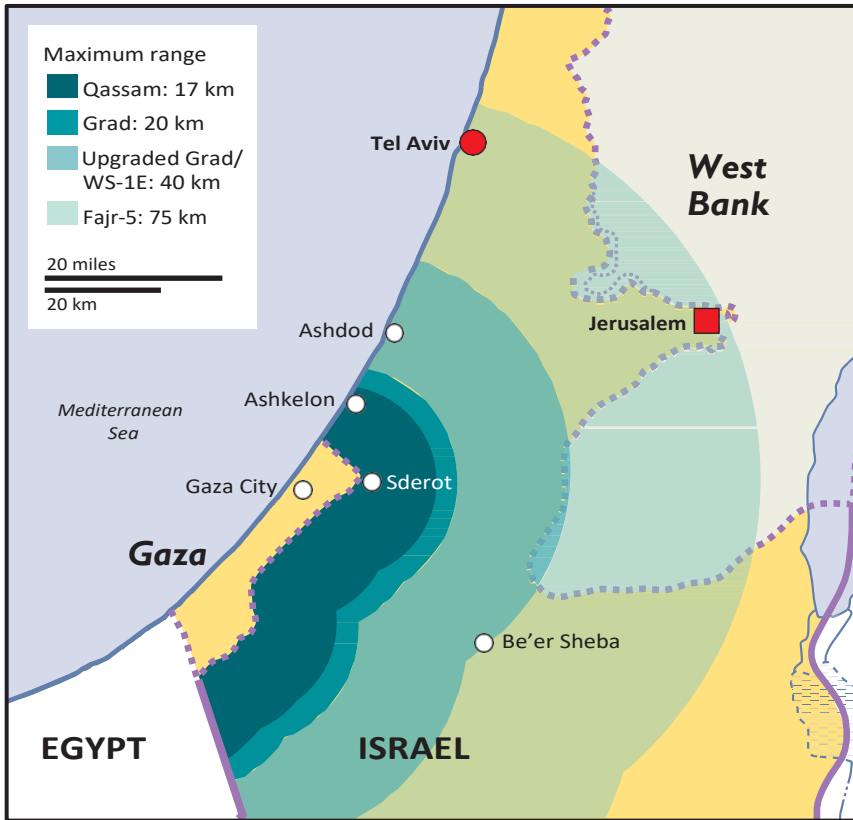
SOURCE: Data from "Israel-Gaza Violence in Maps," BBC, November 21, 2012.
RAND *RR1888-3.1*

At the same time, Israeli missile defense made great strides in the period before Pillar of Defense. The growing missile and rocket threat from Iran, Hezbollah, Hamas, and potentially other actors had been of major concern to Israeli planners. Hezbollah's ability in 2006 to launch some 4,000 missiles and rockets paralyzed northern Israel for 34 days,

Center for Strategic Studies, Bar-Ilan University, Mideast Security and Policy Studies No. 111, 2015, pp. 11–12).

resulted in 44 Israeli civilian fatalities, and had a severe psychological effect on Israel's population.[127] As a result, following the 2006 conflict, Israel sought to enhance many elements of its approach to missile defense.

Israeli missile defense is designed to operate in layers. At the time of Pillar of Defense, Israeli doctrine defined the following elements: deterrence, attacks on the enemy's launch capability, active defense, passive defense of buildings and infrastructure, and early warning systems for civilians.[128] Civil and active defense received particular attention before the 2012 operation. A Homefront Defense Ministry, charged with planning, budgeting, and overseeing national preparation for and response to missile attacks on Israeli population centers and infrastructure, was established in January 2011.[129]

But passive defense is not seen as adequate, even in combination with aerial bombardment of enemy launch sites, manufacturing and storage facilities, and command and control. The missile strikes that Israelis endured during the 2006 Lebanon War are not "even similar to the scope of fire expected in the next conflict" with Hezbollah.[130] Rather, according to retired Major General Matan Vilnai, former Minister of Homefront Defense, the planning scenario for a war with Iran and Hezbollah is "hundreds of missiles per day, launched at Israel's homefront during 21–30 days of warfare," with "hundreds of homefront fatalities."[131] Israel also foresees damage from such attacks to the Israeli economy, infrastructure, military sites, and other Israeli "centers of gravity." Israeli planners believe that this could enable Hezbollah missile and rocket attacks not only to have a psychological effect on Israeli citizenry

---

[127] Guy Aviad, "Hizbollah's Force Buildup of 2006–2009: Foundations and Future Trends," *Military and Strategic Affairs*, Vol. 1, No. 3, December 2009, p. 4.

[128] Shapir, 2012, p. 41.

[129] Tzviki Tessler, Home Front Command Chief of Staff, "Assessment of Home Front Readiness Against Threats," lecture at Institute for National Security Studies, (in Hebrew), August 1, 2012.

[130] Former Minister of Home Front Defense retired Major General Matan Vilnai, quoted in Ephraim Lapid and Amir Rapaport, "'We Are Preparing for the Worst,'" *Israel Defense*, August 17, 2012.

[131] Vilnai, quoted in Lapid and Rapaport, 2012.

but also to affect Israel's ability to project power into enemy territory. Accurate and more-lethal attacks on air bases and assembly areas could suppress the generation of IAF sorties and disrupt the call-up of reserves.

As a result of these concerns following Operation Cast Lead, more resources were put into active missile defense,[132] with money going to the development of long-range systems primarily oriented toward Iran (Arrow 2, which was operational at the time of Pillar of Defense, and Arrow 3 and David's Sling, which were both under development) as well as the Iron Dome system that played such a large role in the 2012 operation.[133] The fundamental insight behind investing in missile defense was the following:

> It's easier to defend against rockets when they are up in the air already…rather than to find the rocket launcher on the ground and destroy it. It's counterintuitive but true…I had to field a lot of public questions: "Why do you go to all this complexity? Just find the launcher and take it out." "*You can't, it's very hard to do!*" I used to say that the guy who embedded the launcher thought about it too![134]

While aerial bombing and covert ground operations can (and routinely do) target launch sites, the enemy has a greater ability to protect the sites, either by embedding them in civilian infrastructure and the population or by treating launch points as single-use structures.[135] As a result, it has not been possible to suppress missile fire through targeting launchers alone, and active missile defense provides a second chance to neutralize the threat to Israeli citizens.

Iron Dome was developed by Rafael Advanced Defense Systems, in partnership with Elta Systems and mPrest,[136] based on their own concept rather than an IDF-directed military requirement. In 2004, at a time

---

[132] Interview with retired IDF officer, Tel Aviv, May 24, 2016.

[133] Shapir, 2012, p. 41.

[134] Interview with Israeli think-tank analyst, Tel Aviv, May 26, 2016.

[135] Interview with Israeli think-tank analyst, Tel Aviv, May 25, 2016.

[136] Shapir, 2012, p. 41.

when common wisdom in the IDF was that intercepting short-range rockets and missiles was not feasible, some "crazy engineers" (an interlocutor's term) in Rafael pursued intercept concepts with little budget but with support from then-director of the Ministry of Defense's Research and Development Department, Brigadier General Daniel Gold. Gold was harshly criticized within the IDF—which was slow to see its utility—for pursuing the project and was even chastised by the Israeli state comptroller for asking Rafael to develop concepts without getting formal government approvals. It was not until the Iron Dome concept was relatively mature in 2007 that the Israeli government finally dedicated substantial resources to its development and testing; the IDF itself was brought along in part because resources for Iron Dome would come from sources other than the defense budget (i.e., U.S. aid).[137]

The Iron Dome system is a dual-mission counter rocket, artillery, and mortar (C-RAM) and very short range air defense (V-SHORAD) system designed to handle missiles with a range of about 7–70 km. The system works by identifying areas for protection and specific high-value targets to be defended within that area. The system only targets missiles projected to hit these specific locations. While several alternative methods (including chemical lasers[138]) were considered during the development process, the fielded Iron Dome system uses interceptor warheads to destroy incoming missiles. The warhead explodes in the proximity of the incoming missile, allowing the system to destroy the rocket even in cases of near misses of about a meter.[139] The full Iron Dome system includes multimission radar (MMR) supported by sensors (including ground sensors and aerostat balloons[140]), a command and control unit, and the battery of Tamir interceptors, all of which

---

[137] Initial field testing was successfully conducted in 2009. Telephone discussions with Israeli think-tank analysts and former Israeli government officials, December 2012; Charles Levinson and Adam Entous, "Israel's Iron Dome Defense Battled to Get Off the Ground," *Wall Street Journal*, November 26, 2012; interview with senior IDF officer, Tel Aviv, May 26, 2016.

[138] Interview with Israeli think-tank analyst, Tel Aviv, May 23, 2016.

[139] Interview with Israeli think-tank analyst, Tel Aviv, May 23, 2016.

[140] Interview with former U.S. official, Tel Aviv, May 24, 2016.

must work together for the system to operate properly.[141] The system can use multiple interceptors to target a single missile and can also target multiple missiles simultaneously, although it is possible to overwhelm the system with salvo fire.[142]

Two features of the system have been credited with its stated success, although critics have called both into question. The first is the precision of the detection system. Proponents of the system argue that "the ground impact point is predicted very accurately, so [you] can pick and choose what is worth firing at."[143] As a result, it is possible to minimize the number of interceptors used, reducing costs, potential collateral damage from interceptor fire, and the need to deconflict air space. However, this argument depends on high estimates of the Iron Dome's effectiveness, which have not been independently verified. Prominent critics of the system argue that proponents have substantially overstated that effectiveness. For example, Massachusetts Institute of Technology professor Theodore Postol argues that the system was only able to intercept about 5 percent—compared with 85 percent claimed by Israel—of rocket fire based on video analysis of interceptions.[144] A different approach to video analysis employed by Tesla Laboratories scientist Richard Lloyd also calls the high success rate into question, estimating about half the success rate of proponents' analysis.[145] Supporters of the program argue that these methods do not produce accurate analysis.[146]

---

[141] Shapir, 2012, p. 43; Rafael Advanced Defense Systems, "Iron Dome," web page, undated.

[142] Shapir, 2012, p. 43; Rafael Advanced Defense Systems, undated.

[143] Interview with former U.S. official, Tel Aviv, May 24, 2016.

[144] In brief, Postol claims that analysis of photographs and video of supposed interceptions shows that the interceptor rarely destroys the warhead of the rocket and instead hits the back, which would have no effect and should not be counted as an interception. See Theodore A. Postol, "The Evidence That Shows That Iron Dome Is Not Working," *Bulletin of Atomic Scientists*, July 19, 2014; Theodore A. Postol, *Indicators of Iron Dome's Performance in Pillar of Defense*, March 12, 2013.

[145] William J. Broad, "Weapons Experts Raise Doubts About Israel's Antimissile System," *New York Times*, March 20, 2013.

[146] Interview with Israeli think-tank analyst, Tel Aviv, May 25, 2016.

The second feature is the relatively low cost of the interceptors, compared with potential loss of targeted Israeli assets.[147] The designer opted to sacrifice some performance to produce a missile that costs between $40,000 and $70,000 U.S. dollars.[148] As one analyst put it:

> When you have such a cheap missile you can make them in plenitude.… Rather than going to a test range with one missile, you can take 20. They took development teams to the test range and instituted changes overnight, and put corrections in. At that cost it's a munition, rather than a precision weapon.[149]

As a result, the system is affordable (at least in the opinion of some Israeli analysts). By contrast, others question the program's long-term sustainability, arguing that costs are only possible thanks to U.S. military aid,[150] noting that each Hamas Qassam rocket costs only $750 to produce — a fraction the cost of the interceptor.[151] According to this view, especially if Israel faces a more intense missile threat (and consequently requires vastly more interceptors and batteries), the cost-benefit ratio may become increasingly questionable.

---

[147] Interviews with Israeli think-tank analysts, Tel Aviv, May 25–26, 2016.

[148] Shapir, 2012, p. 43; Interview with Israeli think-tank analyst, Tel Aviv, May 26, 2016.

[149] Interview with Israeli think-tank analyst, Tel Aviv, May 26, 2016.

[150] U.S. funding for the system began in 2011, and between $41.4 million and $460.3 million has been requested to support the program each year since, for a total of $1.322 billion over five years. For appropriations, see P.L. 112-10, Department of Defense and Full-Year Continuing Appropriations Act, Section 8072, 2011; Jeremy Sharp, *U.S. Foreign Aid to Israel*, Congressional Research Service, RL33222, April 11, 2013, p. 9; Missile Defense Agency, "United States and Israel Sign Agreement on Iron Dome Weapon System," press release, March 8, 2014; U.S. House of Representatives, 113th Cong., 1st Sess., Emergency Supplemental Appropriations Resolution, Washington, D.C., H. J. Res. 76, 2014; U.S. House of Representatives, 114th Cong., 1st Sess., National Defense Authorization Act for Fiscal Year 2016, H. R. 1735, 2016.

[151] For cost estimates of the Qassam missiles (conversion from euros to dollars based on 2008 exchange rates), see Ulrike Putz, "A Visit to a Gaza Rocket Factory," *Der Speigel*, January 29, 2008; also see Pedatzur, 2007.

Israel fielded Iron Dome in 2011.[152]From very early on, civilian leaders recognized the potential of the system to change the civilian experience of rocket fire. The system was originally designed to protect only specific strategic assets, such as bases, and critical infrastructure, such as ports and power plants. However, as local politicians and the public saw the effectiveness of the system, they began to pressure the government to provide Iron Dome coverage to protect broader population centers. While Iron Dome has succeeded in these tasks to date, experts stress that broad area coverage was not the original goal of the system, and using it in this way stresses the system capabilities.[153]

Over the course of Operation Pillar of Defense, Hamas fired about 1,500 missiles into Israel.[154]Missiles targeted major population centers, including the suburbs of Tel Aviv and settlement blocks in greater Jerusalem, which could be reached with the new Fajr rockets.[155]Two Fajr-5 rockets struck near Tel Aviv, the first time the city had heard air-raid sirens since the 1991 Gulf War. However, few long-range rockets were fired and none in the later stages of the operation, leading to speculation that Hamas ran out of these missiles.[156]Hamas also targeted high-value infrastructure, including Israeli airfields.[157] The Iron Dome system, however, mitigated the damage from these strikes.

According to the Israeli government, Iron Dome performed well in its first conflict. At the start of the operation, four Iron Dome batteries were operational, and a fifth was rushed into service later in the conflict to defend the suburbs of Tel Aviv.[158]Of the missiles targeted by the Iron Dome system, military analysts argue that 421 were successfully intercepted by the new defensive system, leaving only 58 to fall in

---

[152] Shapir, 2012, p. 41.

[153] Interviews with Israeli think-tank analysts, Tel Aviv, May 23 and 25, 2016.

[154] Rubin, 2015, p. 16.

[155] Shapir, 2012, p. 40.

[156] Kam, 2012, p. 16.

[157] International Crisis Group, 2012, p. 5.

[158] Shapir, 2012, p. 41.

populated areas, for a success rate of around 85 percent.[159] However, a few critics cite data from Israeli police reports suggesting that as many as 109 rockets may have hit urban areas.[160] Regardless of the system's exact success rate, only six Israeli civilians were killed because of rocket fire, and three of those deaths occurred as the result of a single rocket in Kiryat Malachi.[161] While about one-fourth as many missiles were fired by Hamas in the 2012 conflict as by Hezbollah in 2006, there was only about one-tenth the casualties.[162]

The strong performance of Iron Dome was particularly notable because usual quality control, testing, and training were not complete at the time of Operation Pillar of Defense.[163] For example, capabilities that had been exercised the week before were successfully deployed during the operation.[164] The cost of using the system in Pillar of Defense was estimated at around $43 million, or about 5 percent of the total cost of the operation, although it is unclear if this figure includes the full cost of the interceptors.[165]

Iron Dome also shaped how Pillar of Defense unfolded. In previous operations, Israel often needed to employ ground forces to degrade the missile threat to the Israeli population. Iron Dome's ability to provide broad protection for the civilian population changed not only civilian experience but also political and military decisionmaking. Early in the operation, Iron Dome earned the nickname of "the queen of battle."[166] Despite missiles targeting Tel Aviv and Jerusalem for the first time since the 1991 Gulf War, there was relatively little interruption in economic

---

[159] Estimates range as high as 90 percent based on slight differences in what constitutes a "successful" interception and slight differences in the number of rockets launched.

[160] Reuven Pedatzur, "How Many Rockets Has Iron Dome Really Intercepted?" *Haaretz*, March 9, 2013.

[161] Shapir, 2012, p. 41.

[162] Rubin, 2015, pp. 27, 29.

[163] Interview with Israeli think-tank analyst, Tel Aviv, May 25, 2016.

[164] IAF, "IDF Analyzes 'Pillar of Defense,'" undated.

[165] Shapir, 2012, p. 43.

[166] Shapir, 2012, p. 43.

or daily life in central Israel. However, this perception of safety did not extend to the South, where schools and businesses were closed as a result of higher firing tempo.[167] Nationally, the decrease in casualties, damage, and interruptions translated into popular resolve in the face of rockets.[168]

Without the pressure to bring a quick end to the conflict, Israel's political and military leadership had more leeway in handling the operation. Iron Dome enabled the political echelon to opt not to use ground forces,[169] although other strategic factors were in play, particularly the Egyptians' involvement, which might have led decisionmakers to the same conclusion.[170] Iron Dome may also have had a more direct effect on the length of campaign, because some speculate that Israel was running out of interceptors (while Hamas was similarly running out of missiles), motivating a quick agreement to the Egyptian cease fire proposal.[171] Regardless of possible strategic effects of the system, the political and military value assigned to the system by senior leaders at the time can be seen clearly in the decision after the operation to invest an additional $200 million into acquiring eight additional batteries.[172]

Iron Dome also affected Hamas's strategy as it attempted to compromise the new system. Hamas's high rate of fire during the operation has been ascribed to the presence of the system: Since Hamas knows many rockets will be intercepted, they fire more in the hopes that some will still make it through Israeli defense.[173] Some evidence suggests Hamas fired salvos in an attempt to overload the system.[174] While these strategies were not highly effective, the fact that rockets continued to

---

[167] Shapir, 2012, p. 43.

[168] Interview with Israeli think-tank analyst, Tel Aviv, May 26, 2016.

[169] Interviews with senior IDF officer and Israeli think-tank analyst, Tel Aviv, May 22–26, 2016.

[170] Shapir, 2012, p. 44.

[171] Interview with retired IDF officer, Tel Aviv, May 24, 2016.

[172] Shapir, 2012, p. 42.

[173] Interview with Israeli think-tank analyst, Tel Aviv, May 25, 2016.

[174] Shapir, 2012, pp. 43–44.

fall on Israel did generate physiological effects, achieving at least a part of Hamas's desired outcome.

The Campaign Ends Quickly Without Use of Ground Maneuver

The Morsi government in Cairo initiated efforts to bring about a cease-fire quite early in the conflict. Egypt reportedly approached Israel through a number of private channels about stopping the strikes on the very first day of the conflict.[175] On November 16, the third day, Egyptian Prime Minister Hisham Kandil, joined by Intelligence Minister Rafat Shehata, visited Gaza not only to express Egyptian solidarity with the Palestinians, but also to initiate cease-fire talks with Hamas.[176] From then on, Egypt intensified its efforts as the key intermediary between Hamas and Israel to forge a truce. An unnamed Israeli envoy shuttled to Cairo for talks by November 18, the fifth day of the conflict, with Egyptian intelligence officials.[177] Egyptian officials held parallel talks in Cairo with Hamas leader Khaled Meshal and PIJ chief Ramadan Shallah. Intelligence chief Shehata served as mediator, presenting counteroffers separately to each side.[178] By November 21, Egypt announced that Hamas and Israel had agreed to a cease-fire, to take effect at 9 p.m.[179] The IDF announced that reservists would be gradually released from duty.[180]

Ground units around Gaza were never used during Pillar of Defense, and this reportedly caused some resentment in the ranks.

---

[175] "IDF Kills Hamas Military Chief; Launches Operation Pillar of Defense," *Haaretz*, November 14, 2012.

[176] Nidal al-Mughrabi, "Egypt-Led Truce Hopes Crumble as Gaza Rocket Rattles Tel Aviv," Reuters, November 16, 2012b.

[177] "Israeli Official Arrives in Cairo for 'Gaza Truce Talks' as Hamas Demands End to 'Aggression, Assassinations,'" Naharnet Newsdesk, November 18, 2012.

[178] Issacharoff et al., 2012.

[179] Issacharoff et al., 2012.

[180] Issacharoff et al., 2012.

According to one Israeli planner, "All the battalions and brigades that were sitting on the front [opposite Gaza] basically … were frustrated by doing nothing."[181] At the same time, they suffered some casualties from Hamas mortar and rocket attacks as they waited in their deployment and assembly areas around the Strip, and this exacerbated the frustration of not engaging Hamas on the ground. But in the end, the goals set out by Israel's political leadership made the use of ground forces to enter Gaza unnecessary. One observer suggested that "the army—not the [senior] commanders, but the lower-ranked commanders—were a bit confused about the campaign because it was about deterrence, particularly at the strategic level."[182] In other words, when ground forces were deployed, the junior commanders expected to be used for combat and were surprised when they were not. They may not have understood that their presence was designed to pose a serious threat to Hamas's leadership and not to actually invade.

Decisionmaking on whether to invade Gaza in Operation Pillar of Defense centered on discussions between the chief of staff and the cabinet. There was uncertainty as to how much time was available for such an incursion, notably due to the Egyptians under Morsi working very hard to forge a cease-fire within a matter of days. A ground incursion would require much more time, not only for the maneuver itself but also for the effects to influence the strategic situation. Moreover, there was no clear understanding of what would come out of such an assault, nor of how it would further achievement of the four goals set out by the defense minister. Most of Hamas's longest-range rockets had been destroyed at the outset of the campaign, and Iron Dome was doing an adequate job of minimizing Israeli civilian casualties and damage to infrastructure. At a geopolitical level, the Israelis feared that a ground incursion in the face of serious Egyptian intermediary efforts would lead Morsi unilaterally to cancel the Israeli-Egyptian Camp David peace accord, which would deal

---

[181] Interview with IDF official, Israel, Tel Aviv, May 24, 2016.

[182] Interview with former senior IDF officers and Israeli think-tank analysts, Tel Aviv, May 23, 2016.

a serious blow to Israel's strategic position in the region and potentially sour relations with its U.S. ally.[183]

Both sides also appeared to have operational reasons for wanting a swift end to the conflict. Hamas had reportedly depleted nearly the entire arsenal of its longest-range rockets, which it considered as providing the greatest strategic leverage in the conflict with Israel. On the other side, Israel feared that its supply of Tamir missiles for the Iron Dome system was dwindling.[184] In the end, however, both sides claimed victory. Israel stated that its objectives had been achieved without the use of ground forces. Conversely, not only did Hamas emphasize its ability to strike central Israel as a growing strategic asset, it also claimed that it had deterred Israel from initiating a ground assault. The exiled leader of Hamas, Khaled Mashaal, proclaimed, "We have come out of this battle with our heads up high."[185]

Key Lessons from Operation Pillar of Defense

The combination of air strikes and Iron Dome missile defense system intercepts may have lessened the effects of Hamas attacks during the eight-day war and potentially allowed Israel to control escalation and reduce the need to respond with a ground incursion. But lessons from this conflict are somewhat limited given the context and the brevity of the campaign; one Israeli analyst termed it a "tantrum . . . everyone wanted to get off the ladder of escalation very quickly."[186]

At the strategic level, Israelis disagreed over the extent to which Israel's goals were achieved, deterrence was restored, and the quiet would last. On one hand, some believe that Pillar of Defense was a brilliant success:

---

[183] Interview with IDF official, Israel, Tel Aviv, May 24, 2016.

[184] Brom, 2012.

[185] "Mashaal: Gazans to Respect Truce if Israel Does," Reuters, November 21, 2012.

[186] Interview with Israeli think-tank analysts, Tel Aviv, May 22, 2016.

In Pillar of Defense, we won, we achieved all our strategic goals in ten minutes. We killed the chief of staff of Hamas, we destroyed hidden . . . strategic capabilities of Hamas, and two hours after the fires started Hamas understood the message and the head of [Israeli intelligence service] Mossad was already in Cairo discussing the cease-fire with a Muslim Brotherhood president. Then it took four or five days for the fighting to stop. It was a perfect deterring operation, and everyone understood.[187]

On the other hand, in polls conducted during and immediately after the war, fewer than half of Israelis believed that Israel made strategic gains as a result of Pillar of Defense. Asked whether they thought Israel is "better or worse off than before the escalation," only 36 percent answered that Israel was better off. Fifty-nine percent felt that Israel was either about the same (38 percent) or worse off (21 percent). Separate from the issue of the conflict's strategic value, fewer than half believed that Israel prevailed in the immediate combat; just 40 percent said Israel "won the combat in the Gaza Strip," while a majority said that neither side won (45 percent) or that Hamas won (11 percent).[188] In the end, the relative quiet between conflicts lasted less than two years, a short time in light of Israel's goal to reinforce deterrence for the purpose of lengthening interconflict periods.

As for Israeli force planning, Pillar of Defense had an important effect on the interservice debate in the IDF over whether emphasis should be placed on airpower or ground forces at a time when the defense budget was contracting. In August 2012, IDF planners met to discuss the goals of a new five-year defense plan, named Oz ("strength" in Hebrew), which would go into effect in 2013.[189] Oz protected funding for the Iron Dome and David's Sling missile defense programs, as well as the Arrow III missile defense system. The plan continued efforts

---

[187] Interview with former senior IDF officer, Tel Aviv, May 26, 2016.

[188] Shibley Telhami and Steven Kull, *Israeli Public Opinion After the November 2012 Gaza War*, Saban Center for Middle East Policy at the Brookings Institution, November 30, 2012, p. 4.

[189] Alex Fishman, "IDF Braces for Budget Cuts," Ynetnews.com/Business & Finance, July 26, 2012.

to increase communications capability between ground vehicles and to link forces throughout the IDF. It also sought to develop precision mortars and precision rockets with a range of around 32 km,[190] as well as command and control and cyber capabilities.[191] But following Pillar of Defense, the argument that airpower could achieve Israel's objectives without ground forces gained prominence, and this was reflected in Israel's revised Teuzah five-year defense plan in summer 2013. This plan reportedly diminished the IDF's emphasis on large-scale conventional warfare—i.e., ground forces, whose budget share was to be "dramatically reduced"[192]—and continued development of airpower, cyber warfare, and defenses against ballistic missiles, among others. While some prominent officials lauded the plan as "revolutionary," other Israeli observers worried that reduced conventional capabilities and a reliance on "shock and awe" could leave Israel open to surprise in the future, with devastating results.[193]

The following sections provide strategic, operational, and tactical lessons observed in Operation Pillar of Defense.

Political Context Drives Conduct of War

Unsurprisingly, the strategic environment has a significant influence on the shape of a conflict. Hamas hoped that its ally Muslim Brotherhood government in Egypt would strengthen its position in Gaza, the West Bank, and internationally, providing an added impetus for its adventurism in months preceding the conflict.[194] Instead, Egypt's government played a key role in the brevity of the campaign. Morsi had the necessary influence with both Israel and Hamas to say "enough" very early on. Some observers offered a contrast between the eight-day Pillar of Defense campaign and the 50-day Protective Edge campaign

---

[190] Amir Rapaport, "A Robotic Forward Guard," interview with Colonel Nir Halamish, head of the IDF Ground Forces Command's Weapons Development Division, *IsraelDefense*, November 3, 2012.

[191] Fishman, 2012.

[192] Interview with Israeli think-tank analysts, Tel Aviv, May 22, 2016.

[193] Interview with former senior IDF officers, Tel Aviv, July 31, 2013.

[194] Berti, 2013.

in 2014. While Morsi's Islamist Muslim Brotherhood background facilitated warm Egyptian relations with Muslim Brotherhood–based Hamas, Abdel Fattah el-Sisi, Egypt's president during Protective Edge, was intensely anti-Islamist and viewed Hamas as a threat. These observers suggest that if el-Sisi has been in charge during Pillar of Defense, it might have lasted as long as Protective Edge.[195] Thus, it is imperative to understand this political context when planning operations.

Active Missile Defense and Passive Defenses Minimized Israeli Civilian Casualties

During Pillar of Defense, for the first time, Israel had an answer to rocket fire. Iron Dome's successful performance also produced a number of secondary effects. Although Pillar of Defense likely did not last long enough to assess fully the effects on Israeli decisionmaking, it appears that Iron Dome reduced pressure to escalate; for example, by widening air attacks or sending ground troops into Gaza. At the same time, Israel's ability to protect its population, in contrast with the daily images of wounded and dead Palestinians, further opened Israel to accusations from the international community of lack of proportionality.[196] A report by the UNHCR on Pillar of Defense stated that the IDF had "failed in many instances to respect international law," and that it did not "consistently uphold the basic principles of conduct of hostilities, namely, the principles of distinction, proportionality and precautions."[197] Finally, while Hamas could claim "victory" in its ability to reach major Israeli population centers, it would begin adapting

---

[195] Interview with former senior IDF officers and Israeli think-tank analysts, Tel Aviv, May 23, 2016.

[196] This argument drew the ire of many Israeli interlocutors, who chafed at the insinuation of moral equivalency between those hiding behind their own civilians to attack enemy civilians and those trying to protect their own, and who asked rhetorically whether proportionality would be achieved by allowing more Israeli civilians to die.

[197] UNHCR, *Report of the United Nations High Commissioner for Human Rights on the Implementation of Human Rights Council Resolutions S-9/1 and S-12/1*, Human Rights Council, March 6, 2013.

by seeking alternative "strategic" capabilities to strike Israel, such as divers, tunnels, paratroopers, and UASs.[198]

"Shock and Awe" Is a Highly Perishable Commodity

By most accounts, the IAF's opening salvos in Pillar of Defense against Hamas's military leadership and longest-range rockets were highly successful and a surprising blow to Hamas. But as the operation went on, "there were less and less valuable targets to hit."[199] The questions become: After the initial shock, what does the IAF do to build on it? And what if the operation lasts longer than planned? Which targets does one hit? In Pillar of Defense, following the opening salvos, most Hamas leaders went into hiding, leaving only the buildings housing their headquarters available for attack. Moreover, they continued to be able to fire rockets into Israel, seemingly at will, despite a heavy IAF emphasis on striking launch sites.

Improved Intelligence and Precision Fire Did Not Produce the Desired Strategic and Operational Effect

At the strategic level, Egypt's intervention as mediator brought about a rapid conclusion, not degradation of Hamas's capability or will from air strikes. At the operational level, Hamas itself learned a critical lesson that would drive its operational concept in response to Operation Protective Edge. With the assassination of Ahmed Jabari and some 30 other military commanders during Pillar of Defense, Hamas learned that survival would depend on moving underground, where ISR and air interdiction would be much less effective.[200] Hamas units would learn to operate "without seeing blue sky," both to protect combatants and equipment and to enable them to surprise IDF units maneuvering

---

[198] Interview with Israeli analyst of Hamas, Tel Aviv, May 24, 2016.

[199] Eitan Shamir, "Operational Pillar of Defense: An Initial Strategic and Military Assessment," *Perspectives*, Begin-Sadat Center for Strategic Studies, No. 189, December 4, 2012, p. 3; interview with former senior IDF officers and Israeli think-tank analysts, Tel Aviv, May 23, 2016.

[200] Interview with senior IDF officer, Tel Aviv, May 26, 2016.

within Gaza. One Israeli analyst who regularly communicates with Hamas's officials noted that

> If Hamas remembers anything today from 2012, it is the assassination [of Jabari]. From Pillar of Defense, Hamas learned the lesson of the importance of keeping their leadership safe during both war and peacetime. Even during peacetime, you won't see the leaders of the armed wing stepping outside. The military leadership is never seen in public, only the political leaders are seen outside. Recently, Hamas executed a local leader for allegedly giving the IDF the location of a Hamas leader.[201]

"Knocking on the Roof" Can Diminish Civilian Casualties, but at a Cost of Allowing Combatants to Escape

This became a relatively common-sense lesson that exposed the tension between achieving military objectives and limiting collateral damage. When the target is large and static—such as a rocket storage or manufacturing facility or a drone flight-test site—warning civilians to vacate the area before a strike is not going to compromise the ability to destroy the target and have an important operational effect.[202] In contrast, warning civilians to leave also alerts those combatants, who can either leave as well or force the civilians to remain as "human shields" with the understanding that Israel may not risk an attack that would result in high collateral damage. Simultaneously, the IDF's widespread use of this tactic also risks creating a de facto new legal standard that might limit its future operational flexibility. Thus, if the decapitation of military leadership is an objective, Israel needs to find other ways of isolating these targets.

Effectiveness of Mortar Attacks on Static Ground Deployments and Assembly Areas Can Be Negated by Discipline and Adherence to World War II–Era Doctrine

IDF units deployed to the border region suffered some casualties from mortars and short-range rockets. According to one interlocutor, who

---

[201] Interview with senior Israeli analyst of Hamas, Tel Aviv, May 24, 2016.

[202] Interview with former senior IDF officer, Tel Aviv, May 25, 2016.

lamented the lack of discipline in IDF units arrayed around the border during Pillar of Defense, ground forces should be "either fighting — and you are at a range of zero — or you are 6 km [away]. You have no business being 3 km behind the line of engagement in a 'no man's land' within the range of mortars."[203] As a result, some changes in deployment patterns were instituted, and deployed forces were given mobile alert systems.[204]

Rapid Mobilization of Ground Forces Requires More Modern Transporters

Finally, the IDF found that it suffered from a lack of mobility for moving heavy equipment from other parts of Israel to assembly and deployment areas around the Gaza Strip. Numbers of transport trucks that could move heavy equipment, such as the Merkava IV and G9 bulldozer, were assessed to be inadequate. Many of the transporters were very old, some of 1973 War vintage.[205] They were designed to transport 50-ton Patton tanks, not 70-ton Merkavas. One senior IDF officer said that Pillar of Defense "was a wake-up call for our logistics system no less grave than what we experienced in the Second Lebanon War."[206]

---

[203] Interview with former senior IDF officer, Tel Aviv, May 25, 2016.

[204] Interview with former senior IDF officer, Tel Aviv, May 24, 2016.

[205] Interview with former senior IDF officer, Tel Aviv, May 24, 2016.

[206] Amos Harel, "IDF's Lessons from Last Gaza Conflict: Buy New Tank Carriers; Train Away from the Front Lines," *Haaretz*, June 25, 2013.

Operation Protective Edge, 2014

On July 8, 2014, Israel launched Operation Protective Edge in response to increased rocket fire by Hamas and the threat to Israeli communities bordering the Gaza Strip from offensive tunnels. The operation began 20 months after the conclusion of Pillar of Defense, and, at the start of the operation, many senior IDF leaders thought it would be a repeat: a short campaign with a quick, if unsatisfying, end.[1] Instead, Operation Protective Edge lasted for 51 days, making it Israel's longest, bloodiest, and most intense military campaign against Hamas since the latter took control of Gaza in 2007. Despite this protracted bloodshed, Protective Edge was fundamentally a limited war: Hamas could not destroy Israel and for reasons that have been alluded to earlier and will be discussed again later, Israel did not actually want to destroy Hamas.[2] This chapter tells the story of Operation Protective Edge, from the political and economic events that sparked its outbreak, through its three phases — the air campaign (July 8 to 16), a ground incursion (July 17 to August 4), and a final air-dominated "finishing" phase (August 5 to 26) — and ultimately, its aftermath.[3]

---

[1] Interview with a senior IDF officer, Tel Aviv, May 26, 2016.

[2] Interview with an Israeli academic, Tel Aviv, May 22, 2016.

[3] For three phases of the operation, see interview with a senior IDF officer, Tel Aviv, May 26, 2016; State of Israel, 2015, p. 36; meeting with Israeli academics, Begin-Sadat Center for Strategic Studies, Bar Ilan University, Tel Aviv, May 22, 2016.

The Road to War

On November 21, 2012, Egypt brokered a cease-fire between Israel and Hamas that concluded Operation Pillar of Defense. The cease-fire included the following agreements:[4]

1. Israel should stop all hostilities in the Gaza Strip on land, sea, and air, including incursions and targeting of individuals.
2. All Palestinian factions shall stop all hostilities from the Gaza Strip against Israel, including rocket attacks and all attacks along the border.
3. The crossings should be opened, facilitating the movement of people and goods; Israel should refrain from restricting residents' movements and from targeting residents in border areas.

Hamas and Israel largely maintained the cease-fire throughout 2013. As shown in Figure 4.1, in the year after Pillar of Defense, the number of Gaza-originated attacks against Israel declined dramatically. Hamas and other militant groups only fired 63 rockets and 11 mortar shells. More important, no Israeli casualties resulted from these attacks.[5] By comparison, in the ten months before Pillar of Defense, 596 rockets and mortars were fired from Gaza. For its part, Israel also mostly halted military operations in Gaza.[6] Between December 2012 and December 2013, Israeli operations killed only nine Palestinians, compared with 79 in the ten months prior to Operation Pillar of Defense.[7]

The cease-fire enabled modest improvements in Gaza's economic situation. Israel extended Gaza's fishing zone from three to six nautical miles and alleviated some of its trade and movement restrictions. January 2013, for example, saw the highest rise in construction aggregate

---

[4] For the cease-fire understandings, see the Meir Amit Intelligence and Terrorism Information Center, "Operation Pillar of Defense—Update No. 8," November 22, 2012.

[5] Israeli Security Agency (Shin Bet), 2013.

[6] Zack Gold and Benedetta Berti, "Why Is the Israel-Hamas Ceasefire Eroding?" *Sada*, Middle East Analysis, Carnegie Endowment for International Peace, January 28, 2014.

[7] B'tselem, 2013.

Figure 4.1
**Monthly Distribution of Rocket and Mortar Attacks from Gaza into Israel,
2012–2013**
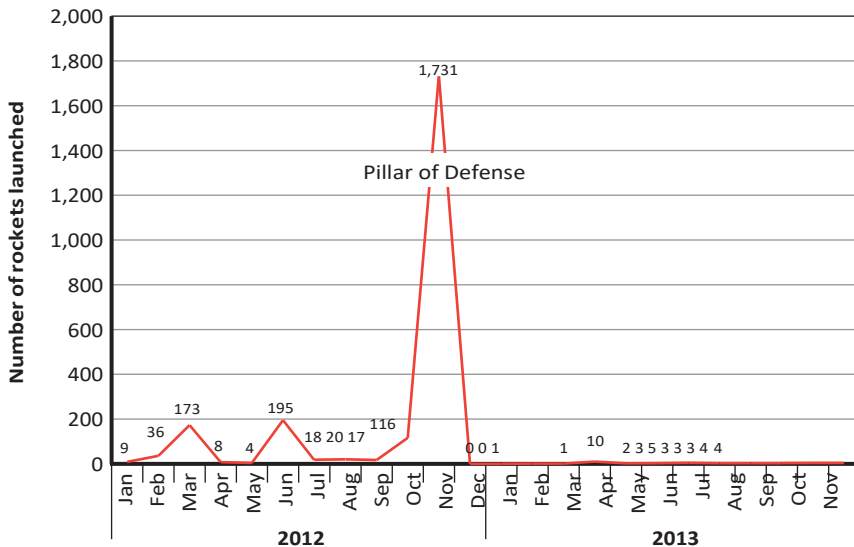
SOURCES: Israeli Security Agency (Shin Bet), "2012 Annual Summary—Terrorism and
CT Activity Data and Trends," December 30, 2012d; Israeli Security Agency (Shin Bet),
"2013 Annual Summary Terrorism and CT Activity," December 1, 2013.
RAND RR1888-4.1

(i.e., gravel) entering the Strip since 2007, before Hamas took over this
territory. Over the course of the month, Israel allowed 327 truckloads
of goods through the Kerem Shalom crossing, while Egypt allowed
another 1,237 truckloads through Rafah. However, the goods allowed
in fell well below private-sector demand, sustaining the dependence
on smuggling through tunnels that connected Gaza with Egypt.[8] Fur-
ther, critics argue that Israel's initial easing of trade restrictions was
insufficient and temporary, and that the country had failed to fulfill
its second commitment of the agreement: opening the crossings and
facilitating the movement of people and goods.[9] In addition, according

---

[8] UN Office for the Coordination of Humanitarian Affairs (OCHA), *Humanitarian Moni-
tor Monthly Report*, New York, January 2013.

[9] Gold and Berti, 2014.

to some analysts, despite Israel's commitment as part of the 2012 agreement to hold indirect negotiations with Hamas over the cease-fire's implementation, it repeatedly delayed them, signaling to Hamas that it was not going to fulfill all its commitments.[10]

Middle East Turmoil Isolates Hamas and Hits Gaza's Economy

In mid-2013, the geostrategic environment in the Middle East changed again, this time to Hamas's disadvantage. Its key foreign ally, Morsi's Muslim Brotherhood–led Egyptian government, was toppled in a coup in July 2013. Egypt's new President el-Sisi saw Hamas as responsible for many of Egypt's security problems, including the rise of militants in the Sinai Peninsula, and took a tougher stance toward the organization than even his predecessor Hosni Mubarak. Determined to seal the border between Egypt and Gaza, el-Sisi closed dozens of tunnels between the Strip and Sinai.[11] Despite some restrictions posed by Morsi's regime, these tunnels had allowed for a flow of consumer goods and fuel, as well as weapons, into Gaza.

And the tunnels were not only a gateway to the outside world; they were also a major source of income for the Hamas regime through the taxes it imposed on tunnel operators.[12] Egypt's tunnel closure activities cost Hamas tens of millions of dollars in losses: half its monthly operating budget. This deficit left Hamas unable to pay the 42,000 civil servants it employed in Gaza (in addition to 20,000 military personnel).[13]

Hamas also lost another key source of revenue when it lost its traditional allies Syria and Iran. In the summer of 2012, Sunni-dominated Hamas backed Sunni rebels fighting the Iranian-backed Shi'ite govern-

---

[10] Nathan Thrall, "Hamas's Chances," *London Review of Books*, Vol. 36, No. 16, August 21, 2014.

[11] Hirsh Goodman, "Israel's Narrative—An Overview," in Hirsh Goodman and Dore Gold, eds., *The Gaza War 2014: The War Israel Did Not Want and the Disaster It Avoided*, Jerusalem, Israel: Jerusalem Center for Public Affairs, 2015, p. 11.

[12] Karin Laub and Ibrahim Barzak, "Hamas Displays Gaza Grip, as Protest Call Fails," Associated Press, November 11, 2014.

[13] Chorev and Shumacher, 2014.

ment of Bashar Assad.[14] While this feud preceded Pillar of Defense, the full effect of the decline in financial and military support from both Iran and Syria was felt more strongly in 2013. Turkey and Qatar remained Hamas's only significant regional supporters, but they did not compensate for the loss of support from Syria and Iran.[15] While Qatari emir Hamad bin Khalifa al-Thani delivered $400 million in aid to Gaza when he visited the Strip in 2012 immediately before Pillar of Defense, this sum ran out in June 2014 and was not immediately replenished.[16]

Together, the loss of the tunnel revenues and of Iranian and Syrian support exacerbated the already-severe economic situation in the Strip. Unemployment had been high for years but rose in 2013 to 41 percent of those ages 15 years or over, compared with 26 percent in the West Bank. Among young Gazans of ages 15–29, unemployment was at 61 percent, compared with 37 percent in the West Bank.[17] GDP per capita was $1,715, approximately half that of the West Bank. Poverty incidence was 39 percent, in comparison with 18 percent in the West Bank.[18] Growing shortages in fuel exacerbated the humanitarian crisis in Gaza, resulting especially from lack of access to potable water, electricity, and sewage services. Power outages lasting 7–8 hours daily became routine in Gaza.[19]

In November 2013, Hamas government officials acknowledged the magnitude of the crisis. Cabinet secretary Abdel Salam Siyam said that "Gaza is now living under the harshest phase of the siege." In an interview with the Associated Press, Ghazi Hamad, the deputy foreign minister in Gaza, acknowledged that the government suffered cash shortages and said Hamas would "continue to appeal to Egypt to ease the

---

[14] Chorev and Shumacher, 2014.

[15] Gold and Berti, 2014.

[16] Chorev and Shumacher, 2014.

[17] Eran Yashiv, "The Economics of the Gaza Situation: A Crucial Element in the Conflict and the Resolution," blog post, INSS Insight No. 585, Institute for National Security Studies, August 6, 2014.

[18] International Monetary Fund, "West Bank and Gaza; Key Issues," September 12, 2014.

[19] Yashiv, 2014.

lockdown."[20] This strategy proved unsuccessful. El-Sisi started his career in the Egyptian military, where he rose to become chief of the Egyptian Armed Forces.[21] In this role, el-Sisi launched the 2013 Egyptian coup d'état that ousted Morsi's Muslim Brotherhood–elected government. As mentioned, his regime sees Hamas as a terrorist organization linked with the Muslim Brotherhood. According to this view, Hamas seeks to destabilize Egypt, primarily through cooperation with Islamist groups operating in the Sinai Peninsula, and to hurt Egypt's economy.[22] In early 2014, Egypt declared Hamas a terrorist movement and froze its assets, and Egyptian officials spoke publicly about their interest in overthrowing Hamas's government in Gaza.[23] In taking such steps, el-Sisi demonstrated a tougher line against Hamas than taken by his predecessor Hosni Mubarak, who closed the Rafah border crossing between Gaza and Sinai when Hamas took over control of the Strip in 2007.[24]

Hamas Goes Underground and Israel Tightens the Blockade

As Hamas felt the economic pinch from its loss of regional supporters and from the Egyptian-Gaza tunnel closures, it shifted its military strategy to rely increasingly on tunnels. Tunnels were not new in the Gazan context. In the late 1960s, primitive tunnels in Gaza were used as hiding places.[25] After the Israeli withdrawal from the Sinai as part of the 1979 Egyptian Israeli Peace Treaty, smugglers built tunnel networks into Gaza to transit narcotics and other black market goods.[26] In 1989,

---

[20]   Laub and Barzak, 2014.

[21]   Doug Bandow, "Egypt's Al-Sisi Establishes Tyranny Mubarak Only Dreamed Of: Washington Should Stop Playing the Fool by Praising Cairo's Commitment to Democracy," *Forbes*, September 1, 2014.

[22]   Ephraim Kam, "Egypt: The Non-Neutral Broker," in Anat Kurz and Shlomo Brom, eds., *The Lessons of Operation Protective Edge*, Tel Aviv, Israel: Institute for National Security Studies, 2014, p. 180.

[23]   "Egypt Court Bans Palestinian Hamas Group," Reuters via Al Jazeera, March 4, 2014.

[24] Kam, 2014.

[25] Eado Hecht, "The Tunnels in Gaza," Testimony before the UN Commission of Inquiry on the 2014 Gaza Conflict, February 2015, p. 4.

[26] Hecht, 2015, p. 4.

Hamas terrorist Mahmoud Al-Mahbrouh used a tunnel to escape Israeli security forces, and Gaza-based militants have used them ever since.[27] By at least 2001, Hamas and other Palestinian groups in Gaza also began to use tunnels to conduct attacks against Israel; over the course of the next 15 years, these tunnels increased in size and sophistication.[28] In one particularly noteworthy attack in June 2006, a tunnel enabled Hamas members to enter Israel, attack IDF soldiers, and kidnap IDF soldier Gilad Shalit.[29] When Shalit was ultimately released for more than 1,000 Palestinian prisoners in 2011, the tunnel strategy proved its worth. After Cast Lead, Hamas's leaders increased its use of tunnels in Gaza as a way of protecting themselves against Israeli airpower and as means of ambushing IDF forces in a future conflict.[30] After Operation Pillar of Defense, Iron Dome proved that it could mitigate the effect of Hamas's rockets, further increasing the appeal of tunnel-borne attacks.[31] Finally, especially as Hamas's smuggling routes were cut off, tunnel strategies had yet another appeal: They could make use of the civilian construction supplies that Israel already allowed into Gaza.

Tunnel activity around Gaza, consequently, increased between Pillar of Defense and Protective Edge. In 2012, just before Pillar of Defense, the IDF discovered a large tunnel full of explosives dug under the border near the Israeli town of Nirim. In January 2013, the IDF discovered an offensive tunnel near Kibbutz Nir Oz on the Gaza border.[32] In October 2013, the IDF discovered another such tunnel near Kibbutz Ein HaShlosha.[33] This tunnel, perhaps, best demonstrated

---

[27] Felice Friedson, "Israel Shocked by Scope of Hamas Tunnels in Gaza, but Locating Them Still a Challenge," Media Line via *National Post*, August 12, 2014.

[28] State of Israel, 2015, p. 40.

[29] Steven Erlanger, "Israelis Warn of Military Response to Gaza Attack," *New York Times*, June 25, 2006.

[30] Interview with a senior Israeli Middle East analyst, Tel Aviv, May 24, 2016.

[31] Gold and Berti, 2014.

[32] Michal Shmulovich, "Large Terror Tunnel from Gaza Discovered Near Kibbutz," *Times of Israel*, January 15, 2013.

[33] Gavriel Fiske and Mitch Ginsburg, "IDF Blames Hamas for 'Terror Tunnel' from Gaza to Israel," *Times of Israel*, October 13, 2013.

Hamas's newfound capabilities. (See Figures 4.2 and 4.3.) Extending 1.8 km into Gaza, buried 18 meters underneath the surface, and provisioned with electricity and stores to last several months, the IDF estimated that the tunnel required at least 500 tons of concrete, $10 million, and two years to build.[34]

Figure 4.2
U.S. Ambassador to Israel Dan Shapiro Visits an Offensive
Tunnel from Gaza in Kibbutz Ein HaShlosha, October 17, 2013

SOURCE: U.S. Embassy Tel Aviv, "Dan Shapiro Visits the Tunnel Penetrating Israel from Gaza, October 17, 2013," via Wikimedia Commons, October 17, 2013.
RAND *RR1888-4.2*

---

[34] Daniel Rubenstein, "Hamas' Tunnel Network: A Massacre in the Making," in Hirsh Goodman and Dore Gold, eds., *The Gaza War 2014: The War Israel Did Not Want and the Disaster It Avoided*, Jerusalem, Israel: Jerusalem Center for Public Affairs, 2015a, pp. 122–123. Some estimates place the figure as high as 800 tons.

Figure 4.3
Tunnel Fight

Diagram of a tunnel aimed toward the Israeli village of Ein HaShlosha discovered
and intercepted by Israeli army in 2013
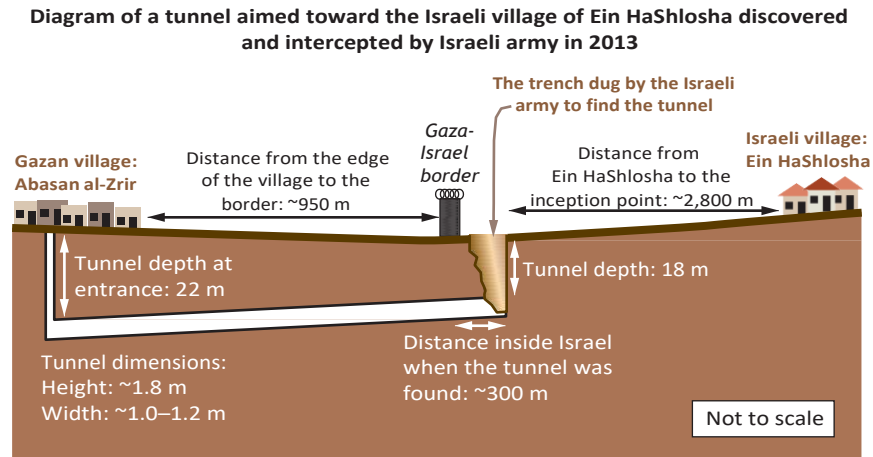
SOURCE: Data from Eitan Shamir, "Gaza Operation 2014: A Clash of Strategies,"
lecture at Begin-Sadat Center for Strategic Studies, Bar Ilan University, Tel Aviv,
undated.

RAND *RR1888-4.3*

The IDF suspected that Hamas built the Ein HaShlosha tunnel from cement originally intended for civilian construction. As a result, after its discovery, Israel immediately stopped the flow of construction materials into Gaza, arguing that the tunnel constituted a violation of the cease-fire.[35] Hamas, on the other hand, viewed Israel's closure of crossings to construction materials as a further violation of the agreement.[36] Either way, the tightening of the construction blockade dealt another blow to Gaza's already-weakened economy. In 2014, the construction sector, one of the main employers in Gaza, lost 17,000 jobs.[37] While Israel acknowledged the ban would also affect Gaza's economy,

---

[35] Fiske and Ginsburg, 2013.

[36] Jodi Rudoren, "Israel Struck by Rocket from Gaza After a Death," *New York Times*, February 26, 2013.

[37] Paul Rivlin, "Economics and the War in Gaza," *Iqtisadi [Middle East Economy]*, Vol. 4, No. 8, August 2014, p. 4.

then–Defense Minister Moshe Ya'alon explained: "That's the price that, unfortunately, the population will have to pay."[38]

Slowly, the cease-fire between Hamas and Israel began to crack. Hamas had established a "Restraining Force" ("Dabat al-Midan") preventing rocket fire at Israel.[39] Until early 2014, this force consisted of more than 600 personnel, operated around the clock, and reported directly to the head of the Hamas military wing, Mohammed Deif.[40] In January 2014, PIJ launched two rockets toward the western Negev during the funeral of former Israeli Prime Minister Ariel Sharon, which took place at the Sharon family's farm (located 4.3 miles from the border with Gaza) and which was attended by Israeli and world leaders.[41] Just days later, five rockets were fired at residential areas in the city of Ashkelon and were intercepted by Iron Dome. A sixth rocket fell in an open area.[42] Israel responded with targeted killings and warnings that if the violence did not cease, a harsh response would follow. While Hamas reportedly tried to prevent violence, other militant groups sensed that Hamas was weak economically and militarily and tried to exploit the situation.[43] An escalation in violence ensued in the first six months of 2014 (Figure 4.4); however, neither Israel nor Hamas was seeking another war until late June.[44]

Tensions Rise in the West Bank as Hamas and the PA Seek Reconciliation

According to the Israeli Security Agency, after the resignation of Prime Minister Salam Fayyad in April 2013, Hamas tried to exploit the weak-

---

[38] Gold and Berti, 2014.

[39] Thrall, 2014.

[40] Avi Issacharof, "Hamas Deploys 600-Strong Force to Prevent Rocket Fire at Israel," *Times of Israel*, June 17, 2013.

[41] Nidal al-Mughrabi, "Israel Kills Gaza Militant Blamed for Rockets During Sharon Funeral," Reuters, January 22, 2014.

[42] Avi Issacharof, "Hamas May Be Fighting a Losing Battle to Stop Gaza Rocket Fire," *Times of Israel*, January 24, 2014..

[43] Issacharof, 2014.

[44] Chorev and Shumacher, 2014.

Figure 4.4
Attacks from Gaza Against Israel, First Six Months of 2014
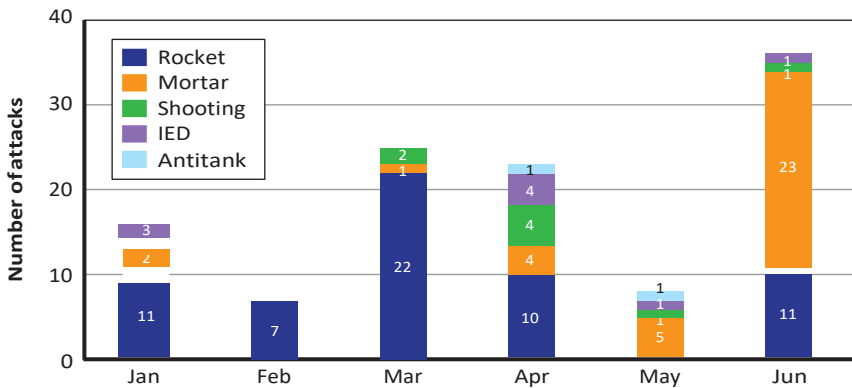
SOURCE: Adapted from Israeli Security Agency (Shin Bet), "2014 Annual Summary
Terrorism and CT Activity," December 31, 2014.
NOTE: No color indicates 0 attacks of this nature.
RAND *RR1888-4.4*

ening of the PA's rule and security apparatus and to strengthen its own
position in the West Bank and Jerusalem.[45] Consequently, while the
rate of attacks from the Strip remained low in early 2014, violence
levels during this period rose in the West Bank and in Jerusalem. Acts
of stabbing, firebomb or stone throwing, vehicular attacks, and gunfire
led to 44 Israeli casualties by the end of the year.[46]

Hamas historically used armed confrontation with Israel to
renegotiate cease-fire agreements and obtain a better deal. Thus, the
escalation in violence in the months before Protective Edge might be
explained as a Hamas attempt to emerge from its political isolation
and deep economic crisis. At the same time, however, political develop-
ments within the Palestinian arena raise the possibility that—at least
until June 2014—Hamas had a different strategy in mind to help it
improve its position.[47] In April 2014, Hamas and the Fatah-dominated

---

[45] Israeli Security Agency, 2014.

[46] Israeli Security Agency, 2013.

[47] Thrall, 2014.

PA signed a reconciliation agreement and a new Palestinian unity government was sworn in on June 2.[48] Hamas saw the agreement as a coping mechanism for its economic troubles: The PA would pay the salaries of Gaza's civil servants. Further, Hamas-PA unity might pressure the international community to lift its sanctions on Hamas.[49] Theoretically, reconciliation with the PA could have provided Hamas with a much-needed economic and political boost without going into another round of fighting with Israel. But developments took a different turn.

The heightened tensions in the West Bank and Jerusalem peaked on June 12, 2014, when three Israeli yeshiva (religious school) students, one of them a dual Israeli-U.S. national, were kidnapped while hitchhiking in the West Bank. Their bodies were found on June 30.[50] While the culprits were later identified as Hamas operatives, it remains unclear whether Hamas leadership planned the abduction or whether it was conducted by an independent clan without prior coordination.[51] Either way, both Israel and PA President Mahmoud Abbas blamed Hamas for the abduction. Abbas saw this act as a Hamas attempt to undermine its leadership and canceled the reconciliation agreement.[52]

On June 12, Israel launched Operation Brothers' Keeper — its most significant operation in the West Bank since 2002 — to locate the three teens and capture the kidnappers.[53] The IDF raided Hamas institutions on the West Bank and arrested 300 Palestinians, mostly

[48] Peter Beaumont, "Palestinian Unity Government of Fatah and Hamas Sworn In," *The Guardian*, June 2, 2014a.

[49] "International Community Welcomes Palestinian Unity Government," Reuters and *Jerusalem Post*, June 3, 2014.

[50] Josef Federman and Ian Deitch, "Bodies of Missing Israeli Teens Found in West Bank," Associated Press, July 1, 2014.

[51] Shlomi Eldar, "Egypt Threatens Hamas Rule," *Al-Monitor*, January 16, 2014.

[52] Benny Avni, "Peace on Hold as Kidnapping of Israeli Teens Divides Palestinians," *Newsweek*, June 24, 2014.

53 Goodman, 2015, p. 7.

Hamas members.[54] Fifty-one of those arrested were convicted terrorists released in the prisoners swap with Shalit.[55] Ten Palestinians were killed and more than 1,000 homes were searched in the course of the operation.[56] Having lost its last potential lifeline—reconciliation with the PA that could have alleviated its economic and political woes—Hamas tried to stoke unrest in the West Bank and inflame Gaza with the aim of provoking Israel into war.[57] On June 23, the Hamas prime minister in Gaza declared that a third intifada was on the way.[58]

West Bank Violence Spreads to Gaza; Israel and Hamas Go to War
On June 30, the night when the IDF found the bodies of the abducted students, a barrage of rockets was launched from Gaza at Israel, and Israeli warplanes carried out air strikes against 34 Hamas targets in Gaza.[59] On July 2, a group of young Israelis kidnapped and burned to death a Palestinian teenager from East Jerusalem in retaliation for the murder of the three teens.[60] The death triggered riots in East Jerusalem, which quickly escalated to daily rocket fire from Gaza. In response to the attacks, the IAF conducted air strikes in Gaza, killing at least nine Hamas members between July 2 and July 6.[61] On July 7, 68 rockets were fired at Southern Israel, including on the town of Be'er Sheba.[62]

---

[54] "Everything You Need to Know About the Israel-Gaza Conflict," ABC News, July 31, 2014.

[55] Goodman, 2015, p.12

[56] ABC News, 2014.

[57] Thrall, 2014.

[58] Jeroen Gunning, "What Drove Hamas to Take on Israel?" BBC News, July 18, 2014.

[59] Nick Logan, "Mourning, Military Strikes after Israeli Teens Found Dead," *Global News*, July 1, 2014.

[60] "Jewish Extremists Held Over Palestinian Teen's Murder," Agence France Presse via Ma'an News Agency, July 6, 2014.

[61] Alessandria Massi, "Timeline of Events in Gaza and Israel Shows Sudden, Rapid Escalation," *International Business Times*, July 23, 2014.

[62] Goodman, 2015, p.14.

Israel responded with attacks against some 50 targets in the Gaza Strip and assassinations of Hamas and PIJ militants.[63]

The same day, in addition to intensified rocket fire, Hamas stepped up its attacks on IDF troops near Gaza. First, it fired an antitank RPG on IDF troops performing routine work near Kibbutz Re'im.[64] Subsequently, six Hamas militants were killed in an explosion in a tunnel dug from Gaza into Israeli territory. According to a senior IDF official, the tunnel was "intended for a significant terror attack with specialist infrastructure and an anti-soldier force."[65] On July 8, the IDF foiled an attack by five commando Hamas militants that tried to infiltrate Israel by sea near Kibbutz Zikim.[66] That day, Hamas launched rockets — some with a reach not previously seen — at Jerusalem, Tel Aviv, and Haifa.[67] Israel launched Operation Protective Edge on July 8.

Ultimately, according to some Israeli analysts, Israel failed to understand Hamas's intentions and believed that it was still uninterested in full military confrontation before Protective Edge.[68] Even though voices within the IDF expressed concern that Hamas was dragging Israel into a war, the Israeli government failed to grasp fully Hamas's precarious position, especially after its reconciliation agreement with the PA fell through. A leaked state comptroller draft report on how the political and military leadership operated during Protective Edge came to the same conclusion. As defense correspondent Amos Harel summed it up in 2016:

---

[63] "Israel Launches Military Offensive in Gaza," *Al Jazeera*, July 7, 2014.

[64] Ron Ben Yishay and Matan Tzuri, "Gaza Militants Resume Rocket Fire on Southern Israel, Attack IDF Troops on Border," Ynet News, July 7, 2014.

[65] Quoted in Yoav Zitun, "IDF: We Uncovered Gaza Terror Tunnel Leading to Israel," Ynet News, July 7, 2014.

[66] "Hamas: Terrorists in Zikim Are Hamas's Naval Commando Men," Ynetnews.com, July 8, 2014; Lilach Shoval and Gadi Golan, "IDF Foils Hamas Naval Commando Attack," *Israel Hayom*, July 9, 2014.

[67] "Hamas Claims Rocket Fire on Jerusalem, Tel Aviv and Haifa," News24, July 8, 2014.

[68] Interview with an Israeli journalist, Tel Aviv, May 24, 2016.

The draft indicates that the Israeli leadership didn't seriously consider easing the economic restrictions on Gaza, which might have delayed the eruption of the 50-day war in the summer of 2014; that Israel has never formulated any strategy or goals regarding Gaza; that Prime Minister Benjamin Netanyahu, Defense Minister Moshe Ya'alon and then–Chief of Staff Lt. Gen. Benny Gantz withheld much of the relevant information from the security cabinet, effectively rendering it worthless and groping in the dark; that the intelligence about Hamas' preparations for a possible conflict was partial and contradictory.[69]

Arguably, Israel failed to recognize that as Hamas evolved from a pure terrorist organization into more of a hybrid terrorist-state structure, it needed to respond to the concerns of Gaza's residents, if only to maintain its hold on power, and that severe economic downturn would force Hamas to act. Like with any counterfactual, it is impossible to know whether more-prescient Israeli policy could have prevented war in 2014. What is clear is that in July 2014, Israel found itself fighting a war it did not want to fight.

Planning for Operation Protective Edge: An Imperfect Process

According to the former head of Israeli Military Intelligence, Major General Amos Yadlin, "There was no specific intelligence indication or strategic warning about the approaching conflict, as demonstrated by cuts in the 2013 defense budget, the reduction in reserve soldier training, and the cessation of IAF training flights."[70] Despite the lack of specific intelligence, many senior leaders — both at the General Staff and at Southern Command — believed that Israel would face another

---

[69] Amos Harel, "Bleak Gaza War Report Shows How Next Conflict Will Begin," *Haaretz*, May 10, 2016.

[70] Amos Yadlin, "The Strategic Balance of Protective Edge: Achieving the Strategic Goal Better, Faster and at a Lower Cost," in Anat Kurz and Shlomo Brom, eds., *The Lessons of Protective Edge*, Tel Aviv, Israel: Institute for National Security, 2014a, p. 200.

Gaza conflict as early as a year and a half out. As one senior staff officer at Southern Command remarked, "We started to prepare for this war a year and a half or something like that before. We didn't know it was coming, we didn't know the date. But we understood that the relationship with Hamas was heading for a clash."[71] Given Israel's overarching strategy of "mowing the grass" rather than seeking decisive victory in Gaza, the question was not whether Israel would fight in Gaza, but when; and so, months before Operation Protective Edge actually began, the IDF began planning for its next Gaza War.

The planning effort started with considering both the latest intelligence and lessons learned from past operations in Gaza, including Operation Cast Lead and Operation Pillar of Defense.[72] By 2014, the IDF estimated that Hamas had roughly between 25,000 and 30,000 men under arms.[73] The bulk of the forces were organized into six brigades of 2,500 to 3,500 men each, equipped with a mixture of rocket and mortar teams, antitank units, snipers, and infantry units, and each assigned to different regions of Gaza.[74] All in all, the IDF believed it was facing 26 battalions of varying size and quality.[75]

From here, the IDF asked two questions. First, how would Hamas likely react if the IDF destroyed certain units or retook certain parts of Gaza? Planners also reversed the question—what Hamas capabilities would the IDF need to damage to cause Hamas to stop fighting?[76] Based on this analysis, the IDF developed three general plans—small, medium, and large—based on the scale of the operation. The small plan involved the IDF taking control of the northern part of Gaza without entering the populated areas. The medium plan involved a larger incursion into both the northern and southern areas. Finally, the

---

[71] Interview with a retired senior IDF officer, Tel Aviv, May 24, 2016.

[72] Interview with a retired senior IDF officer, Tel Aviv, May 24, 2016.

[73] Meeting with Israeli academics, Begin-Sadat Center for Strategic Studies, Bar Ilan University, Tel Aviv, May 22, 2016.

[74] Jeffery White, "The Combat Performance of Hamas in the Gaza War," *CTC Sentinel*, Vol. 7, No. 9, September 2014, p. 11.

[75] Interview with a retired senior IDF officer, Tel Aviv, May 24, 2016.

[76] Interview with a retired senior IDF officer, Tel Aviv, May 24, 2016.

large plan involved retaking all of Gaza.[77] Based on the assigned tasks, planners then developed a rough guide for the number and type of forces they needed to conduct the operation.[78]

Despite the extended preparatory time line, the planning for Protective Edge proved imperfect. None of the original plans ultimately matched what actually occurred in July 2014. As one former IDF planner on the General Staff bitterly remarked, "Even though we had spent 10,000 hours on them, none of those options were used. Instead they did something completely different. We did not have a plan for just taking control of the tunnels."[79] By contrast, a Southern Command planner acknowledges that the IDF did not know the exact location of each of Hamas's tunnels, but counters that Southern Command had at least a general recollection of the tunnels' general locations and developed a plan for dealing with them at least ten days before the start of hostilities.[80] However, the General Staff and Southern Command shared an unrealistic expectation that the operation would last between seven and ten days, similar to Pillar of Defense.[81] They assumed that Israel would fight a short war, reestablish deterrence, and return to a state of relative calm.

Organizing for War

The IDF's planning effort successfully identified the forces needed for the operation and produced a clear command and control structure. For wars along Israel's northern border, operational control of the campaign traditionally fell to the IDF General Staff, given the complexity of these operations. In Protective Edge, however, although the IDF General Staff integrated the IAF and Israeli Navy contributions

---

[77]   Interview with a retired senior IDF officer, Tel Aviv, May 24, 2016.

[78]   Interview with a retired senior IDF officer, Tel Aviv, May 24, 2016.

[79]   Interview with a retired senior IDF officer, Tel Aviv, May 24, 2016.

[80]   Interview with a retired senior IDF officer, Tel Aviv, May 24, 2016.

[81]   Meeting with Israeli academics, Begin-Sadat Center for Strategic Studies, Bar Ilan University, Tel Aviv, May 22, 2016.

and handled the interactions with the political side, IDF's Southern Command assumed control of most of the operational aspects of the campaign and controlled three divisions: the 36th Armor Division, 162nd Division, and 643rd Gaza Territorial Division. These divisions, in turn, controlled brigade task forces that were responsible for various part of the line around Gaza (see Figure 4.5).

Of note, the IDF's task organization includes several idiosyncrasies that differ from a typical U.S. force structure. First, for reasons explained in Chapter Five, IDF brigades train in isolation—as armor, infantry, or artillery brigades—but fight as combined arms units. For example, during Protective Edge, the 401st Armor Brigade included an armor battalion, infantry battalion, and engineering battalion.[82] This combined arms approach extends to the battalion level as well. An infantry battalion of the 84th Givati Brigade, for example, gained an

Figure 4.5
IDF Task Organization

NOTE: A hyphen (-) after a brigade indicates that only part of the brigade was deployed in the conflict.

RAND RR1888-4.5

---

[82] Interview with a retired senior IDF officer, Tel Aviv, May 24, 2016.

armor company.[83] This is to say, brigades depicted on the task organization often included elements from other units.

Second, the IDF also includes "area" or "territorial" brigades—in this case, under the 643rd Gaza Territorial Division. Most units in Israel rotate throughout different regions along its northern, central, and southern flanks. The Gaza division and its subordinate brigades, however, remain focused on Gaza and surrounding areas. These brigades then serve as a source of continuity to train rotating units on the regional threat.[84]

Finally, the IDF maintains a robust special operations community—not depicted on the task organization—but that also fought in Protective Edge. At the pinnacle of its special operations ladder, the IDF has Sayeret Matkal (a counterterrorism unit roughly equivalent to the U.S. Army's Delta Force), Shayetet 13 (roughly equivalent to U.S. Navy SEALs [Sea, Air, and Land teams]), Unit 669 (Combat Search and Rescue) and Shaldag (an IAF special operations force for target reconnaissance). These units operated in Protective Edge, although their precise missions remain classified.[85] Additionally, the IDF also included several special reconnaissance units—Duvdevan, Maglan, Egoz, and Rimon—which are now task organized under 1st Commando Brigade, but were attached to different infantry brigades during Protective Edge.[86] There are also special operations forces support units, perhaps most notably Yahalom (the special operations engineering battalion), Maglan (another engineering battalion), and Oketz (a canine unit) that played a key role in Protective Edge.

All in all, the IDF enjoyed a 3:1 numerical advantage over Hamas during Protective Edge and a significantly higher ratio in combat power after factoring in other advantages, such as air support, fire support, and

---

[83] Interview with a mid-grade IDF officer, Tel Aviv, May 23, 2016.
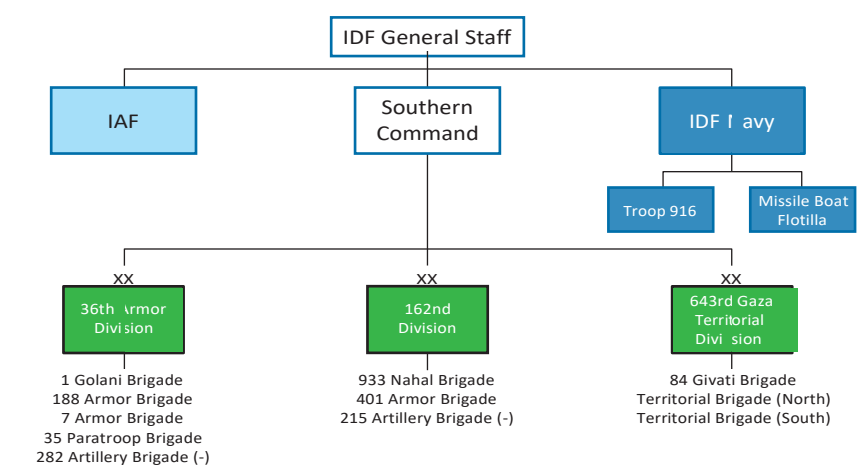
[84] Interview with a retired senior IDF officer, Tel Aviv, May 24, 2016.

[85] Meeting with Israeli academics, Begin-Sadat Center for Strategic Studies, Bar Ilan University, Tel Aviv, May 22, 2016

[86] Or Heller, "The Newest Tool in the Toolbox of the IDF," *Israel Defense*, May 11, 2016.

intelligence.[87] As a result, as Bar Ilan University Professor Eitan Shamir notes, "The challenge was, therefore, not whether it accomplished its mission, but rather when and at what cost in human life."[88]

Mobilization and Deployment

Few of the units on the task organization for Protective Edge actually were stationed along the Gaza border before the campaign, so one of the IDF's initial tasks was mobilizing and deploying its forces to the Gaza area of operations. Despite identifying the lack of trucks to transport Merkava IV tanks and G9 armor bulldozers as a critical shortfall at the end of Pillar of Defense, these gaps still were not fully remedied by Protective Edge. As a result, moving armor units southward from Golan Heights in northern Israel proved more arduous than ideal.[89] Mobilizing the reserve component for Protective Edge also proved a slower process than in Pillar of Defense, although this was partially due to the nature of the conflict. Ultimately, Israel mobilized some 86,000 reservists for Operation Protective Edge.[90] One IDF captain recounted, "During Operation 'Pillar of Defense,' I remember everything went by really fast — within 36 hours of being called up, we were geared up and ready to go."[91] By contrast, mobilization and deployment to Protective Edge was slower and more methodical. Even after reaching their assembly areas, units would train for a Gaza incursion.[92]

---

[87] Eitan Shamir, "The 2014 Gaza War: Rethinking Operation Protective Edge," *Middle East Quarterly*, Spring 2015, p. 7.

[88] Shamir, 2015, p. 7.

[89] Interview with a retired senior IDF officer, Tel Aviv, May 24, 2016.

[90] Sudarsan Raghavan, William Booth, and Ruth Eglash, "Israel, Hamas Agree to 72-Hour Humanitarian Cease-Fire," *Washington Post*, August 1, 2014.

[91] Breaking the Silence, *This Is How We Fought in Gaza: Soldier's Testimonies and Photographs from Operation Protective Edge*, Jerusalem, 2014, p. 169.

[92] Anecdotal evidence is mixed about whether preparations for Protective Edge were actually better in the end. In the same interview with an IDF captain, he notes that he received a booklet on how to deal with the civilian population of Gaza within his first 36 hours of preparations for Pillar of Defense, but not for Protective Edge. See Breaking the Silence, 2014, p. 169.

Figure 4.6
IDF Disposition Around Gaza
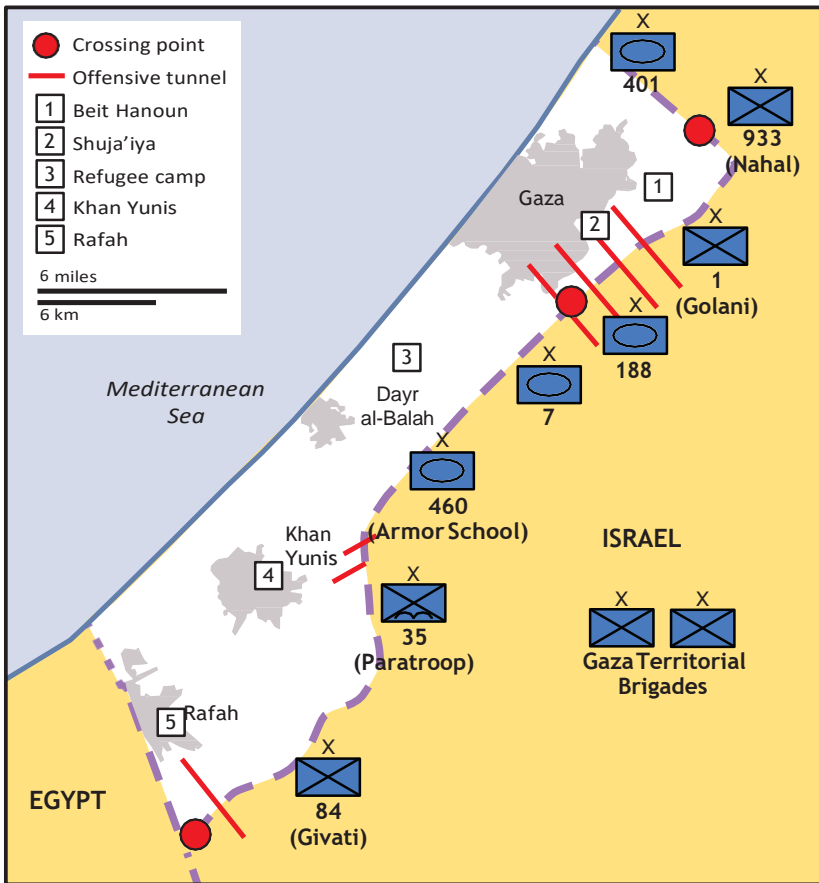
SOURCE: Multiple interviews with IDF officials.
NOTE: Ovals inside blue boxes depict armor units. X's inside blue boxes depict infantry units. Two half-circles in a blue box depict an airborne unit. An X on top of a box denotes that these units are brigades.
RAND *RR1888-4.6*

Figure 4.6 shows the rough position of the IDF's brigades. Placing forces near the Gaza border incurred tactical risk. It exposed troops to rocket and mortar fire and, unlike the urban areas, some units were not equipped with mobile sirens to alert soldiers of incoming indirect fire,

a capability gap that was eventually rectified.[93] Forward positioning, however, also yielded tactical benefits. Once in position, the brigades could familiarize themselves with their areas of operation and the tactics of fighting in Gaza.

The 75th Tank Battalion—part of the 7th Armored Brigade Task Force—provides a good example of how the mobilization and deployment of units worked in practice. Before Protective Edge, the 75th was located on the Golan Heights in northern Israel. On July 7, the day before the start of the operation, the battalion called up its reserve officers. The next day, it mobilized the rest of its reserve forces and readied its equipment for movement. On July 9, the 75th moved to its assembly area outside of Gaza and began refresher training shortly thereafter. After coming from the mountainous Golan region, the battalion needed to retrain for urban combat. Since the battalion did not know precisely when the ground war would commence (in fact, the Israeli leadership had not even decided whether to conduct a ground operation), it planned training 48 hours out, updated every 24 hours, and continuously trained until the unit ultimately entered Gaza on July 19.[94]

While units like the 75th Tank Battalion moved into position and prepared for a ground incursion, the IAF was already engaged in the fight inside Gaza, targeting Hamas leadership, weapons caches, and other infrastructure, while Hamas fired rockets and mortars into Israel in return.

Phase I: The Air Campaign (July 8–16)

Just as in Operation Pillar of Defense, the IAF went into Operation Protective Edge with an operational concept akin to the U.S. "shock and awe" concept—the idea that "the operation should begin with a surprise air strike that can then create conditions for ground maneuver

---

[93] Interview with a retired senior IDF officer, Tel Aviv, May 24, 2016.

[94] Interview with a mid-grade IDF officer, Tel Aviv, May 24, 2016.

which will follow air."[95] The IAF planned such a campaign to support the plans described above, but Operation Protective Edge did not offer much opportunity to implement it.

Operation Protective Edge opened on July 8, when the IAF struck some 223 targets in the Gaza Strip, and 326 the following day. Throughout this first air-only phase of the campaign between July 8 and July 16, the IAF conducted more than 1,700 strikes, averaging about 190 per day. Notably, the rate of strikes per day diminished over the course of these nine days, averaging nearly 250 strikes per day in the first four days and only 167 per day in the remaining five prior to the ground assault.[96] As in Pillar of Defense, Israel sought to degrade Hamas military capabilities and to stem the attacks on Israel. The IAF targeted weapons storage and manufacturing facilities (particularly for Hamas's missiles and rockets), rocket launch sites, command and control centers, training and military compounds, military administration facilities, and individual Hamas senior commanders.[97] At the same time, according to the Israeli government, Israel during this period sought to de-escalate the conflict "to achieve a cessation of active hostilities and to uphold the 2012 cease-fire understandings," and in fact accepted an Egyptian cease-fire proposal on July 15 (which Hamas rejected) before the Hamas tunnel infiltration and initiation of the IDF ground offensive.[98]

In the initial hours of the operation, the homes of seven Hamas members and one PIJ member were struck, reportedly because they

---

[95] Interview with former senior IDF officers and think-tank analysts, Tel Aviv, May 23, 2016.

[96] See daily sortie counts in Karen Yourish and Josh Keller, "The Toll in Gaza and Israel, Day by Day," *New York Times*, August 8, 2014.

[97] See IDF, "Operation Protective Edge by the Numbers," IDFblog.com, August 5, 2014b; and State of Israel, *The 2014 Gaza Conflict: Factual and Legal Aspects*, Israel Ministry of Foreign Affairs, May 2015, p. 37.

[98] State of Israel, 2015, p. 35. The cease-fire proposal was drafted by Egypt in consultation with Israel and called for a cessation of hostilities, limited opening of land crossings into Gaza, and negotiations on the details to follow. The proposal was presented to the PA, which forwarded it to Hamas leaders, who immediately rejected it. See Ron Tira, "Operation Protective Edge: Ends, Ways and Means and the Distinct Context," *Infinity Journal*, September 10, 2014, p. 3.

served as command centers, but Palestinian sources confirmed that the strikes took place only after the IDF called the families and told them to leave.[99] A majority of the 223 targets struck that first day, however, were "concealed rocket launchers" situated underground, in addition to ten tunnels, a naval police base, and domestic security facilities.[100] Throughout the remainder of this phase, the IAF sought to increase pressure on Hamas by expanding the targeting of government buildings and the homes of senior Hamas and PIJ commanders and leaders, as well as continuing to attack launch and storage sites and tunnels.

Hamas Adaptation Exacerbated the Intelligence and Targeting Challenge

A critical difference between the opening of the air campaign in 2014 and that of 2012 was the absence of operational surprise in Protective Edge. As discussed in Chapter Three, Hamas in Pillar of Defense was "shocked" by the assassination of its military chief and the rapid destruction of a large part of its "strategic arsenal." Conversely, at the beginning of Protective Edge, Hamas — ever the adaptive terrorist organization — applied the lessons it learned in Pillar of Defense to diminish the effectiveness of the IAF's ISR and precision attack capabilities. During this initial phase,

> Israel committed the IAF to combatting an enemy characterized by three features: hidden, hence presenting a targeting challenge; operating in tunnels, hence presenting a survivability challenge; and deployed underneath densely populated urban areas, thereby presenting an avoidance of collateral damage challenge. Airpower is arguably a less efficient operational tool for this set of challenges.... Thousands of airstrikes incrementally added up to a partial, yet painful, degradation of Hamas. This may have sufficed for the context of Operation Pillar of

---

[99] "Live Updates: Operation Protective Edge, Day 1," *Haaretz*, July 8, 2014; "Live Updates: Operation Protective Edge, Day 2," *Haaretz*, July 9, 2014.

[100] "Live Updates: Operation Protective Edge, Day 1," 2014; and "Live Updates: Operation Protective Edge, Day 2," 2014.

Defense, but it was insufficient in the distinct context of Operation Protective Edge.[101]

Hamas attempted to counter Israeli airpower by working to shield its assets underground and hiding its commanders on a regular basis even during periods of relative calm. Consequently, when the first Israeli bombs hit on July 8, Hamas was already much less exposed than it had been in Cast Lead and Pillar of Defense.[102]

Despite improvements in the IAF's technical capabilities and concepts, this shift to moving assets underground made intelligence and targeting much more difficult during Protective Edge than in Pillar of Defense. Israel spent the months after Pillar of Defense observing Gaza from the air with both manned and unmanned aircraft and rebuilding its preplanned target list for responses to rocket attacks in the intrawar period and for prosecution during a large operation such as Protective Edge. For example, an IAF UAS commander commented that the ISR drones collected "a lot of information which eventually gives us the ability to detect targets that need to be attacked. This is why the minute Operation Protective Edge began, the Air Force already had a large bank of targets."[103]

Despite the IAF's extensive list of preplanned targets, "the Palestinians had the initiative, and the initial strikes by the IDF were less successful" than they had been in the previous two Gaza conflicts.[104] According to one Israeli analyst:

> There was no doubt that Hamas went through a [process of] thorough learning and force building, because they went underground. Not just the offensive tunnels, the whole system under the ground. So when we came with our mighty air force, they were all underground. . . . We only comprehended the full

[101] Tira, 2014, p. 3.

[102] See Amos Yadlin, "Operation Protective Edge: The Goals, and the Strategy to Achieve Them," INSS Insight No. 571, Institute for National Security Studies, July 9, 2014b, p. 2.

[103] Quoted in Ann Rogers, "Investigating the Relationship Between Drone Warfare and Civilian Casualties in Gaza," *Journal of Strategic Studies*, Vol. 7, No. 4, Article 8, 2014, p. 101.

[104] Shamir and Hecht, 2014/2015, p. 84.

system after the operation, and now understood how irrelevant the Air Force really was. . . . [T]he IAF attacked [say] 1,000 targets which belonged in the command control family. Did we have any impact on Hamas command and control? No. We attacked thousands of launch sites and had no real impact. So that's why they were so well organized. We came with the Air Force, but those capabilities were irrelevant. . . . So for Hamas it was more than just attack tunnels; it was the whole complicated system underground, because they know how good the capabilities of the Air Force are.[105]

For example, the rate of Palestinian rocket and mortar fire on Israel varied between 115 and 177 per day—this was reported to be mostly the result of "internal Palestinian logistical issues" rather than the effects of IAF strikes.[106] As a result, "unable to conduct a decisive knock-out blow, not wishing to cause significant collateral damage, and protected by the Iron Dome, Israel adopted a strategy of gradual attrition of Hamas military infrastructure."[107]

Thus, the IAF (along with the Israeli Navy off the coast) prosecuted most of the preplanned targets within the first two or three days. The IAF then needed to find, fix, and attack pop-up or fleeting targets, such as newly discovered command and control centers, storage sites, and combatants on the move above ground. The requirement to minimize collateral damage and operate according to international law regarding armed conflict—both for ethical and moral reasons and to counter Hamas's efforts to delegitimize Israel in the international arena—further exacerbated this challenge, which the IDF sought painstakingly to address. According to a former senior

---

[105] Interview with former senior IDF officers and think-tank analysts, Tel Aviv, May 23, 2016.

[106] Shamir and Hecht, 2014/2015, p. 85. One former senior IDF officer noted that the U.S.-made TPQ-37 Firefinder radar that Israel uses did not have the accuracy to enable air attack on launchers. Interview with former senior IDF officer, Tel Aviv, May 24, 2016. Moreover, an Israeli missile analyst noted that hitting launchers after they have been used is ineffective because Hamas never reuses them anyway. Interview with Israeli think-tank analyst, Tel Aviv, May 25, 2016.

[107] Shamir and Hecht, 2014/2015, p. 85.

IDF officer under the chief of staff, the IAF was consumed with targeting under these circumstances:

> Targeting was very hard work — to understand what is underneath every tree and garage. It was difficult because we knew we could only hit military targets. At the beginning of Pillar of Defense and Protective Edge, we had about 1,000 targets and these were attacked in the first two days. But afterward they [Hamas] kept on launching rockets, so we were very frustrated. We learned very few lessons from Cast Lead to Protective Edge in this area. After you run out of preplanned targets, the time passes before you find a new targets. The process of authorization takes so long that by the time you get there the target is no longer there. Preplanned targets work much better, but after two days there were no more preplanned targets."[108]

The IDF undertook a process to vet and approve targets carefully and to authorize strikes against them at particular times to minimize civilian casualties, which in turn lengthened the time between target identification and execution of a strike. Because avoiding collateral damage is a primary restriction, "the IAF did not even utilize a small portion of its capabilities."[109] Still, by July 15, there were more than 200 Palestinian casualties, and more than 80 percent of them were civilians, according to a Gaza-based rights group.[110] As the IDF began to transition to the Phase II ground operation on July 17, the IAF continued to hit rocket launchers, weapons caches, government buildings, tunnels and other underground structures, and the homes of Hamas and PIJ leaders. But at this point, the IDF began allocating manned and unmanned sorties to CAS missions and to interdicting targets within planned maneuver zones. IAF sorties increased from 140 on July 15 to 224 on the first day of ground operations, and

---

[108] Interview with a former senior IDF officer, Tel Aviv, May 24, 2016.

[109] Tira, 2014, p. 2.

[110] Mai Yaghi, "Israel Warns 100,000 Gazans to Flee as Truce Efforts Resume," Agence France Presse, July 15, 2014.

averaged about 184 sorties per day during the first week of Phase II, somewhat higher than the last five days of the Phase I air campaign.[111]

Phase II: The Ground Campaign (July 17–August 4)

On July 17, 13 Hamas fighters — armed with assault rifles and RPGs — emerged from a tunnel inside of Israel about a kilometer and a half away from the Israeli community of Kibbutz Sufa.[112] This tunnel attack proved a critical juncture in the campaign. Hamas had already demonstrated a limited ability to project power inside Israel. On July 8, during the opening hours of the campaign, four Hamas naval commandos came ashore near Zikim and attempted to place explosives on an Israeli tank.[113] The operation — while brave — proved ineffectual, and the commandos were detected and killed within minutes of reaching the beach.[114] Later that day, the IDF killed the commander of this unit, Mohammed Shaaban, in an air strike, and Egypt allegedly detained another senior member of the diver unit after he entered Egypt.[115] Ultimately, as Begin-Sadat Center for Strategic Studies analysts Eado Hecht and Eitan Shamir note, the "amphibious raids conducted in the first days of the war also left no lasting impressions."[116] Hamas also experimented with air-infiltration techniques, although it never successfully executed any. In November 1987, two Palestinian operatives successfully conducted a paraglider attack on Israel from Lebanon; three decades later, Hamas tried to repeat the

---

[111] Yourish and Keller, 2014. We did not find sources that specified numbers of different types of sorties, such as CAS or interdiction.

[112] Rubenstein, 2015a, p. 125; State of Israel, 2015, p. 69.

[113] Lenny Ben-David, "Hamas' Order of Battle: Weapons, Training, and Targets," in Hirsh Goodman and Dore Gold, eds., *The Gaza War 2014: The War Israel Did Not Want and the Disaster It Avoided*, Jerusalem, Israel: Jerusalem Center for Public Affairs, 2015b, p. 113; Mitch Ginsburg, "A Year On, Army Looks to Last Gaza War for Lessons on Fighting the Next One," *Times of Israel*, July 7, 2015.

[114] Ginsburg, 2015.

[115] Ben-David, 2015b, p. 113; interview with an Israeli journalist, Tel Aviv, May 24, 2016.

[116] Shamir and Hecht, 2014/2015, p. 86.

tactic. It set up a 15-man paraglider unit under the command of Raed Attar and trained in Malaysia, but the IDF killed or captured many of the members of the unit before it was ever employed in combat.[117]

The tunnel threat, however, proved far more serious than either air or naval infiltration. Although the IDF detected and killed Hamas militants in the Kibbutz Sufa infiltration on July 17, the attempted attack—according to an Israeli journalist—"sparked panic among the residents living near Gaza."[118] As a precaution, the IDF ordered 12 nearby civilian communities to barricade themselves in their homes for hours until it believed that all the infiltrators had been successfully interdicted.[119] As the July 17 attack demonstrated, tunnels offered Hamas the chance to deliver larger forces inside of Israel with little warning. As IDF Chief of Staff Gantz later remarked, "The incident at Sufa made the penny drop for us."[120] While accounts vary, most suggest that it was only after the Sufa incident that the Israeli cabinet convened and approved a ground attack on the tunnels.[121]

The need to neutralize the tunnels transformed Operation Protective Edge from primarily an air campaign into a limited ground incursion. The IDF needed to locate the start points of the tunnels, which meant pushing roughly 3 km inside Gaza. Imagery analysis from the UN Operational Satellite Applications Program (UNOSAT) provides a rough idea of limits of the ground incursion. As seen in Figure 4.3, UNOSAT identified damaged and destroyed structures, as well as impact craters, with the concentration of red and orange dots denoting the areas of greatest damage. About 72 percent of the damage is within 3 km of the border, roughly depicting the IDF's limit of advance.[122]

---

[117] Ben-David, 2015b, p. 114.

[118] Interview with an Israeli journalist, Tel Aviv, May 24, 2016.

[119] State of Israel, 2015, p. 69.

[120] Rubenstein, 2015a, p. 125.

[121] Interview with an Israeli journalist, Tel Aviv, May 24, 2016. According to one interview, Netanyahu actually decided to attack the tunnels earlier—during the second or third day of Protective Edge. Interview with a senior Israeli policymaker, Tel Aviv, May 25, 2016.

[122] David Benjamin, "Israel, Gaza and Humanitarian Law: Efforts to Limit Civilian Casualties," in Hirsh Goodman and Dore Gold, eds., *The Gaza War 2014: The War Israel*

Figure 4.7
Damage Assessment in Gaza
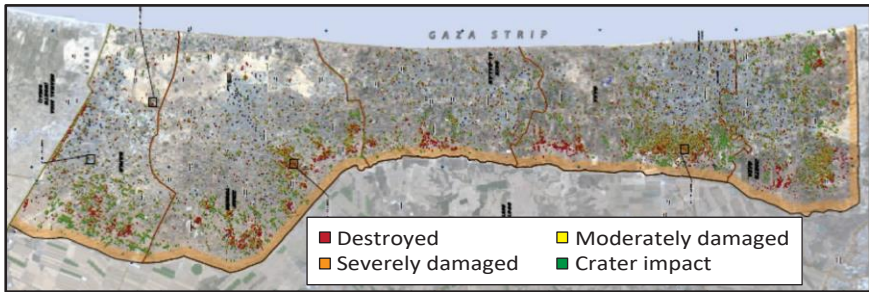
SOURCE: UNOSAT, "Satellite Based Damage Assessment of Gaza Strip,"
September 18, 2014.
RAND *RR1888-4.7*

Perhaps more importantly, the density of dots in Figure 4.7 also testifies to the intensity of the fighting inherent in tunnel warfare.

Tunnel Fight

As already mentioned, tunnel warfare is not a new phenomenon in Arab-Israeli wars. In the run-up to Protective Edge, the IDF interdicted several Hamas tunnels and knew more existed.[123] And yet, Israel arguably failed to appreciate fully that tunnels were no longer just a one-off tactic, but rather a new operational approach to warfare. An Israeli defense analyst remarked that in his discussions with the Israeli Security Agency (*Shabak*, otherwise known by its Hebrew acronym Shin Bet), officials there admitted that they knew there were tunnels in Gaza, but "failed to conceive all these projects as a system."[124] A reserve IDF engineering officer confirmed,

---

Did Not Want and the Disaster It Avoided, Jerusalem, Israel: Jerusalem Center for Public Affairs, 2015, p. 46.

[123] Yiftah S. Shapir and Gal Perel, "Subterranean Warfare: A New-Old Challenge," in Anat Kurz and Shlomo Brom, eds., *The Lessons of Protective Edge*, Tel Aviv, Israel: Institute for National Security, 2014, p. 53.

[124] Meeting with Israeli academics, Begin-Sadat Center for Strategic Studies, Bar Ilan University, Tel Aviv, May 22, 2016.

Israel wasn't surprised by the phenomenon of the tunnels. We knew there were tunnels, though we didn't know where they all were. What was surprising was what the head of Hamas [military wing Mohammad Deif] did. He took the underground medium and turned it into an operational tool.[125]

By 2014, Hamas had developed an entire tunnel-digging enterprise. Employing as many as 900 full-time personnel at an estimated average cost of $100,000 and taking three months per tunnel, Hamas dug three types of tunnels.[126] "Offensive," or cross-border, tunnels extended into Israel and enabled Hamas to threaten the 20 Israeli towns and villages that lay within 4 km of Gaza border.[127] "Defensive" tunnels linked points inside Gaza and enabled Hamas to maintain its lines of communication during IDF operations. Finally, "smuggling" tunnels into Egypt provided Hamas with between 40 and 75 percent of its revenues.[128] In practice, these three types of tunnels formed a subterranean web inside Gaza.[129]

During Operation Protective Edge, tunnels posed a threefold challenge for the IDF. First, there was the detection problem. The IDF experimented with several different technologies to locate tunnels, but none proved entirely satisfactory. Ground-penetrating radar had limited depth, posing challenges for finding the deeper tunnels.[130] Additionally, the IDF used geophones to detect the sound of digging, but this was not effective for completed tunnels.[131] The IDF also used methods developed by the oil industry consisting of conducting a controlled explosion and listening for the echoes, but this technique proved imperfect because the

---

[125] Interview with a senior reserve IDF officer, Tel Aviv, May 23, 2016.

[126] Hecht, 2015, p. 7; Rubenstein, 2015a, p. 127; Shapir and Perel, 2014, p. 52.

[127] Hecht, 2015, p. 8.

[128] Hecht, 2015, p. 20.

[129] Meeting with Israeli academics, Begin-Sadat Center for Strategic Studies, Bar Ilan University, Tel Aviv, May 22, 2016.

[130] State of Israel, 2015, p. 42; interview with an Israeli think-tank analyst, Tel Aviv, May 23, 2016; interview with a senior reserve IDF officer, Tel Aviv, May 23, 2016.

[131] Interview with an Israeli think-tank analyst, Tel Aviv, May 23, 2016.

oil industry is looking at something different and far deeper than tunnels.[132]Ultimately, the IDF found many of the tunnels during Protective Edge either because of human intelligence or because a patrol stumbled on the location, rather than because of technological means.[133]

After finding the tunnels, the IDF then needed to clear them. Following the 2009 Operation Cast Lead, IDF doctrine taught soldiers at the company level how to identify and secure tunnels.[134]But during Protective Edge, conventional forces generally avoided fighting inside tunnels because the IDF often lacked intelligence on what lay inside them, and they negated much of the IDF's technological and firepower edge over Hamas.[135]As one Israeli think-tank analyst commented, "The tunnels are the enemy's domain, and you can never win."[136]For the most part, this assumption proved correct. During Protective Edge, the IDF lost a battalion commander when he pursued Hamas militants back into a tunnel after Hamas conducted a cross-border attack.[137]

The IDF did train some units to fight inside tunnels before Protective Edge and trained the rest of the force to detect tunnels. Specifically, the IDF used the Yahalom Special Operations Engineering Unit for this purpose. One of its companies — the Samoor ("Weasel") Company — was specially equipped with breathing and communications equipment for operating in this subterranean environment.[138]

Finally, once the tunnels had been cleared and mapped, the IDF needed to destroy them. This, too, proved challenging because the tunnel needed to be destroyed beyond repair. The IDF experimented with several techniques during Protective Edge. One approach was called "kinetic drilling" — essentially dropping joint direct attack

---

[132] Interview with an Israeli think-tank analyst, Tel Aviv, May 23, 2016.

[133] Interview with a senior reserve IDF officer, Tel Aviv, May 23, 2016.

[134] Interview with a mid-grade IDF officer, Tel Aviv, May 24, 2016.

[135] Interview with a senior reserve IDF officer, Tel Aviv, May 26, 2016.

[136] Interview with an Israeli think-tank analyst, Tel Aviv, May 23, 2016.

[137] Interview with a retired senior IDF officer, Tel Aviv, May 26, 2016.

[138] Shapir and Perel, 2014, p. 55.

munitions (JDAMs) at regular intervals along the length of the tunnel. Getting the munitions to detonate at the right depth often proved difficult and the debris caused by the explosion often further complicated tunnel detection efforts.[139]

More often, tunnels needed to be destroyed from the ground. The IDF experimented with using water and a gel-like explosive termed "Emulsa" to destroy tunnels,[140] but the process was time-consuming. Destroying tunnels required nine to 11 tons of "Emulsa" on average, and drilling equipment was often in short supply, forcing ground forces to secure the tunnels for extended periods of time while they waited for equipment to arrive.[141] Engineers also reported that occasionally they would detonate explosives inside a tunnel, only to have the shockwave travel through the tunnel and blow up another shaft half a kilometer or more away.[142] The IDF, however, benefited from the fact that Gaza's sandy soil meant that tunnels — assuming the concrete reinforcements could be destroyed — often proved difficult to rebuild.[143]

Ultimately, during Protective Edge, the IDF discovered 100 km of tunnels inside Gaza, reportedly including 32 cross-border tunnels.[144] Many of the cross-border tunnels, however, were still under construction. According to outside analysts, of the 36 tunnels discovered between January 2013 and the conclusion of Protective Edge, only 22 actually crossed the Israeli border and not all of these had reached the final destination.[145] Hamas, however, still successfully used five tunnels before the IDF could interdict them, evidence of the inherent challenges in locating tunnels. Often, finding tunnels

---

[139] Interview with a senior reserve IDF officer, Tel Aviv, May 26, 2016; interview with a senior reserve IDF officer, Tel Aviv, May 25, 2016; Shapir and Perel, 2014, p. 55.

[140] Shapir and Perel, 2014, p. 55.

[141] Hecht, 2015, p. 24; Ginsburg, 2015.

[142] Breaking the Silence, 2014, pp. 85–86.

[143] Interview with an Israeli think-tank analyst, Tel Aviv, May 23, 2016.

[144] Rubenstein, 2015a, p. 127.

[145] Hecht, 2015, p. 10.

still required a mixture of good luck and in some cases hard fighting, perhaps as best illustrated by the Golani Brigade's fight in the Battle of Shuja'iya.

Golani Brigade's Hard Fight in Shuja'iya (July 19–20)

Located in the heart of Gaza City, the Shuja'iya neighborhood is a densely populated urban neighborhood home to approximately 100,000 civilians (Figure 4.8).[146] It also was Hamas's stronghold. According to the IDF, roughly 8 percent of all 1,700 rockets fired between the start of Protective Edge and July 19 originated from this area.[147] Israeli intelligence suspected there were approximately 800

Figure 4.8
Shuja'iya
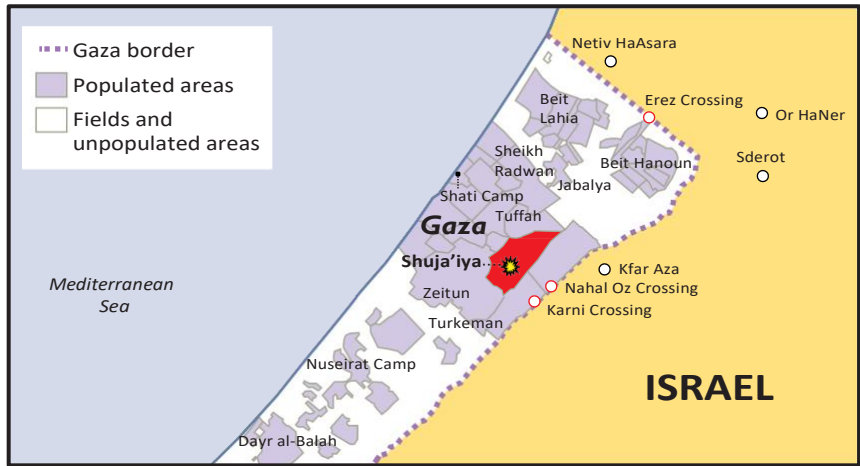
SOURCE: "Live Updates: Operation Protective Edge, Day 13," *Haaretz*, July 20, 2014.
RAND *RR1888-4.8*

---

[146] UNHCR, *Report of the Detailed Findings of the Commission of Inquiry on the 2014 Gaza Conflict*, A/HRC/29/CRP.4, June 24, 2015.

[147] "More Than 65 Killed in Israeli Shelling in Gaza City," Reuters via Ynetnews.com, July 20, 2014.

to 900 Hamas fighters holed up the neighborhood.[148] More impor-
tant, at least six cross border tunnels running into Israel originated in
Shuja'iya (Figure 4.9). The IDF consequently knew that the question
was when—not if—they would need to enter the neighborhood. Ulti-
mately, the task fell to the IDF's 1st Golani Brigade in one of the fierc-
est and most controversial battles of the war.

The IDF planned to send two battalions of the Golani Brigade
into Shuja'iya in what was essentially a movement-to-contact opera-

Figure 4.9
Shuja'iya Tunnel Fight
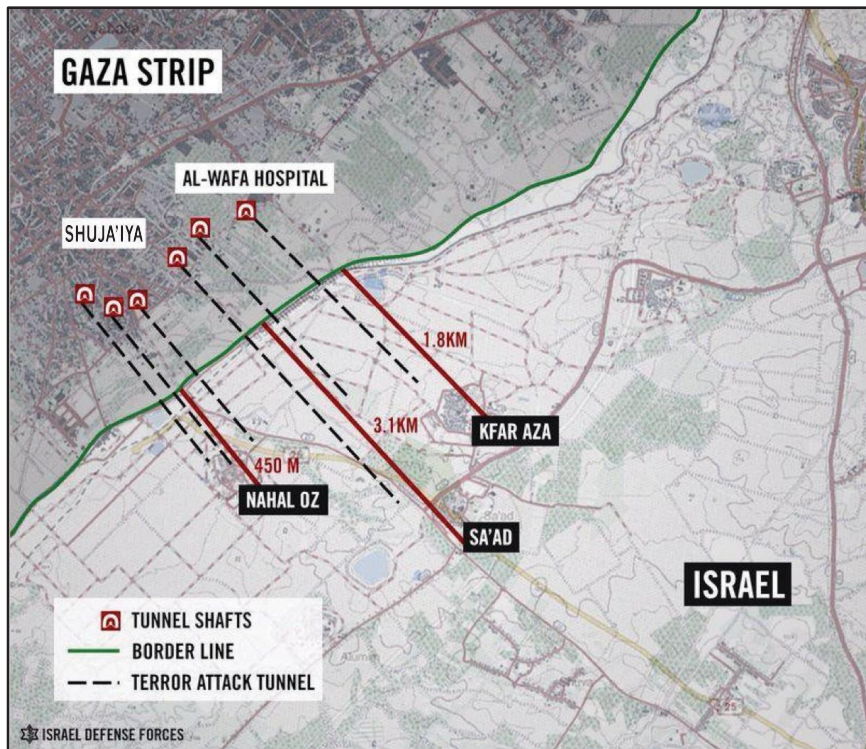
SOURCE: Israel Ministry of Foreign Affairs, Twitter post, July 25, 2014.
RAND RR1888-4.9

[148] Yaakov Lappin, "Inside the IDF's War in Shejaia to Save Southern Israel," *Jerusalem Post*,
July 28, 2014b.

tion, where they would advance until they met resistance and thereby flush out Hamas forces.[149] The IDF leadership recognized that this would be a tough mission, which is why they selected the Golani Brigade—which had a reputation as an "ask no questions and fight like hell and get the job done" unit—to carry it out.[150] The IDF also chose the Golani infantry brigade—as opposed to an armor unit—because they needed more dismounted soldiers to look for the tunnels.[151]

In hindsight, the choice of the Golani Brigade also had significant limitations. The brigade commander was new to his position. According to journalists, he also lacked charisma and clashed with his superiors.[152] The brigade also had insufficient numbers of Namer armored personnel carriers, forcing some of the forces to rely on the older M113s.[153] In this respect, Golani's legendary bravado may have gotten the better of them. While a Golani soldier later told a journalist that they could have gone in with anything, "even in a toddler's toy car," their lack of armor ultimately proved deadly.[154] Golani also encountered operational problems. A disagreement between Southern Command and the General Staff about the readiness of the forces and the timing of the operation delayed Golani's assault by a day, giving Hamas additional time to prepare.[155]

The preparations for the Battle for Shuja'iya began even before the Kibbutz Sufa tunnel attack. Beginning on July 16 and continuing through July 19, the IDF began dropping 150,000 leaflets, broadcasting over television and radio, and phoning the residents of Shuja'iya, informing them of the impending attack and warning them to vacate

---

[149] Meeting with Israeli academics, Begin-Sadat Center for Strategic Studies, Bar Ilan University, Tel Aviv, May 22, 2016.

[150] Interview with an Israeli journalist, Tel Aviv, May 24, 2016.

[151] Meeting with Israeli academics, Begin-Sadat Center for Strategic Studies, Bar Ilan University, Tel Aviv, May 22, 2016.

[152] Interview with an Israeli journalist, Tel Aviv, May 24, 2016.

[153] Interview with an Israeli journalist, Tel Aviv, May 24, 2016.

[154] Interview with an Israeli journalist, Tel Aviv, May 24, 2016.

[155] Interview with a retired senior IDF officer, Tel Aviv, May 24, 2016.

the area.[156] Not all the residents of Shuja'iya complied—some spoke with the press and explained that they did not feel safe anywhere in Gaza and therefore did not leave their homes. Others said that they were too scared to be outside.[157] And Israeli intelligence was unclear about how many civilians remained. Indeed, one Southern Command staff officer admitted,

> We couldn't really get the right intelligence about what happened in Shaja'iya . . . we didn't have an agreement on the intelligence, and because of that [there was a disagreement] with the legal advisors about whether that area could be called clear [of civilians].[158]

The lack of clarity over Hamas's precise positions and the number of civilians in the area limited the IDF's ability to strike targets from the air ahead of the ground incursion.[159]

On the night of July 19, three days after the start of the ground phase of Protective Edge, the IDF at last gave Golani the green light to advance. Other units in the 36th Division maneuvered elsewhere along the fence near Gaza as part of a deception effort to give Golani some element of tactical surprise. The deception failed, however. After several days of warnings, Hamas was ready for the Golani assault.[160] As Golani crossed the fence line, they received fire. Two out of three platoon commanders in the company of the leading battalion were wounded, but the company pressed on.[161]

Inside, Golani encountered stiff resistance—mostly from small arms, RPGs and ATGMs—in what would ultimately turn into a

---

[156] State of Israel, 2015, pp. 173–174.

[157] Harriet Sherwood, "In Gaza, Hamas Fighters Are Among Civilians. There Is Nowhere Else for Them to Go," *The Guardian*, July 24, 2014.

[158] Interview with a retired senior IDF officer, Tel Aviv, May 24, 2016.

[159] Interview with a senior IDF officer, Tel Aviv, May 26, 2016.

[160] Interview with a retired senior IDF officer, Tel Aviv, May 24, 2016.

[161] Interview with a senior IDF officer, Tel Aviv, May 26, 2016.

seven-hour firefight.[162] Newer vehicles, especially those equipped with active protection systems, fared reasonably well, but not all of Golani's vehicles were new. One of Golani's M113s — an American-made Vietnam-vintage armored personnel carrier — broke down, but rather than leaving the vehicle as doctrine would dictate, the squad remained in it.[163] Hamas fired RPGs at the disabled vehicle, killing its seven occupants.[164] One of the soldiers was first reported as captured, triggering a frantic rescue effort, but later was reported as killed.[165]

The situation in Shuja'iya continued to disintegrate. Subsequent recovery efforts to rescue the downed vehicle similarly met fierce resistance.[166] IDF patrols also encountered booby-trapped houses and an intricate tunnel network, including the entrances to the six cross-border tunnels.[167] As they cleared houses, the IDF casualties continued to mount. Adding to the increasingly precarious situation, the brigade commander and two battalion commanders were wounded, a result of the IDF's preference after the 2006 Lebanon War to deploy their leadership far forward on the battlefield. The brigade commander required evacuation to hospital.[168]

In response, the IDF turned to firepower. The Golani Brigade ordered its soldiers to hunker down inside its Namer armored personnel carriers and called in air support and indirect fire.[169] The air strikes

---

[162] Meeting with Israeli academics, Begin-Sadat Center for Strategic Studies, Bar Ilan University, Tel Aviv, May 22, 2016; Anne Barnard and Isabel Kershner, "Neighborhood Ravaged on Deadliest Day So Far for Both Sides in Gaza," *International New York Times*, July 20, 2014.

[163] Interview with a retired senior IDF officer, Tel Aviv, May 24, 2016.

[164] Amos Harel, "Soldiers Killed in Gaza Were Deployed in 50-Year-Old APC," *Haaretz*, July 20, 2014a.

[165] "Israel Changes Status of 2 Soldiers Whose Bodies Are Held by Hamas," *Times of Israel*, June 10, 2016.

[166] Mark Perry, "Why Israel's Bombardment of Gaza Neighborhood Left U.S. Officers 'Stunned,'" *Al Jazeera America*, August 27, 2014.

[167] State of Israel, 2015, p. 48.

[168] Interview with a retired senior IDF officer, Tel Aviv, May 24, 2016.

[169] Lappin, 2014b.

came increasingly close to Golani's positions—whittling down the minimum safe distances to as close as 250 meters.[170] At least three battalions of artillery also opened up in support of the Golani Brigade, firing as close as 100 meters.[171] One journalist account reported an artillery officer as saying "[if the artillery did not open fire], I knew we would be getting 600 body bags back."[172] Ultimately, the artillery engaged in an artillery barrage lasting approximately 20 minutes.[173] All in all, IDF artillery fired some 600 rounds on Shuja'iya, while IAF planes dropped about 100 2,000-pound bombs.[174] At last, Shuja'iya fell silent.

While the battle of Shuja'iya ended on July 20, the controversy over the operation was just starting. The IDF lost 13 soldiers in the battle. Palestinian casualties vary depending on which source is being cited, but Gaza's primary Shifa hospital director placed the figure at 65 killed, including 35 women, children, and elderly, with another 288 wounded.[175] Palestinian officials denounced Israel's attack on Shuja'iya as a "massacre," and international pressure mounted on the Israeli government to explain the heavy casualty toll being inflicted on Gaza civilians.[176] Specifically, the IDF's use of firepower in Shuja'iya provoked criticism from U.S. Secretary of State John Kerry (who said sarcastically, "It's a hell of a pinpoint operation"), the UN, and even

---

[170] Interview with an Israeli journalist, Tel Aviv, May 24, 2016; interview with a retired senior IDF officer, Tel Aviv, May 24, 2016.

[171] Lappin, 2014b; Perry, 2014; Daniel Cohen and Danielle Levin, "Operation Protective Edge: The Cyber Perspective," in Anat Kurz and Shlomo Brom, Eds., *The Lessons of Protective Edge*, Tel Aviv, Israel: Institute for National Security, 2014.

[172] Lappin, 2014b.

[173] Lappin, 2014b.

[174] Gili Cohen, "IDF: Bloodiest Battle in Gaza Could Have Been Much Worse," *Haaretz*, July 28, 2014.

[175] "More Than 65 Killed in Israeli Shelling in Gaza City," 2014.

[176] Perry, 2014.

from corners of the U.S. military.[177] Investigating the operation, the UN wrote:

> The sheer number of shells fired, as well as the reported dropping of over 100 one-ton bombs in a short period of time in a densely populated area, together with the reported use of an artillery barrage, raise questions as to the respect by the IDF of the rules of distinction, precautions and proportionality.[178]

Inside Israel, there were other debates, such as why the Golani soldiers were inside Gaza in a 50 year-old vehicle to begin with, as opposed to the better-protected Namer.[179]

In response, the IDF first notes that it warned Shuja'iya's civilians ahead of time of the impending operations, even at the risk of tipping off Hamas and risking their own soldiers' safety. Moreover, it argues that much of the areas of most intense destruction in Shuja'iya overlapped with military targets (see Figure 4.10). Finally, even after the battle of Shuja'iya, Hamas still maintained a presence in the area. On July 28, just over a week after the battle ended, nine Hamas militants infiltrated Israel just two miles from Kibbutz Nahal Oz.[180] A firefight followed, killing five IDF soldiers.[181] The IDF also discovered a tunnel complete with motorcycles and weapons.[182] Reportedly, the tunnel led back to Shuja'iya.[183]

As for using M113s inside Gaza, most IDF officers interviewed for this report admit that the Golani Brigade made tactical mistakes

---

[177] Perry, 2014; United Nations General Assembly, "Bureau of Committee on the Exercise of the Inalienable Rights of the Palestinian People Strongly Condemns Ongoing Israeli Military Operation in Gaza," GA/PAL/1311, United Nations, July 21, 2014.

[178] UNHCR, 2015.

[179] Interview with a retired senior IDF officer, Tel Aviv, May 24, 2016.

[180] State of Israel, 2015, pp. 69–70.

[181] State of Israel, 2015, p. 50.

[182] State of Israel, 2015, pp. 69–70.

[183] Lea Speyer, "Terrorists Attempt to Steal Dead Body of IDF Soldier," *Breaking Israel News*, July 29, 2014.

Figure 4.10
Destruction in Shuja'iya
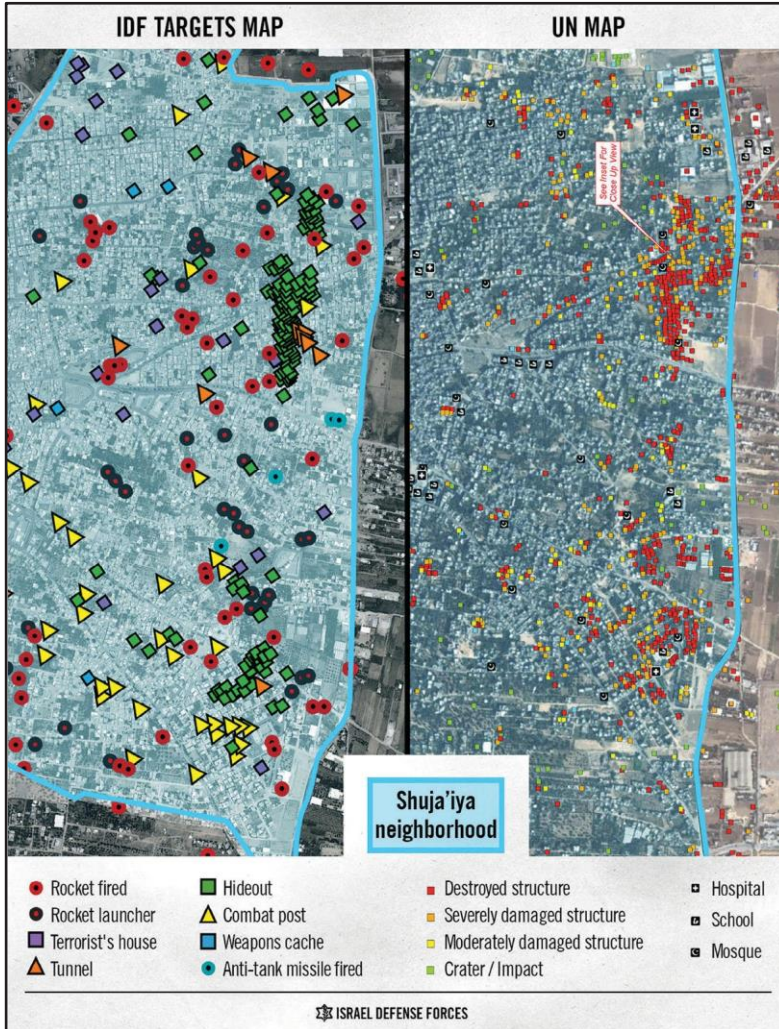
SOURCES: IDF, "IDF Targets Versus UN Map," 2014a; UNOSAT, 2014.

RAND *RR1888-4.10*

during the battle but deny any more fundamental problems. As one Israel defense think-tank analyst commented, the M113's loss was

> a tactical failure of the commanders of the area. In the future, the IDF will send APCs [armored personnel carriers] to this area again. It's war. Vehicles get hit and soldiers die. Not every time a soldier dies has there been a failure. This is what war looks like.[184]

Ultimately, the battle of Shuja'iya was not—as Kerry noted—"a pinpoint operation," but it also was not dramatically dissimilar from American-conducted major urban operations, such as the 2004 Second Battle of Fallujah or the 2008 Battle of Sadr City. When conventional troops clear irregular forces from a dense urban center and meet determined resistance, the result more often than not is massive destruction and, unfortunately, civilian loss of life. The grim reality is also that the amount of destruction may have altered Hamas's political calculus. According to an Israeli journalist who interviewed Hamas officials during the war, Hamas expected that its ability to inflict significant IDF casualties during the battle would boost their domestic support within Gaza, but the support never materialized. "This was because killing Israelis wasn't worth the devastation in Shuja'iya. Around this time, public opinion started to change because they didn't feel they were getting the benefits for tolerating the bombing of Gaza by Israel. The Palestinians eventually had enough."[185]

162nd Division's Meets Sporadic Resistance in the North

Most units deployed in Operation Protective Edge never faced the same stiff resistance that Golani did in Shuja'iya. Just to Golani's north, the 162nd Division—with the Nahal Brigade and the 401st Armor Brigade—faced significantly lighter opposition in Beit Hanoun and Beit Lahia areas of the Gaza Strip.[186] The division faced comparatively

---

[184] Interview with an Israeli think-tank analyst, Tel Aviv, May 23, 2016.

[185] Interview with an Israeli journalist, Tel Aviv, May 24, 2016.

[186] Amos Harel, "Top General in Gaza War: We Could Have Retaken the Strip," *Haaretz*, October 10, 2014c.

fewer engagements and suffered lighter casualties than its counterparts, despite the fact that the Nahal Brigade was one of the first conventional units to enter the Gaza Strip.[187] In a postwar interview, the senior intelligence officer of the Nahal Brigade stated that Hamas resistance

> was less [than expected]. From the moment the ground offensive began in our sector of northern Gaza, the enemy ran away. Its commanders disappeared on the first day of the air campaign.[188]

The 162nd Division still met pockets of resistance. On July 21, 12 Hamas militants disguised as IDF soldiers emerged from a tunnel inside Israel approximately 1.3 km from Kibbutz Nir Am and 1.1 km away from the Israeli city of Sderot.[189] The Hamas fighters then maneuvered to Kibbutz Nir Am before encountering IDF soldiers.[190] In the ensuring engagement, the Hamas operatives fired an ATGM at a vehicle, killing four soldiers, including one of Nahal's battalion commanders — one of the highest-ranking officers killed in the conflict.[191]

A few days later, on July 25, in a battle nicknamed "17 minutes in hell," soldiers of Nahal Battalion 931, along with special operations forces from the Yahalom engineering battalion and Oketz (the canine unit), engaged 18 Hamas militants. All the militants were killed, along with two IDF soldiers, and the company commander was wounded in the action.[192] Both Battalion 931 and Oketz later received unit citations

---

[187] Harel, 2014c; Yoav Zitun, "IDF's Givati Brigade Most Highly Decorated Unit," Ynet-news.com, February 3, 2015.

[188] Yaakov Lappin, "Hamas Less of a Threat to Ground Forces in Gaza Than Previously Thought, Intel Officer Tells Post," *Jerusalem Post*, August 25, 2014c.

[189] State of Israel, 2015, p. 69.

[190] State of Israel, 2015, p. 69.

[191] Yonah Jeremy Bob, "You'll Miss Our Kids Starting First Grade, Bat Mitzva, Weddings,'" *Jerusalem Post*, July 23, 2014; Prime Minister's Office, "Lieutenant Colonel Dolev Keidar," July 21, 2014.

[192] "17 Minutes in Hell," Israel Foreign Affairs, website, May 2, 2016.

for Protective Edge after the war.[193] Overall, the Nahal Brigade lost six of the 162nd Division's seven fatalities during the war.[194]

Perhaps, the most controversial event in the 162nd Division's area of operations occurred on July 24, when reportedly 15 Palestinians were killed and 200 wounded in a strike on a United Nations Relief and Works Agency (UNRWA) school near Beit Hanoun.[195] The IDF first attributed the attack to a Hamas rocket falling short, but once it was noted that the school was later struck by Israeli fire, the IDF reported that it had warned civilians in the area to evacuate.[196] In a postwar interview with journalists, however, the 162nd Division Commander later claimed that Beit Hanoun was largely evacuated by the time of the ground incursion, except for a handful of Hamas fighters and argued that Hamas may have staged the casualties from another area.[197]

Mostly, however, Nahal and 401st Brigades encountered sporadic sniper fire and ATGM attacks, as they searched the area for cross-border tunnels and rocket launchers.[198] Soldiers who fought in this area reported rarely seeing the Hamas militants who fired on them.[199] Active protection systems mounted on the Merkava IV tanks proved their worth by minimizing the impact of ATGM attacks.[200] In fact, in a postwar interview, the division commander argued that the IDF could have pushed farther into the Strip if needed. "When you take

---

[193] Zitun, 2015.

[194] Lappin, 2014c.

[195] Peter Beaumont, "Israeli Strike on Gaza School Kills 15 and Leaves 200 Wounded," *The Guardian*, July 24, 2014b.

[196] Beaumont, 2014b.

[197] Harel, 2014c.

[198] Amos Harel, "With the Troops in the Strip in Gaza, Israel's Facebook Generation Fights Well," *Haaretz*, July 26, 2014b.

[199] Breaking the Silence, 2014, pp. 32–33.

[200] Harel, 2014b.

into account the total number of kilometers traversed by our forces in Gaza, we could have taken it over twice."[201]

Ultimately, aside from a handful of new weapon systems and some refinements to tunnel-clearing techniques, much of the 162nd Division's fight was not particularly innovative. The 162nd Division commander later told journalists, "We got into the war with only a moderate ability to deal with the tunnels. That improved during the fighting, and we learned a great deal. You learn how Hamas booby-traps tunnel shafts, how they defend the area. This wasn't new to us."[202] Some lower-level officers agreed. Another IDF officer similarly remarked, "I did not participate in Protective Edge, but I took my car and drove to the 401st Brigade (his old unit) to see what they were doing. I found that they were fighting the last war — planning the same operation as Cast Lead."[203]

The 188th and 7th Armored Brigades' Fight in the Center of the Strip

The IDF placed the 188th and 7th Armored Brigades in the center of the Gaza Strip. Before the ground incursion, elements of these brigades practiced advancing all the way to the sea, bifurcating Gaza, similar to what occurred in Operation Cast Lead.[204] Some battalions were notified only 24 hours before crossing into Gaza that they would instead conduct a more narrowly targeted operation aimed at rooting out the tunnel networks.[205]

This shift proved necessary. On July 19, ten Hamas militants — equipped with tranquilizers and handcuffs, presumably for kidnapping Israelis — emerged from a tunnel about 4.7 km from Kibbutz Be'eri, an Israeli settlement southeast of Gaza city inside of Israel. The IDF eventually neutralized the attackers, but not before needing to order five

---

[201] Harel, 2014c.

[202] Harel, 2014a.

[203] Interview with mid-grade IDF officer, Tel Aviv, May 23, 2016.

[204] Interview with mid-grade IDF officer, Tel Aviv, May 24, 2016.

[205] Interview with mid-grade IDF officer, Tel Aviv, May 24, 2016.

residential communities to lock themselves in their houses as a security precaution.[206]

That same day, the elements of the 7th Armored Brigade crossed the border into Gaza, looking for the cross-border tunnels. The 75th Tank Battalion—one of the 7th Armored Brigade's subordinate units—engaged one- and two-man Hamas elements in its advance and found two tunnel openings in its area of operations, one located near a mosque and the other in an olive grove near an infirmary.[207] In the 75th Tank Battalion's case, the biggest threat came from Hamas rocket and mortar fire when they assumed defensive positions, rather than from more direct engagements.[208]

The 188th Armored Brigade did not get off as lightly. The 188th—stationed in between the 7th and Golani Brigades—was called in to reinforce the Golani Brigade during the battle of Shuja'iya.[209] Equipped with earlier model Merkava tanks, the 188th also battled logistical challenges during the operation when dozens of its tanks were rendered temporarily inoperable because of equipment malfunctions.[210]

In such towns as Dayr al-Balah, armored and mechanized forces pushed in to clear the towns and search for tunnel openings. They would destroy buildings that occupied the relative high ground, which allowed Hamas to conduct mortar attacks against the nearby settlements in Israel.[211] Orchards also attracted a significant amount of attention, since patrols reported being told that Hamas had hidden explosives and tunnels there.[212]

---

[206] State of Israel, 2015, p. 69.

[207] Interview with mid-grade IDF officer, Tel Aviv, May 24, 2016.

[208] Interview with mid-grade IDF officer, Tel Aviv, May 24, 2016.

[209] IDF, "A Soldier's Account from Gaza: How Hamas Used Human Shields," blog post August 25, 2014d.

[210] Zitun, 2015.

[211] Breaking the Silence, 2014, p. 39.

[212] Breaking the Silence, 2014, pp. 64, 80.

84th Givati, 35th Paratrooper and 460th Armored Brigades Fight in Khan Yunis and Rafah

With the possible exception of Golani's fight in Shuja'iya, the southern Gaza Strip saw some of the fiercest fighting of the war. Indeed, the three southernmost units on the Israel flank — the 84th Givati Brigade, the 35th Paratrooper Brigade, and the 460th Armored Brigade — earned postwar citations for distinguished service and the 84th Givati became the most decorated brigade of the entire operation.[213]

Fighting both Hamas and PIJ, the 35th Paratroop Brigade and the 460th Armored Brigade confronted houses rigged to explode while searching for tunnels in Khan Yunis in the south of Gaza Strip. The Paratroopers — along with Nahal in the north — were one of the first brigades to enter Gaza during the ground phase of the war.[214] On July 23, three paratroopers were killed and another three were wounded when they entered a booby-trapped house.[215] On July 24, an UNRWA school in Beit Hanoun being used as a shelter was struck, resulting in at least 11 fatalities, including seven children and two women,[216] as well as UN staff.[217] Some 110 civilians, including 55 children and 31 women, were wounded.[218] Israel did not formally assume responsibility for the attack, but said that the school shelling could have been caused by Israeli forces.[219]

In another encounter on July 30, soldiers from the 460th Armored Brigade, along with the Maglan special operations engineering unit

---

[213] Zitun, 2015.

[214] Breaking the Silence, 2014, p. 95.

[215] Mitch Ginsburg, "Three Soldiers Killed in a Booby-Trapped House in Gaza," *Times of Israel*, July 23, 2014.

[216] PCHR, "On the 18th Day of the Israeli Offensive on Gaza: Israeli Warplane Attack Shelter of Displaced Civilians Killing 11 and Wounding Dozens; Israeli Forces Attack Medical Crews and Ambulances; Israeli Forces Attack Gaza from the Air, the Sea and the Ground," web page, July 25, 2014.

[217] Ibrahim Barzak and Ian Deitch, "UN School Sheltering Palestinians in Gaza Caught in Cross-Fire; 15 Killed," Associated Press, July 24, 2014.

[218] PCHR, 2014.

[219] "Israel's 'Errant Fire Could Have Caused School Shelling,'" ITV, July 24, 2014.

and a canine unit, searched for tunnel openings near an UNRWA clinic. When the canine and bomb disposal team went in to search a building, the house exploded, killing three soldiers. A dozen others were wounded from a collapsing wall.[220]

At the extreme southern flank of the IDF's line, the 84th Givati Brigade had arguably one of the most distinguished, but also the most controversial performances of the war. During Protective Edge, Givati held a "home field advantage." Some of its battalions were on the Gaza border for four months before the operation, so most of its soldiers were familiar with the area. Its battalions, however, were often augmented by reserve armor companies. In the estimation of at least one Givati battalion commander, these units were "excellent" and "in some ways better than my soldiers."[221] Once the ground phase kicked off, Givati forces moved inside Gaza—usually protected by tanks—often riding in Namer armored personnel carriers by day and walking by night—to minimize the noise. Unlike units farther north, the Givati Brigade faced fewer 60-mm mortar attacks. Instead, the bulk of the threat came from Hamas fighters who popped out of the tunnel networks as the unit attempted to clear their area of operations.[222]

The Givati Brigade was involved in two incidents, however, that later attracted international controversy. The first incident occurred in Khuza'a, a small agricultural village just outside of Khan Yunis and a few hundred meters inside of Gaza border. According to accounts from journalists and nongovernmental organizations, the IDF warned the civilian population to evacuate the border town in advance of operations on the morning of July 20, but many either did not leave or left only to return in the evening once the expected IDF assault did not occur. The following day, however, the IAF bombed the roads into the village and elements of the Givati Brigade moved into the town. According to reports from journalists and Human Rights Watch, the Khuza'a then existed in a state of siege as the IDF prevented them from leaving, despite being short of food and water. IDF soldiers also

[220] "Live Updates: Operation Protective Edge, Day 23," *Haaretz*, July 30, 2014.

[221] Interview with a mid-grade IDF officer, Tel Aviv, May 23, 2016.

[222] Interview with a mid-grade IDF officer, Tel Aviv, May 23, 2016.

allegedly killed civilians, including at least one waving a white flag, although the circumstances surrounding the incident remain murky.[223]

IDF accounts of the Khuza'a operation paint a starkly different picture: that of a bitter fight against the nerve center for Hamas activity in the area. Indeed, an official Israeli report details interrogation reports of captured Palestinian militants describing how the Khuza'a's early childhood education center served as a waylay point for captured Israeli soldiers and how Khuza'a's Al-Taqwa mosque doubled as a Hamas command center.[224] The reports seemed to be confirmed by events. On July 29, the IDF engaged in a firefight in the mosque and discovered weapons—including antitank missiles and sniper rifles— and two tunnel entrances (the IDF later released photographs of both the missiles and the tunnels).[225] The IDF also tried, through its Coordination Liaison Authority, to send relief supplies and medical help to Khuza'a, but the rubble blocked the route, delaying the arrival of supplies.[226] Finally, as for the claims of abuse of civilians, the IDF also opened several criminal investigations into alleged abuses in Khuza'a.[227]

The second and perhaps even more controversial incident occurred on August 1, which became known as Black Friday. On the night of July 31–August 1, the UN and United States led an effort to broker a cease-fire to allow for peace negotiations. Announced at approximately 1:18 a.m., the cease-fire went into effect the next day at 8 a.m. local time.[228] In Rafah, a town on Gaza Strip's extreme southern end, Givati forces maneuvered to isolate a tunnel entrance before the cease-fire went into effect.[229]

---

[223] Simone Wilson, "What Really Happened in the Battle of Khuzaa, Gaza?" *Jewish Journal*, September 4, 2014; Creede Newton, "Legal Battles on Horizon in the Ruins of Gaza," *Al Jazeera*, February 21, 2015.

[224] State of Israel, 2015, pp. 89, 94.

[225] State of Israel, 2015, pp. 165–166.

[226] State of Israel, 2015, p. 207.

[227] State of Israel, 2015, p. 235.

[228] Amnesty International and Forensic Architecture, "'Black Friday': Carnage in Rafah," undated.

[229] Amnesty International and Forensic Architecture, undated.

What happened next is a matter of debate. According to Hamas, the militants and Israeli forces clashed at approximately 7 a.m. — or before the cease-fire went into effect. According to the Israeli narrative, at approximately 9 a.m. (after the cease-fire went into effect), six members of a Givati reconnaissance unit reported that they were going to detain a suspicious person at a greenhouse that was about 150 m away from the position. The team divided into two three-man elements.[230] Shortly thereafter, soldiers from one of the teams reported hearing an explosion and bursts of fire. Responding to the scene, they found two IDF soldiers and a Hamas militant dead. One IDF soldier, Second Lieutenant Hadar Goldin, was missing (according to the Hamas narrative, Goldin was taken during the earlier firefight at 7 a.m.). They also found an entrance to the tunnel.[231] The entire firefight lasted only one minute.[232]

Goldin's suspected capture prompted the IDF to invoke the Hannibal directive, which is the IDF's standing instructions on how to respond to the potential kidnapping of soldier and has been revised over the decades as circumstances changed.[233] One of these incidents occurred on June 25, 2006, when Hamas kidnapped Gilad Shalit and then held him until 2011, when he was exchanged for 1,027 Palestinian security prisoners.[234] The lopsided nature of swap, which many Israelis felt ultimately jeopardized their security, led some IDF officers to take a hard-line approach on preventing kidnapping.

At its basic level, the directive states that IDF forces should do everything in their power to prevent a soldier from being kidnapped, even if those actions risk the life of the captured soldier[235] — although

---

[230] A Givati Battalion commander later admitted that this proved to be a tactical mistake and that soldiers should operate in larger elements to avoid the risk of kidnapping. Interview with a mid-grade IDF officer, Tel Aviv, May 24, 2016.

[231] Amnesty International and Forensic Architecture, undated.

[232] Interview with a mid-grade IDF officer, Tel Aviv, May 23, 2016.

[233] Interview with an Israeli journalist, Tel Aviv, May 24, 2016.

[234] State of Israel, 2015.

[235] Interview with an Israeli journalist, Tel Aviv, May 24, 2016.

IDF soldiers may not deliberately kill the kidnapped soldier.[236] As one Israeli senior defense policy official explained,

> For example, if the kidnapped soldier is in a car, you can shoot the engine, but you are not allowed to shoot him. The government tried to be as clear as possible in the order. You have the permission to take more risks, but you cannot intentionally kill the soldier.[237]

The Hannibal directive also has operational implications. A senior IDF officer at Southern Command noted,

> From a practical perspective, Hannibal is effective. In 50 seconds, you alert the system from the chief of staff down to the private. A unit prepares for this within seconds and changes its mode of action; this is a good thing. Because of this language and procedures, he knows that they disrupted the action of the kidnapping, even though they couldn't get the body back.[238]

Functionally, these procedures consist of employing a combination of artillery, infantry, and IAF resources to block potential escape routes; this functionally means ample uses of firepower.[239]

The Hannibal directive led to a significant military response in Rafah. Within minutes of the directive being invoked, artillery units engaged approximately seven targets. More followed as the day progressed, about 85 percent of which targeted preplanned targets (mostly potential escape routes).[240] The IAF also conducted strikes approximately 50 minutes after the directive was invoked.[241] Meanwhile, a four-man Givati team did an initial search of the tunnel entrance, but

---

[236] Interview with an Israeli journalist, Tel Aviv, May 24, 2016.

[237] Interview with a senior IDF policymaker, Tel Aviv, May 25, 2016.

[238] Interview with a senior IDF officer, Tel Aviv, May 26, 2016.

[239] Interview with a senior IDF policymaker, Tel Aviv, May 25, 2016.

[240] Benny Mehr, "The Lessons Regarding Statistical Artillery," *Israel Defense*, June 20, 2016.

[241] Mehr, 2016.

did not want to pursue too deeply into the tunnel for fear of being captured themselves. A few hours later, special operations forces pushed farther into the tunnel and found some of Goldin's personal artifacts, along with bloodstained parts of this uniform.[242] Simultaneously, Givati forces—backed up by an armor battalion—fanned out around the area.[243] Eventually, based on evidence gathered from the tunnel, the IDF determined on August 2 that Goldin likely died from his wounds. Operations continued in Rafah until August 3, however,[244] and Goldin's body was never recovered. Fighting in the Gaza Strip continued until a new cease-fire was negotiated to go into effect on August 5, marking a new phase in the campaign. The attack, consisting of 40 IAF air strikes, 1,000 artillery shells, multiple air-launched bombs and missiles, and bulldozers, flattened a large number of houses and other buildings.[245]

As with other instances of intense combat during Protective Edges, critics—including such nongovernmental organizations as Amnesty International—allege that the IDF responded with disproportionate force in Gaza and killed anywhere from 29 to more than 140 Palestinian civilians in the process.[246] From its perspective, the IDF maintains it used necessary force to prevent the loss of one its soldiers. Moreover, it notes that the IDF conducted an extensive internal review of the Hannibal directive.[247] The Givati Brigade commander was later cleared of wrongdoing, but in June 2016, the IDF announced it was revoking the controversial Hannibal directive.[248]

---

[242] Amnesty International and Forensic Architecture, undated.

[243] Amnesty International and Forensic Architecture, undated.

[244] Amnesty International and Forensic Architecture, undated.

[245] Ahron Bregman, "UN War Crimes Panel Must Investigate Israeli Colonel Who Brought 'Holy War' to Gaza," *The Conversation*, August 18, 2014.

[246] Amnesty International and Forensic Architecture, undated; Yonah Jeremy Bob, "Analysis: Colonel's Promotion Signals All Clear on Controversial Hannibal Protocol Incident," *Jerusalem Post*, July 8, 2015.

[247] State of Israel, 2015, p. 187.

[248] Bob, 2015; Isabel Kershner, "Israeli Military Revokes Use of Maximum Force to Foil Captures," *New York Times*, June 28, 2016.

Table 4.1
Operation Protective Edge Cease-Fires

Date and Time	Unilateral or Coordinated	Violations	IDF Activity During Suspension
July 15, 0900–1500	Brokered by Egypt	Rejected by Hamas; 56 rockets fired (including long range to Haifa)	
July 20, 1330–1630 (Shuja'iya)	Unilaterally declared by Israel; accepted by Hamas	Rockets fired and attacks conducted against IDF forces, including from within a school, at approximately 1400	Suspension extended unilaterally to 1730
July 26, 0800–2000	Coordinated		Israel agreed to extend by four hours; rejected by Hamas
July 28 (Eid Al-Fitr holiday in Gaza)	Proposed by UN Security Council and accepted by Israel and Hamas	Continued firing of rockets into Israel, infiltration through a tunnel into Israel, and attacks against IDF forces in the Gaza Strip	
August 1 (start at 0800 for three days)	Coordinated on the basis of a UN/U.S. proposal	Attack against IDF forces, attempted kidnapping of an IDF soldier	Cancellation of suspension following violation by Hamas
August 5 (start at 0800 for three days)	Coordinated	Firing at Kerem Shalom Crossing	
August 11 (start at 0000 for three days)	Coordinated	Rocket fire toward southern Israel	
August 14 (start at 0800 for five days and then extended on August 18 for another 24 hours	Coordinated	50 rockets and mortars fired toward southern Israel after the suspension was extended by 24 hours	

SOURCE: State of Israel, 2015, p. 212

Phase III: The Illusive Cease-Fire (August 5–26)

By August 3, the IDF had destroyed most of the cross-border tunnel infrastructure and withdrew its forces from Gaza.[249] On August 5, Israel agreed to an Egyptian-proposed 72-hour cease-fire.[250] Operation Protective Edge entered its third and final phase, consisting of a series of multiday, coordinated cease-fires, punctuated by periods of violence (see Table 4.1). The cease-fires would typically break down as Hamas and other Palestinian militants fired rockets into Israel—and Israel, in turn, conducted air strikes targeting senior Palestinian leadership.

Between August 5 and August 18, Egypt attempted to broker a cease-fire, to no avail. While the IDF achieved its tactical objectives during the ground operation, it failed to deter Hamas and other Gaza-based militant groups from launching rockets into Israel. As a result, a series of multiday cease-fire agreements proposed by Egypt failed to gain traction with the combatants, as Gaza militants continued firing periodic barrages toward Israel.[251] Israel would intercept rockets and occasionally conduct air strikes in response.[252] The two sides remained apart on two main issues—Israel wanted Hamas to disarm, or at least ensure it could not rearm, and Hamas demanded that Israel lift the blockade on the Gaza Strip.[253]

On the afternoon of August 19, rockets from Gaza fell on Tel Aviv and southern Israel.[254] That night, Israel hit back hard. It dropped five bombs on the house of Mohammed Deif (the commander of Izz ad-Din al-Qassam Brigades, or Hamas's military wing), killing his

---

[249] Database Desk, "Operation 'Protective Edge': A Detailed Summary of Events," web page, International Institute for Counterterrorism, IDC Herzliya, December 7, 2014.

[250] Database Desk, 2014.

[251] Database Desk, 2014.

[252] "Gaza Crisis: Toll of Operations in Gaza," BBC News, September 1, 2014.

[253] Tia Goldenberg and Ibrahim Barzak, "Israel, Hamas Dig In as Gaza Talks Go On in Cairo," Associated Press, August 7, 2014.

[254] Database Desk, 2014.

wife and children.[255] Hamas claimed that Deif himself survived the attack and promised revenge.[256] (Months later, Hamas also captured and executed another senior Hamas official for allegedly betraying Deif to the Israelis).[257]

The attempted assassination of Deif set off a renewed wave of violence. Immediately after the attack, Hamas fired 175 rockets into Israel.[258] Later rocket attacks drew blood, especially in the Israeli settlements near Gaza. On August 21, a rocket wounded an Israeli man near an early childhood facility.[259] The following day, a four-year-old Israeli was killed in a mortar attack near his home in Kibbutz Nahal Oz.[260] In response, the IAF conducted an estimated 100 air strikes.[261] Israel also targeted three senior Hamas leaders—including one believed responsible for the 2006 kidnapping of IDF Corporal Gilad Shalit and another believed in command of Hamas forces in Southern Gaza—in air strikes.[262] The violence continued for the next couple days unabated. A Palestinian mortar strike near the Erez Crossing on August 24 wounded three Israeli Arabs,[263] and the IDF targeted a senior Hamas financier in a missile strike.[264]

In an interview on August 25, Hamas's exiled political leader, Khaled Mashaal, called on President Barack Obama to push Israel

---

[255] Daniel Rubenstein, "Key Moments in a 50-Day War: A Timeline," in Hirsh Goodman and Dore Gold, eds., *The Gaza War 2014: The War Israel Did Not Want and the Disaster It Avoided*, Jerusalem, Israel: Jerusalem Center for Public Affairs, 2015b, p. 161; Database Desk, 2014.

[256] Database Desk, 2014.

[257] Elior Levi, "Hamas Executes Member Who May Have Betrayed Deif's Location," Ynetnews.com, February 7, 2016.

[258] Database Desk, 2014.

[259] Database Desk, 2014.

[260] Database Desk, 2014.

[261] Database Desk, 2014.

[262] Rubenstein, 2015b, p. 161.

[263] Database Desk, 2014.

[264] Rubenstein, 2015b, p. 162.

to stop a "holocaust" against the Palestinians. "You, as the leader of the most powerful state in the world, I ask you to call [on] Israel to stop its aggression on Gaza—and to lift the siege and open the cross borders and to rebuild Gaza," Mashaal said. "This is our demand."[265] Mashaal's statement, however, did not signal an end to the conflict. On August 26, a mortar attack killed two Israeli civilians and wounded four others in Kibbutz Nirim, while a rocket attack wounded 20 near Ashkelon.[266] The same day, Israeli warplanes destroyed the 15-floor Basha Tower and badly damaged the 13-story Italian Complex in Gaza, both believed to be used by Hamas, reportedly injuring more than 20 Palestinians.[267]

By August 26, however, 51 days of conflict had taken their toll and both combatants showed signs of weariness. Perhaps as a sign of internal discord, Hamas executed 18 Palestinians on August 22 for allegedly cooperating with Israel.[268] On the Israeli side, popularity for Netanyahu and the Israeli public's faith that Israel was "winning" had dropped significantly.[269] On August 26, at 7 p.m., another Egyptian negotiated cease-fire went into effect. This time, it stuck.[270]

Aftermath of the Conflict

Aside from the cessation of hostilities, the August 26 cease-fire allowed Palestinians to farm up to 100 m—rather than 300 m—of the Gaza border and to fish up to 6 (rather than 3) km off the shore. It tabled other issues, such as prisoner swaps and reconstruction, for longer-term

---

[265] Michael Isikoff, "In Personal Plea, Top Hamas Leader Calls on Obama to Stop 'Holocaust' in Gaza," Yahoo News, August 25, 2014.

[266] Database Desk, 2014.

[267] "Gaza High-Rises Hit by Israeli Strikes," *Al Jazeera*, August 25, 2014.

[268] Rubenstein, 2015b, p. 161.

[269] Yehuda Ben Meir, "Operation Protective Edge: A Public Opinion Roller Coaster," in Anat Kurz and Shlomo Brom, eds., *The Lessons of Protective Edge*, Tel Aviv, Israel: Institute for National Security, 2014, pp. 131–133.

[270] Database Desk, 2014.

negotiations.[271] Ultimately, as some observers noted, the cease-fire terms looked similar to one proposed on July 15, during the conflict.[272]

Protective Edge left a swath of destruction behind it. On the Israeli side, some 66 Israeli soldiers and six civilians died in the conflict.[273] The conflict also exacted a significant economic toll. The Israeli Tax Authority estimated that Protective Edge inflicted almost $55 million in direct damage to private and public infrastructure and another $443 million in indirect damages thanks to economic disruptions caused by the conflict.[274] On the Palestinian side, the UN estimated the number of Palestinian deaths at 2,133, of whom 1,489 were civilians.[275] In contrast, Israeli estimates suggest that, of 1,598 Palestinian fatalities in Operation Protective Edge, 75 percent were combatants.[276] In addition, the UN estimated that 500,000 people—28 percent of Gaza's population—were internally displaced, while some 108,000 people had their homes rendered uninhabitable.[277]

Perhaps the final question is: At the end of the day, who won? It remains unanswered. On the one hand, Hamas received modest concessions from Israel on fishing and farming rights, agricultural exports, and permits to work in Israel. On the Israeli side, the conflict destroyed 32 cross-border tunnels and another 81 defensive ones.[278] And yet, in the immediate aftermath of the conflict, much of the Israeli public

---

[271] Herb Keinon, "Outline of Protective Edge Cease-Fire Agreement with Hamas," *Jerusalem Post*, August 28, 2014.

[272] Herb Keinon, "Iran Trying to Move Yakhont Missiles and SA-22 Air Defense Systems to Hezbollah," *Jerusalem Post*, August 20, 2015.

[273] Lenny Ben-David, "Gazan Casualties: How Many and Who They Were," in Hirsh Goodman and Dore Gold, eds., *The Gaza War 2014: The War Israel Did Not Want and the Disaster It Avoided*, Jerusalem, Israel: Jerusalem Center for Public Affairs, 2015a, p. 141.

[274] State of Israel, 2015, pp. 132–133.

[275] OCHA, 2014, p. 2.

[276] Ben-David, 2015a, p. 141; also see Chorev and Shumacher, 2014.

[277] OCHA, 2014, p. 3.

[278] State of Israel, 2015, p. 133. The report did not specify smuggling tunnels destroyed explicitly, although presumably some of those tunnels are rolled up in the previous statistics.

saw the campaign as a failure.[279] On August 27, Channel 2 published a survey showing only 29 percent of the Israeli public thought of the operation as a victory and on August 28, *Haaretz* found similarly that 26 percent of Israelis thought they had won.[280] In the *Haaretz* poll, most (54 percent) believed that neither side won.[281] This view extended to the expert community, as well. Major General Yadlin—the former head of Israeli military intelligence and director of the Institute for National Security Studies, one of Israel's largest defense think tanks—called the campaign "an asymmetric strategic tie," where Hamas suffered enormous blows on the battlefield but its leadership remained intact and likely improved its standing at home, while Israel did not make any strategic concessions of consequence but did not improve its situation dramatically.[282]

In interviews conducted almost two years after Protective Edge, however, many IDF officers and outside experts saw the campaign as a small victory. Israel's border with Gaza has been relatively quiet, and they attribute this partially to effective deterrence from Protective Edge. A senior IDF officer at Southern Command remarked,

> The lesson for Hamas is that long wars are not good for them; they are a double-edged sword . . . Hamas leadership knows now, and they knew then, they cannot face the IDF for 55 days and that while Israel as a society moved on, Gaza is left ruined and will remain so for many years.[283]

Similarly, Institute for National Security Studies analyst Mark Heller observes,

> While 77.6 percent of Gaza respondents believed that Israel had been "painfully beaten by Palestinian militants," 72.5 percent

---

[279] Interview with Israeli academic, Tel Aviv, May 26, 2016.

[280] Ben Meir, 2014, p. 133.

[281] Ben Meir, 2014, p. 133.

[282] Yadlin, 2014a, p. 199.

[283] Interview with a senior IDF officer, Tel Aviv, May 26, 2016.

were also worried about another military confrontation with Israel, suggesting that a new Hamas-initiated confrontation might be received with some lack of enthusiasm.[284]

On the other hand, reports from Gaza from mid-2015 suggest that Palestinians in border areas most affected by the 2014 fighting are angry at Hamas's political wing for accepting a cease-fire agreement with Israel that offered no meaningful benefits, although support for the Al-Qassam Brigades, the military wing of Hamas, remains strong.[285]

A senior Israeli defense correspondent argued that, after Protective Edge, Israel and Hamas have settled on an unwritten *modus vivendi*:

> In a way there is some deterrence between these conflicts. Everyone understands the price. Every day since August 2014 that Hamas hasn't shot rockets and has arrested people who try to do, so that is deterrence. Israel lets trucks go into Gaza every day. Israel is more engaged than anyone else in addressing the humanitarian crisis in Gaza. The Israelis understand that the humanitarian crisis could cause another war. They want to keep the lid on Gaza; this is a strategic calculus.[286]

If true, Protective Edge's destruction may — somewhat perversely — have contributed to the current peace. After all, as Nobel prize winner and deterrence grandfather Thomas Schelling once noted, deterrence is in large part about wielding the "power to hurt" and making pain both anticipated if the adversary takes certain actions and avoidable if it does not.[287]

Few analysts — and no one interviewed for this report — believe that Operation Protective Edge proved decisive or that Israel has fought

---

[284] Mark A. Heller, "Israeli Deterrence in the Aftermath of Protective Edge," in Anat Kurz and Sholmo Brom, eds., *The Lessons of Protective Edge*, Tel Aviv, Israel: Institute for National Security, 2014, p. 83.

[285] Max Blumenthal, "The Fire Next Time," *World Post*, July 16, 2015.

[286] Interview with an Israeli journalist, Tel Aviv, May 24, 2016.

[287] Thomas C. Schelling, *Arms and Influence*, New Haven, Conn.: Yale University Press, 2008, p. 2.

its last Gaza war. Both Israel and Hamas worry about their respective security situations, and neither Israel nor Egypt seem likely to loosen the blockade on Gaza. As a result, Gaza's economic plight is unlikely to improve dramatically, and when public pressure mounts sufficiently, Hamas may once again attempt to challenge Israel to achieve a marginally better status quo through fighting another limited war. Indeed, seven Hamas members died in January 2016 when a tunnel collapsed on them in eastern Gaza.[288] Hamas remained undeterred, however. A few months later, Israeli settlements living on the Israeli side of the border reported hearing distant scraping underneath the earth and Israeli outposts along the border confirmed signs of digging. Hamas leader Ismail Haniyeh also recently pledged that Hamas was "digging twice as much as the number of tunnels dug in Vietnam."[289] And so, the question very well may be when — not if — Israel will fight its next Gaza war.

---

[288] Majd Al Waheidi, "7 Hamas Members Are Killed in Tunnel Collapse in Gaza," *New York Times*, January 28, 2016.

[289] Harriet Sherwood and Hazem Baloush, "Hamas Tunnelling Again in Gaza as Israelis Fear Attack from Below," *The Guardian*, March 31, 2016.

Protective Edge's Other Fronts

Apart from the air and ground operations raging in and around Gaza, Operation Protective Edge was fought on other fronts. Missile defense, cyber, intelligence, and legal assets all fought their own battles during the operation. Successful missile defense provided Israeli politicians and the IDF senior leadership with political breathing room to allow for a longer but less intense conflict, without a deeper incursion into Gaza. The IDF's legal battles to vet targets also brought a degree of political breathing room—particularly in the international arena—by trying to stem the tide of international criticism directed at the IDF's ostensibly "excessive" use of force. Intelligence directed the campaign targets, while cyber proved a new and emerging domain for conflict. Ultimately, these additional fronts may yield some of the campaign's most important lessons: They arguably played as crucial a role as traditional military assets did in the outcome of the overall operation.

Iron Dome and the Counter-Rocket Fight During Operation Protective Edge

Hamas rocket fire—and the ability of Iron Dome to mitigate its effects on the civilian population—played a critical role in the course of Operation Protective Edge. Hamas and PIJ capabilities expanded from what was seen during Operation Pillar of Defense, enabling them to maintain a significant launching capability over the 50 days of the conflict. At the same time, a more capable Iron Dome system offered superior defensive capabilities, even in the face of prolonged rocket fire. Iron

Dome almost eliminated Israeli civilian casualties, providing Israeli political and military leadership more time for flexible decisionmaking. However, many believe the resulting lack of pressure on leaders extended the time line of the conflict. The effectiveness of Iron Dome also made it difficult for Israel to justify its use of force to international audiences, compounding the negative side effects of Iron Dome observed in Operation Pillar of Defense.

Hamas Expanded Its Arsenal of Longer-Range Rockets After Pillar of Defense

According to IDF estimates, fighters in Gaza amassed a substantial arsenal of 12,000 rockets in the lead-up to Protective Edge, moving Hamas even further away from a traditional terrorist group to more of a hybrid actor. About two-thirds of the arsenal was in the hands of Hamas, with PIJ possessing the next largest stockpile.[1] The Israeli Military Intelligence Directorate estimated that the bulk of Hamas's missiles at the start of the conflict were short-range rockets (up to 40 km), including 107-mm Chinese and Iranian rockets and 122-mm Grad rockets. As shown in Figure 5.1, mortars and Qassams at the lower part of this range threatened a number of smaller municipalities and communities near Gaza in southern Israel, while 122-mm Grad rockets threatened larger towns, such as Ashkelon, Ashdod, and Be'er Sheba. They also estimated that the group held "hundreds" of rockets with a range of 75 km, including Iranian Fajr-5 rockets, and "dozens" of Syrian 302-mm rockets with ranges up to 160 km, allowing them to reach beyond Tel Aviv and toward Haifa, as illustrated in Figure 5.1.[2] PIJ also used a small number of Russian-made C8K light rockets, which are believed to come from Muammar Gaddafi's Libyan arsenal.[3] In all, three-quarters of the arsenal had a range of more than 15 km, enabling targeting of major Israeli population centers.

---

[1] Rubin, 2015, p 15.

[2] Yiftah S. Shapir, "Rocket Warfare in Operation Protective Edge," in Anat Kurz and Shlomo Brom, eds., *The Lessons of Protective Edge*, Tel Aviv, Israel: Institute for National Security, 2014, pp. 43–44.

[3] Rubin, 2015, pp. 12–13.

Figure 5.1
Rocket Ranges from Gaza into Israel During Protective Edge

SOURCE: "Ranges of Hamas's Rockets," Stratfor, July 9, 2014.
RAND *RR1888-5.1*

In addition to imported rockets, Iran provided the tools for systematic industrialization of Palestinian missile manufacturing within Gaza. Machinery was smuggled through the Gaza-Egypt tunnel network, while technicians were flown to Iran for training. Two clusters of industrial-style production, one operated by Hamas and one by PIJ, turned out not only rockets that were superior to the those in their arsenals during Operation Pillar of Defense, but also domestically manufactured launchers and mortars. As a result, more-capable Palestinian-made short-range 107-mm and longer-range Grad-like and 220-mm M-75 rockets were seen during Protective Edge, in addition to the less-capable Qassam rockets familiar from past conflicts. It is also possible that some of the long-range rockets that targeted Haifa were produced domestically. In total, about 3,500 rockets in the preconflict stockpile were domestically produced.[4]

According to Israeli media tallies, Hamas and other organizations launched a total of about 4,500 rockets and mortars from July 8 to August 26, of which about 3,400–3,600 fell in open spaces, 188 fell inside Gaza, 730–740 were successfully intercepted by Iron Dome,[5] and 244 landed in urban areas of Israel. Of the total number of projectiles, 1,300–1,600 were estimated to be mortar rounds.[6] Militant groups claimed that they had fired many more missiles, with Hamas and PIJ citing 6,870 rocket attacks between them.[7]

Israeli missile defense analyst Uzi Rubin contended that Palestinian rocket fire had two objectives in Operation Protective Edge: to spread Israeli missile defense thin and to hurt the Israeli economy and

---

[4] Rubin, 2015, pp. 11–15.

[5] As with operation Pillar of Defense, the accuracy of these figures has been challenged. For example, Postol estimates an interception rate of about 5 percent, far lower than these figures imply. See "The Rockets from Hamas, and the Iron Dome that Could Use Patching," NPR, interview with MIT professor Theodore Postol, July 9, 2014.

[6] Iron Dome was designed to intercept rockets with ranges between 7 and 70 km. Shorter-range mortars pose a challenge to the system because the mortars are not in the air long enough for the system to properly identify and target these weapons. Targeting shorter-range munitions has been a priority in refining the system, but the precise capability to intercept at shorter ranges than the intended design limits is not publicly available.

[7] Rubin, 2015, p. 16.

morale.[8] To support the first claim, analysts point to the geographic range of missile strikes. Strikes on Israeli territory included occasional missiles targeting remote areas near Gaza to force the system to cover a broad area. Similarly, long-range strikes targeting populated areas in the north required Iron Dome to cover a large number of population centers with a fixed number of batteries, stressing the active defense system. To support the second claim, he highlights strikes in central and northern Israel, which targeted critical infrastructure. This included Ben Gurion International Airport, which was closed for two days after rockets landed nearby and presented Hamas with a symbolic victory.[9] Observers also indicate that strikes were often timed with the nightly news cycle in Israel to increase the psychological effects of operations. Hamas openly announced strikes to stoke fear, and Israeli TV stations responded by offering viewers elaborate countdowns to strikes that sometimes failed to materialize. By maintaining some degree of psychological pressure on the Israeli public, Hamas limited the strategic effectiveness of Iron Dome, despite improvements in the system's operational effectiveness and public relations efforts by the Israeli government that stressed the power of the system.

Rates of fire varied over the course of the conflict, as shown in Figure 5.2. Rocket fire gradually increased in June 2014 during Operation Brother's Keeper and the Israeli-Palestinian tensions in the West Bank, before increasing exponentially with the announcement of Operation Protective Edge. Until July 23, most days saw between 100 and 150 rockets fired at Israel, including medium- and long-range missiles targeting central and northern Israel. The rate of fire declined precipitously following July 23 and until August 19, which included a stretch of time with no rockets during a cease-fire period. However, following the breakdown of the second cease-fire on August 19, the rate of fire rose as high as 180 rockets per day until the end of the conflict on August 26.[10] Overall, these rates of fire were about half of the average rate seen in Pillar of Defense; however, they were sustained over a

---

[8] Rubin, 2015, pp. 19–20.

[9] Rubin, 2015, p. 19.

[10] Shapir, 2014, p. 44; Rubin, 2015, pp. 16–17.

Figure 5.2
Daily Number of Rocket and Mortar Attacks from Gaza During Operation Protective Edge
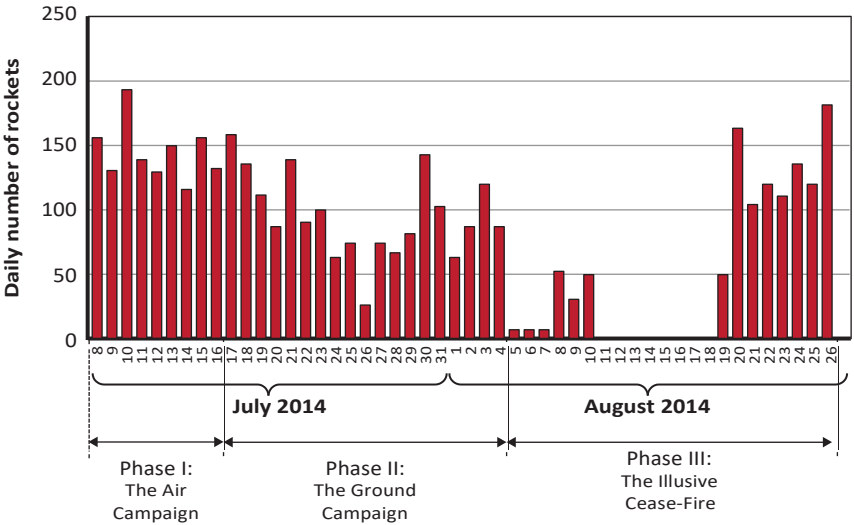
SOURCE: Rubin, 2015, p. 17.
RAND *RR1888-5.2*

much longer conflict, despite Israeli counterlaunch operations.[11] Israeli observers also claimed that while coordinated salvos were used earlier in the conflict, fewer rockets and more mortars were used in the final weeks.[12]

Strikes were distinguished by geography. Hamas reserved its smaller arsenal of longer-range rockets to strike as far north as Haifa, using its more numerous, less expensive, shorter-range missiles and mortars to target southern Israel.[13] Unofficial Israeli sources indicate that more than half of all rockets and mortars were used to target communities around Gaza, while an additional one-third targeted the cities of Ashdod, Be'er Sheba, and Ashkelon. About 325 were aimed at cen-

---

[11] Rubin, 2015, pp. 17 and 21–22.

[12] Rubin, 2015, p. 21.

[13] Shapir, 2014, p. 44.

tral and northern Israel, including the major cities of Tel Aviv, Jerusalem, and Haifa.[14]

At the same time, Protective Edge saw Hamas's approach evolve in an attempt to counter Iron Dome's defenses. At the beginning of the conflict, Hamas employed salvos in an attempt to overwhelm Iron Dome batteries.[15] In later stages of the conflict, Hamas began to employ short-range mortars that Iron Dome could not successfully interdict.[16] Hamas also enlisted regional allies to fire rockets from Lebanon, Syria, and the Sinai, forcing Iron Dome to cover a greater area. The redeployment of an Iron Dome battery to cover Eilat in response to rocket fire from Sinai may represent the partial success of this tactic in spreading Iron Dome coverage thin.[17] Hamas also targeted Israeli military bases, the very type of asset that Iron Dome was designed to protect but is hard to prioritize in the face of civilian and political calls to protect population centers.[18] These changes suggest organizational learning, as the group experimented to find vulnerabilities in the system's capabilities.

Israel Considered Iron Dome's Performance During Protective Edge a Resounding Success

In the time between Pillar of Defense and the beginning of renewed hostilities in 2014, the Iron Dome system matured. Five batteries were available at the start of Operation Protective Edge, and an additional four were rushed into service (some with reduced capabilities).[19] In the face of public concern over limited interceptors, Israeli officials reas-

---

[14] Rubin, 2015, pp. 17–18.

[15] Interviews with Israeli think-tank analyst and journalist, Tel Aviv, May 23–24, 2016.

[16] Interviews with Israeli think-tank analyst and former U.S. official, Tel Aviv, May 24–25, 2016.

[17] Rubin, 2015, p. 19.

[18] Interview with Israeli think-tank analyst, Tel Aviv, May 25, 2016.

[19] While these are the most frequently cited figures, other estimates exist. For example, Popovich states that only two systems were rushed into service, suggesting that seven were available at the beginning of the conflict. Elad Popovich, "A Classical Analysis of the 2014 Israel-Hamas Conflict," *CTC Sentinel*, Vol. 7, No. 11, November/December 2014.

sured the public that a much larger stockpile was available than in the 2012 Pillar of Defense campaign.[20] Furthermore, each Iron Dome battery and its ISR and command and control support system could be deployed and redeployed more rapidly, and communication between Iron Dome batteries was improved, enhancing targeting. Additional improvements enabled better performance against salvos, greater ability to operate at night, and more capability in inclement weather.[21]

Iron Dome provided active defense during Operation Protective Edge against rockets, as well as mortars with a range of 7 km (equivalent to the upper range of a Russian 120-mm mortar). Iron Dome was overwhelmingly successful defending against rockets, destroying more than 90 percent of the missiles targeted in the 2014 campaign, a slight improvement over its effectiveness of around 85 percent in 2012.[22] The system's effectiveness against shorter-range mortars, particularly those with a range of less than 4 km (equivalent to a Russian 82-mm), was very limited. This reduced capability is generally attributed to the difficulty of successfully targeting mortars during their short flight times.[23] Mortars damaged small villages in the area immediately bordering Gaza and caused casualties in military assembly areas located 3 to 5 km from the border. According to at least one IDF officer, these casualties were largely the fault of soldiers not wearing protective gear while in the assembly areas.[24]

---

[20] While the exact number of interceptors is classified by Israel, Israeli analysts confirmed in interviews that a substantial stockpile was available.

[21] Interviews with Israeli think tank analysts and former U.S. official, Tel Aviv, May 23–25, 2016; Yaakov Lappin, "More Iron Dome Batteries to Be Deployed Across Counter," *Jerusalem Post*, July 13, 2014a.

[22] Interviews with Israeli think-tank analysts, Tel Aviv, May 23 and 25, 2016; Shamir, 2015, pp. 5–6; Popovich, 2014, p. 21.

[23] Some observers also claim that the system with the capability to target mortars was not employed because of the unfavorable cost exchange between interceptors and the cheaper mortar rounds. Gabi Siboni and A. G., "Will Hamas Be Better Prepared During Its Next Confrontation with Israel?" *Military and Strategic Affairs*, Vol. 7, No. 2, September 2015.

[24] Interviews with former senior IDF officer and Israeli think-tank analysts, Tel Aviv, May 23 and 25, 2016.

While the precise location of the batteries has not been released, analysts have deduced they were deployed to defend Eilat, Sderot, Ofaqim, Netivot, and Be'er Sheba in southern Israel; Ashkelon, Ashdod, Kiryat Gat, Kiryat Malachi, Rehovot, and Rishon LeZion in the coastal plain; and Modi'in, Jerusalem, and Tel Aviv in central Israel, as well as major military installations and national infrastructure. Video shared with Israeli media indicates that generally one interceptor per rocket was used — except in Tel Aviv, where a "ripple fire" of two interceptors was used.[25]

Missile fire from Gaza inflicted limited casualties and damage. Only two individuals were killed in rocket strikes,[26] and both casualties were under abnormal circumstances. In the first case, an individual was in a remote area not covered by Iron Dome; in the second, a Thai national who did not understand the warning sirens was killed when he failed to seek shelter.[27] Similarly, several of the most serious injuries occurred when people were outside despite warnings, demonstrating the continued importance of the Israeli civil defense system in minimizing casualties. Likewise, only about one-sixth as many claims were submitted to the Israeli government under its insurance program in 2014 as in 2006, despite a similar number of enemy rockets.[28] While the government credited Iron Dome for the limited impact of missile fire, some analysts argue that it is more appropriate to attribute it to the crude technology of the majority of Gazan missiles, which limits their reliability and probability of reaching their intended targets (even without having to penetrate missile defenses).[29]

---

[25] Rubin, 2015, pp. 22–23.

[26] Popovich (2014) cites five casualties: four Israelis and the Thai national.

[27] Interview with former senior IDF officer, Tel Aviv, May 25, 2016.

[28] Rubin, 2015, pp. 28–29.

[29] Subrata Ghoshroy, "Israel's Iron Dome: A Misplaced Debate," *Bulletin of the Atomic Scientists*, July 29, 2014.

Successful Missile Defense Slowed Down the War for Israeli Decisionmakers

Iron Dome defenses over most of Israel minimized the emotional and economic hardship felt by the Israeli population compared with past campaigns. While border villages did evacuate in the later stages of the conflict because of mortar fire,[30] warning sirens were limited in major urban areas, and the majority of the population could continue daily routines with minimal interruption. As one analyst described it:

> It wasn't easy, there are alarms, and people who were nearer the border would have more alarms too. . . . But one interesting thing was that there was very little relocation. Relocation is always an indication of how people feel. In 2006, there was massive relocation; some in Cast Lead; but there was no substantial relocation in 2014 . . . you didn't read tearful articles about relocation from Southern cities, and I think that means psyches held. And I think this was the difference between defense and no defense.[31]

Over the course of the long campaign, public trust in the system grew to such an extent that concerns were raised that some civilians were outside taking video of the missile interceptions, rather than following proper security procedures.[32] This fundamental shift in the civilian experience of war led to strong public support for the operation.[33] However, it also posed serious concerns for the population's willingness to follow civil protection orders in future conflicts, where Iron Dome may not be as effective.

---

[30] Siboni and A. G., p. 88.

[31] Interview with Israeli think-tank analyst, Tel Aviv, May 26, 2016.

[32] Interview with Israeli think-tank analyst, Tel Aviv, May 26, 2016.

[33] Emily B. Landau and Azriel Bermant, "Iron Dome Protection: Missile Defense in Israel's Security Concept," in Anat Kurz and Sholmo Brom, eds., *The Lessons of Protective Edge*, Tel Aviv, Israel: Institute for National Security, 2014, pp. 40–41.

The Intelligence Fight: Strategic Versus Tactical Trade-Off?

Operation Protective Edge witnessed dramatic improvements in the IDF's tactical intelligence ability. To begin with, between Operation Cast Lead in 2009 and Protective Edge in 2014, brigade intelligence sections expanded dramatically. One IDF intelligence officer remarked,

> In Cast Lead, I had six deputies. Now the intelligence branch in a brigade is a monster. You have an officer from the 8200 SIGINT [signals intelligence] unit with you, and you have a HUMINT [human intelligence] intelligence officer with you, and you have a live view of UAVs [unmanned aerial vehicles].[34]

The IDF made an active effort to push intelligence down to the brigade level, more so than in either Cast Lead or Pillar of Defense.[35] As a result, situational awareness at the brigade level improved dramatically. According to one IDF intelligence officer,

> In Cast Lead, I had to go to Southern Command to see the Big Map [with all the IDF and Hamas units displayed]. You don't have to do that anymore. You can mark what you want with the push of a button and see everything.[36]

Despite the gains in the quantity of intelligence available to tactical units, the quality of intelligence received decidedly mixed reviews. As already mentioned, the IDF remained surprised by the extent of Hamas's tunnel networks — despite the fact that tunnels were neither new to Gaza nor Hamas by the time of Protective Edge. Indeed, one of the questions of the campaign is why the IDF was seemingly caught off guard by the tunnel threat when Hamas had demonstrated the ability to use tunnels to capture IDF soldier Gilad Shalit nearly a decade earlier. For units on the ground, however, as detailed in the previous chapter, the intelligence failure to fully map out the tunnel networks

---

[34] Interview with an IDF officer, Tel Aviv, May 23, 2016.

[35] Interview with a senior Israeli officer, Tel Aviv, May 26, 2016.

[36] Interview with an IDF officer, Tel Aviv, May 23, 2016.

prior to war meant that IDF patrols often discovered tunnel openings based partly on intelligence, but also as a matter of luck.

At the strategic level, the quality of intelligence received often got even worse marks. A senior IDF general officer stated bluntly, "Intelligence in Gaza is bad. . . . Strategic intelligence in Protective Edge was bad."[37] The dissatisfaction with strategic intelligence in Gaza stemmed from a series of problems throughout the operation. In the run-up to Protective Edge, the Israeli intelligence community was split on whether Hamas would attack — between military intelligence (Aman) and the civilian Israeli Security Agency (Shin Bet).[38] As a result, some criticized the lack of strategic warning. During the operation, senior commanders complained that intelligence often failed to predict the degree of enemy resistance.[39]

Finally, perhaps, some felt the intelligence community at a strategic level did not understand what made Hamas tick and how the organization made decisions. According to a senior Israeli defense correspondent, Israeli intelligence

> failed to understand the logic of Hamas's leaders and the dynamics between the political and military wing, within the military wing, and between Gaza and Hamas leaders in Doha. They didn't understand the disputes between the political and military wings and the disputes inside the military wing.[40]

As a result, the intelligence community — both the Israeli Security Agency and military intelligence — incorrectly predicted that Hamas would accept a cease-fire 12 times over the course of the conflict.[41]

There are several explanations for the intelligence failures during Protective Edge. First, from the Israeli standpoint, Hamas was a sec-

---

[37] Interview with a senior IDF officer, Tel Aviv, May 26, 2016.

[38] Interview with an Israeli journalist, Tel Aviv, May 24, 2016; "'Huge Row' as Shin Bet Says It Warned IDF Months Ahead of Summer War," *Times of Israel*, November 10, 2014.

[39] Interview with a senior IDF officer, Tel Aviv, May 26, 2016.

[40] Interview with an Israeli journalist, Tel Aviv, May 24, 2016.

[41] Interview with an Israeli journalist, Tel Aviv, May 24, 2016.

ondary intelligence target before the operation. Israel views Hezbollah and Iran as far greater threats to its security.[42]Some, however, suggest a more systemic failing. Much of the analytical work in military intelligence falls to 18-year-old conscripts. According to one IDF military intelligence officer, these soldiers lack the life experience necessary to understand the political dynamics of such organizations as Hamas, particularly at the upper echelons. He remarked, "You cannot expect young soldiers to analyze the leaders of the other side, who are several decades older and who have families and interests and legacies. They cannot understand them."[43]

Ultimately, it is unclear whether the IDF's focus on tactical intelligence came at the expense of strategic intelligence. For some IDF officers, the intelligence fight during Protective Edge was far from perfect, but it was still good enough. One IDF general officer remarked, "On a tactical level, intelligence wasn't even 70 percent (it was much less) though it was better than during Cast Lead … [but] you cannot have 100 percent intelligence. … If you have 30 percent of the intelligence you need, that should be good enough."[44]By that standard, intelligence during Protective Edge cleared the bar.

The Cyber Fight: Protective Edge's Silent War

Although often overlooked in postwar accounts, Protective Edge also played out in the virtual space. Hamas and its supporters conducted several cyberattacks on Israeli networks during the course of the operation, including attempting to overload communication and Internet suppliers, collapsing 1,000 noncrucial Israeli websites, and stealing Israeli personal information.[45] Hamas also text messaged Israelis—

---

[42] Interview with an Israeli journalist, Tel Aviv, May 24, 2016.

[43] Interview with a senior Israeli officer, Tel Aviv, May 26, 2016.

[44] Interview with a senior IDF officer, Tel Aviv, May 26, 2016.

[45] Cohen and Levin, 2014, p. 60.

sometimes under its own name and sometimes claiming to be the Israeli Security Agency or the *Haaretz* newspaper.[46]

Unlike Pillar of Defense, however, Hamas had less outside help during Protective Edge. Whereas the Israeli government faced 100 million cyberattacks during Pillar of Defense tracing back largely to Europe and the United States, an estimated 70 percent of cyberattacks during Protective Edge came from the Muslim world.[47] Perhaps the most notable outside help came from Iran—which, according to former Israeli Minister of Defense Moshe Ya'alon, attacked Israeli military, government, and economic sites.[48]

On the Israeli side, the IDF mounted a significant cyberdefensive operation, along with the Israeli Security Agency. In fact, Netanyahu later claimed, "There is an Iron Dome of cybersecurity that parallels the Iron Dome against the rockets. This allows us the operating space to continue fighting, to continue with daily life in Israel."[49] The IDF maintains a C4I (command, control, communications, computers and intelligence) Corps, which includes a cyberdefense division.[50] According to IDF public affairs, the unit played a central role—along with the Israeli Security Agency—during Operation Protective Edge in thwarting cyberattacks, including the one from Iran.[51]

Israel is also widely believed to maintain a significant offensive cyber capacity. In fact, Ya'alon remarked, "Any progressive country that has enemies must be able to defend itself in the cyber arena. It would be better that each such country under threat could also have the capability to strike against its enemies—even if only in retaliation

---

[46] Cohen and Levin, 2014, p. 60.

[47] Cohen and Levin, 2014, pp. 60–61.

[48] Blake Sobczak, "Security: A 'Cyber Superpower' Prepares for War," *Energy Wire News*, July 14, 2015.

[49] Tova Lazaroff, "Netanyahu: Iran Behind Cyber Attacks on Israel," *Jerusalem Post*, September 14, 2014.

[50] Sobczak, 2015.

[51] IDF, "The Attack Against Israel You Haven't Heard About," blog post, August 22, 2014c.

against their strikes — in order to deter them."[52] What role — if any — Israeli offensive cyber capacities played in Protective Edge remains a closely guarded secret.

The Legal Wars: Balancing Targeting and Collateral Damage

In the IDF, legal advisers review targets and make recommendations to commanders on the possible ramifications under international law of their destruction. This task is made more complicated by the fact that Hamas purposely hides in and fires from civilian structures. For example, on July 17, the day the IDF initiated its ground assault into Gaza, UNRWA, which is responsible for caring for Palestinian refugees, announced that it had found 20 rockets stored in one of its schools in the Gaza Strip. It strongly condemned this as "a flagrant violation of the inviolability of its premises under international law" that "endangered civilians, including staff."[53] In another example, Israel argued that its targeting of the residences of Hamas leaders was justified:

> On July 8, the IDF struck a weapons depot and operational planning site located in the residence of Ibrahim al-Shawaf, a senior military commander in the Palestinian Islamic Jihad. . . . The IDF considered this site a legitimate military target not because al-Shawaf (a member of an organized armed group) lived there, but because the site was used as an operational planning site and because a large number of weapons had been stored there and designated for attacks against Israeli citizens. During the IDF's strike, secondary explosions of the weaponry hidden inside the building further confirmed that it was a disguised weapons depot and thus constituted a military objective.[54]

---

[52] Sobczak, 2015.

[53] Quoted in "Live Updates: Operation Protective Edge, Day 10," *Haaretz*, July 18, 2014.

[54] State of Israel, 2015, p. 159.

While it is not completely clear how the IDF measures risk to civilians in its targeting processes, there appears to be a scoring mechanism whereby commanders and even the chief of staff can quickly determine risk to civilians and stipulate the allowable levels of risk in targeting and operations. According to one senior IDF officer, there were three levels of allowable risk in Protective Edge: The chief of staff's policy was that the operation would begin "at level 2, which means the commanders on the ground can take more risks related to civilian casualties."[55] Allowable risk, then, may have fluctuated throughout the conflict depending on the circumstances. The chief of staff himself would determine on a daily basis (and sometimes more often) a heuristic for risk acceptability by type of target and overall missions per day.[56] Within this framework, planners would determine—based on an analytical probability model, for example—how many people are inside a building when considering whether and when to strike it. This included looking at population surveys, counting numbers of vehicles, and assessing engine heat to understand how many casualties there might be as the result of a particular strike.[57]

Israel faces three challenges in minimizing collateral damage and adhering to the Law of Armed Conflict (LOAC). The first challenge relates to distinguishing between a lawful and unlawful target. This is particularly difficult because the combatants do not necessarily don uniforms. Commanders rely on specific procedures and intelligence to help them determine whether an individual they see on the battlefield is a legitimate target. For example, if an ISR asset sees an individual preparing to launch a rocket, he would be considered a legitimate target for attack.[58]

The second challenge relates to proportionality when it comes to weighing the military value or advantage of a target against the col-

---

[55] Interview with former senior IDF officer, Tel Aviv, May 24, 2016.

[56] Interview with junior IDF officer, Tel Aviv, May 22, 2016.

[57] Interview with junior IDF officer, Tel Aviv, May 22, 2016. According to our interlocutor, the IDF is trying to develop a system to model potential casualties according to house size and other measures to help make rapid decisions on whether an attack is worth the risk.

[58] Interview with senior IDF officer, Tel Aviv, June 13, 2016.

lateral damage that might be caused by attacking it.[59] Proportionality can be seen along a spectrum. At the extreme ends of the spectrum, the calculus may be relatively straightforward. At one end, where the target value is high (e.g., a large stockpile of long-range missiles) and potential for collateral damage is low (e.g., it is located in a shed in a large, empty field), a commander would authorize a strike without much thought. At the other end, where one would gain little military advantage by taking out a target (e.g., a used Qassam rocket launcher) and the strike would cause many civilian casualties (e.g., the launcher is located in a school used for sheltering civilians), a commander would withhold authorization to attack. It is the cases in the middle of the spectrum that are the most vexing and require analytic procedures in real time to help commanders frame the issue and weigh the consequences of action or inaction.[60]

The final challenge involves the precautions the IDF takes to minimize collateral damage through innovative tactics and concepts. This includes various methods of issuing warnings of impending attack to noncombatants and decisions about which platforms and weapons to use to achieve the desired military effect on a target without hurting civilians nearby. Dropping leaflets with specific instructions to civilians, knocking on the roof (sometimes multiple times), and making phone calls to apartments in a targeted building were all warning methods the IDF used in Operation Protective Edge. When the probability of collateral damage was higher because of urban area density around a relatively small target (such as an individual in a room or car), a commander might call on an Apache helicopter with a Hellfire missile because of its small warhead size compared with the larger munitions dropped by fixed-wing aircraft.[61]

In Protective Edge, procedures to incorporate these issues into targeting decisions existed in the IDF command structure for both

---

[59] Interview with senior IDF officer, Tel Aviv, June 13, 2016.

[60] Interview with senior IDF officer, Tel Aviv, June 13, 2016. One IDF officer commented that the IDF is developing a set of equations and target values to help commanders quickly determine the net utility in striking targets in particular contexts.

[61] Interview with former senior IDF officers and think-tank analysts, Tel Aviv, May 23, 2016.

preplanned and time-sensitive targets. For preplanned targets, the IDF used the following general process:

1. **Collect intelligence on the target.** This includes the nature of the potential target (e.g., whether it is a residence or a school being used for military purposes), its characteristics, and its surroundings (nearby civilian structures). This enables planners or commanders to validate that the target is a military objective under the LOAC and to conduct a proportionality assessment.

2. **Determine the objective(s) in attacking the target.** This includes the level of destruction desired and whether targeted individuals should be present or not.

3. **Develop options for carrying out the strike, including precautions to be taken.** Operational planners here seek to minimize collateral damage and, as such, determine the platforms and weapons to be used.

4. **Elicit professional advice and opinion from relevant units, including legal advisers.** Lawyers comment on the legality of attacking the target and may stipulate conditions under which a strike can go forward.

5. **Obtain command decision on attacking a target.** A commander may approve the attack (conditionally when necessary), postpone the attack in the event more information is necessary, or abort the attack.[62]

All the information for each target was placed on a "target card" that carried through the entire planning process and undergoes reevaluation and revalidation as conditions changed.[63]

Because of their fleeting nature, time-sensitive targets did not receive the same level of deliberation, but lawyers at different levels of the command structure still provided advice — and, in many cases,

---

[62] State of Israel, 2015, pp. 142–143.

[63] State of Israel, 2015, p. 143.

this advice was binding on the commanders.[64] In addition, "even in the most time-sensitive situations . . . IDF regulations emphasize that commanders and soldiers must still comply with the Law of Armed Conflict. . . . [C]ommanders rely on the training they have received, as well as directives that specify the checks and authorizations required prior to carrying out attacks."[65]

---

[64] Willy Stern, "Attorneys at War: Inside an Elite Israeli Military Law Unit," *Weekly Standard*, June 15, 2015.

[65] State of Israel, 2015, p. 145.

Lessons of Israel's Experience in Protective Edge

Today, the 2006 Lebanon War still looms larger for the IDF than 2014's Operation Protective Edge. Even a decade after the fact, most of the IDF officers interviewed for this report were far more concerned about another Lebanon War than yet another iteration of Israel's wars in Gaza. And yet, Protective Edge was not — contrary to what many IDF officers believed at the time — simply Pillar of Defense, part II.[1] It proved bloodier and longer than any previous campaign Israel fought in Gaza. Even when viewed in comparison with Israel's other historical wars, it ranks toward the longer end of the spectrum and one of the more intense campaigns of the last two decades. As a result, there are plenty of lessons — good and bad — to draw from the Israeli experience. The 11 lessons outlined below are only a fraction of what can be drawn from studying the conflict.

Victory Sensitivity Dominates Casualty Sensitivity

On a political level, Protective Edge prompted Israeli policymakers to rethink Israel's sensitivity to casualties. As one Israeli defense correspondent explained, Israel accepted the fact right after its birth that military casualties were — while tragic — the necessary price of its survival, but became increasingly averse to casualties over the decades.[2]

---

[1] Interview with a reserve senior IDF officer, Tel Aviv, May 25, 2016.

[2] Interview with an Israeli journalist, Tel Aviv, May 24, 2016.

Protective Edge proved this assumption about casualty sensitivity incorrect. Israel endured 72 casualties, a significant number given its small population of eight million people and far more than it suffered in Pillar of Defense or Cast Lead, and yet it fought on. Indeed, one senior Israeli policymaker recounted, "Families of the wounded and dying called on the prime minister to continue operations. They felt Israel was justified, which was why people were in favor of the operation despite the casualties."[3]

In the end, the Israeli public tolerated military casualties, provided the IDF achieved tangible results. As one senior Israeli policymaker noted, "Israel needs to feel it achieved something, and then the public won't care about the Israeli casualties. It very much depends on the results of the operation."[4] Similarly, an IDF general officer said,

> The IDF has no sensitivity to casualties. The sensitivity that people think of is coming between the gap of strategic goals and how you achieve them. The more often you fight in Gaza, the less tolerance you have for casualties and the more likely people are to prefer to attack from afar.[5]

In other words, the more indecisive the outcome, the higher the casualty sensitivity and vice versa.

Opinion polling from the conflict seems to confirm this hypothesis. As the ground phase of Protective Edge kicked off, Netanyahu's approval rating soared from 57 percent to 82 percent on July 24 — even after the IDF engaged in some of the bloodiest battles of the campaign, most notably in Shuja'iya.[6] A poll taken a few days earlier, on July 22, perhaps reveals the reason why Netanyahu's popularity skyrocketed: It indicated that 73 percent of adult Israelis agreed that "Israel could point to achievements in the operation," while 4 percent believed Hamas could do the same. A survey conducted a few days

---

3   Interview with a senior Israeli policymaker, Tel Aviv, May 25, 2016.

4   Interview with a senior Israeli policymaker, Tel Aviv, May 25, 2016.

5   Interview with a senior IDF officer, Tel Aviv, May 26, 2016.

[6] Ben Meir, 2014, p. 130.

later, on July 27–28, 2014, similarly showed that 65 percent of Israelis believed they were winning.[7]

But toward the end of the campaign, Netanyahu's approval rating plunged. In an August 25, 2014, poll, only 38 percent of the Israel public gave him a good rating, and an August 27 poll—taken just after the end of the operation—showed a further decline to 32 percent, although other polls showed modest improvements in popularity.[8] At the same time, most Israelis also viewed the campaign as indecisive. In another poll published August 27, 59 percent of Israelis thought Israel had not won the conflict, and a poll published August 28 found that the majority of Israelis (54 percent) believed the conflict resulted in a draw.[9] Seemingly, Israeli public opinion was tied more to perceptions of victory in a conflict rather than simply to casualties. If true, this would have important ramifications for how Israel—and Western militaries more broadly—should pursue military operations.[10]

Understanding Hybrid Actors and the Broader Strategic Environment Is Vital

On a strategic level, Protective Edge underscores the importance of understanding the nature of hybrid adversaries and how the broader political environment interacts with operational considerations. Perhaps some of Israel's greatest weaknesses during Protective Edge fell into this category. Even before the operation, Israel failed to understand properly how the economic hardship and internal political pressure exerted on Hamas might push conflict in Gaza. During the operation, the IDF failed to understand how Hamas decisionmaking

---

[7] Ben Meir, 2014, p 131.

[8] Ben Meir, 2014, p.131. The poll showed about a 50-percent approval rating.

[9] Ben Meir, 2014, p. 133.

[10] For a similar finding, see Raphael S. Cohen, "In the Ranks: Making Sense of Military Morale," *World Affairs*, May/June, 2015a; Raphael S. Cohen, "Understanding the U.S. Military's Morale 'Crisis,'" *Lawfare*, blog post, June 28, 2015b.

worked, resulting in the intelligence agencies incorrectly predicting cease-fires on multiple occasions.

Some of these failings can perhaps be traced back to Israel's inability to fully appreciate that Hamas was no longer just a terrorist organization and had become a hybrid actor—part state, part terrorist organization. Israel arguably understood some of the operational implications of this transformation—that Hamas's control of Gaza gave it access to weaponry and resources unavailable to most terrorist organizations, and, consequently, it could employ force in more powerful, if conventional, ways. On the other hand, Israel struggled to grasp that Hamas's transformation to a hybrid adversary also had political ramifications: that Hamas was now subject to political pressures from Gaza inhabitants, if only to maintain its hold on power, and that this pressure could—and did—shape its decisionmaking.

Israel also failed to recognize the full implications of the political changes in Egypt. Pillar of Defense ended after only eight days because the Morsi government brokered a cease-fire early, not because of the IDF's operations. Arguably, the IDF failed to recognize this important fact and consequently presumed that Protective Edge would also last a relatively short period of time. El-Sisi's Egypt, however, was not Morsi's Egypt. While Israel enjoyed better—perhaps almost unprecedented—levels of operational support from el-Sisi in targeting Hamas's smuggling tunnels, it came at political cost. Egypt could no longer broker a cease-fire as easily as in 2012. Consequently, Protective Edge lasted longer than anyone anticipated.

Lawfare Is Here to Stay

Operation Protective Edge also demonstrates that lawfare will remain a central part of warfare for the foreseeable future. Retired U.S. Air Force Major General and Duke University Law professor Charles Dunlap defines lawfare as "the strategy of using—or misusing—law as a substitute for traditional military means to achieve a warfighting

objective."[11] Hamas's practice of placing weapons in populated urban and suburban areas during Operations Cast Lead and Protective Edge is an example of this practice:

> Conducting urban warfare while maintaining traditionally restrictive implementations of the LOAC represents a significant challenge. This is the dilemma Israel has faced in its three conflicts since 2008 with Hamas in Gaza. Israel is extremely conscious that Hamas will use the proximity of civilians to try to confront it with operational dilemmas to employing precision strike systems against legitimate targets. Rockets, mortars, entrances to tunnels, and fighting positions were situated to create collateral damage and noncombatant casualties if attacked by the Israelis. Although this behavior by Hamas represents a violation of the LOAC, it is a strategy that has frequently been employed by the weak against the strong, and it is one that the United States will likely face in the future.[12]

During these operations, Israel faced a dilemma: attack legitimate targets as a way of stopping fire on Israel and protecting its soldiers but causing civilian casualties and property damage in the process or not attack those targets and accept Israeli casualties and damage. Iron Dome made this issue even more acute when it raised the question: Why did Israel attack rocket launchers and risk civilian lives when it could neutralize the effects of the rockets with Iron Dome?

The IDF tried a number of ways to combat Hamas's attempt to use lawfare. It tried prestrike notifications to civilians in the vicinity of targets via leaflets, telephone calls, and "knocking on the roof" notification. After the Lebanon War, the IDF pushed legal advisers from the regional command level down to the division level and better inte-

---

[11] Charles J. Dunlap, Jr., "Lawfare Today . . . and Tomorrow," in Raul A. Pedrozo and Daria P. Wollschlaeger, eds., *International Law and the Changing Character of War*, Newport, R.I.: U.S. Naval War College, International Law Studies Series, Vol. 87, 2011, p. 315. For a discussion of lawfare and the evolution of the LOAC, see Bryan Frederick and David E. Johnson, *The Continued Evolution of U.S. Law of Armed Conflict Implementation: Implications for the U.S. Military*, Santa Monica, Calif.: RAND Corporation, RR-1122-OSD, 2015.

[12] Frederick and Johnson, 2015, p. 39.

grated the legal advisers into the targeting process.[13] The IDF conducted legal reviews and has judge-advocate attorneys at division and higher headquarters. Lawyers reviewed targets for compliance with the law and estimates of collateral damage. Their decisions were binding on operational commanders.[14] The IDF also used social media, with mixed results, to try to explain their attacks on targets to internal and external audiences.

And yet, these efforts to combat lawfare produced mixed results. Indeed, the intense international scrutiny of Shuja'iya, Khuza'a, and Black Friday underscore that all military actions will be under a microscope in the modern age. The Goldstone Report and the UN Independent Commission of Inquiry on the 2014 Gaza Conflict both questioned the legality of IDF operations (as well as those of Hamas).[15] The latter review called into question the sufficiency of many of the efforts the IDF took during its operations in 2014—including the use of explosive weapons with wide-area effects in densely populated areas, the Hannibal directive, and other tactics.[16]

As a result, commanders need to understand and adjust to this environment. As a senior Israeli policymaker remarked,

> Israel is a little country and enemies want to do what they can to subjugate Israel to the ICC [International Criminal Court] and delegitimize Israel's ability to defend itself. This is why Israel is cautious. Most people understand what might be the consequences of this. This extends to the level that it disturbs forces,

---

[13] Interview with a senior IDF officer, Tel Aviv, June 13, 2016.

[14] Interview with IDF Military Advocate General officers, Tel Aviv, June 13, 2016.

[15] UN, 2009a; UN General Assembly, *Report of the Independent Commission of Inquiry Established Pursuant to Human Rights Council Resolution S-21/1*, OHCHR.org, A/HRC/29/52, June 24, 2015.

[16] UN General Assembly, 2015, p. 20; also see Jodi Rudoren and Somini Sengupta, "U.N. Report on Gaza Finds Evidence of War Crimes by Israel and by Palestinian Militants," *New York Times*, June 22, 2015. This article notes that Israel and Hamas both refused to cooperate with the inquiry. Israel barred panel members from entering both its territory and Gaza to conduct research.

but to what extent depends on the commanders on the ground and decision makers in the headquarters.[17]

The IDF already plans to do more in this area. On the general staff level, the IDF plans to stand up a new lawfare section—split among the J2 intelligence section, the J3 operations section, and the J5 plans shop. The purpose of the staff section is to conduct "offensive" lawfare, proactively explaining why an IDF operation is legal in the first place rather than responding to accusations after the fact.[18] According to one retired IDF officer, such a proposal is about five years overdue.[19] And more work remains to be done. An IDF general officer serving on the general staff said,

> Israel is still inexperienced with this and it is against its ethos. Israel thinks when they conduct war, no one should interfere. Israel has a long way to go, but is starting to grow up. They understand this is an issue, and they need to figure out how to do this. In the small HQs, it isn't clear where the lawfare should come into play. In the big headquarters, integrating lawfare works better.[20]

The left-leaning Israeli nongovernmental organization Breaking the Silence agreed and found in their interviews with IDF soldiers after Protective Edge that the rules of engagement "were at times ambiguous, leaving junior officers with much discretion regarding the amount of fire to use, and the acceptable degree of collateral damage that may be caused."[21] For better or worse, lawfare is here to stay, and the IDF—like all Western militaries—will have to wrestle with its implications in any future operation.

---

[17] Interview with a senior Israeli policymaker, Tel Aviv, May 25, 2016.

[18] Interview with a senior IDF officer, Tel Aviv, May 20, 2016.

[19] Interview with a retired IDF officer, Tel Aviv, May 26, 2016.

[20] Interview with a senior IDF officer, Tel Aviv, May 26, 2016.

[21] Breaking the Silence, 2014, p. 20.

Precision Firepower Has Significant Limitations

At the same time that the IDF must confront the challenges of lawfare, it must also confront the limitations of precision firepower. As one think-tank analyst remarked,

> The IDF had been under the illusion that precision power could end the war. Some in the IDF refuse to learn this lesson. . . . This [one of the lessons of Protective Edge] is about the limitation about precision and remote air fire.[22]

Other Israeli think-tank analysts agree that the IDF was under an illusion of what it could feasibly accomplish from the air with remote precision fire.

> The general staff believed that if you have precision-guided weapons and the Air Force, then you can finish it and you don't need to invest in the ground forces in the reserve. . . . But we see time and again that we need them, so we call them up every conflict.[23]

Ultimately, airpower alone failed to deliver the results the IDF needed during Operation Protective Edge. Despite an intense bombardment during the first week of the conflict, airpower could not achieve tactical results the IDF needed—either neutralizing rocket fire from Gaza or destroying the tunnels—nor could airpower achieve the broader strategic aim of deterring Hamas and restoring a measure of peace to the region. Ultimately, in the years between Pillar of Defense and Protective Edge, Hamas successfully adapted to the combination of precision air strikes and air-based ISR, and the IDF found itself forced to launch a ground incursion.

Protective Edge underscored not only the need for ground troops to go after the tunnels but also the utility of artillery fire. A senior Artillery Branch officer remarked, "As an artilleryman, in Cast

---

[22] Interview with an Israeli think-tank analyst, Tel Aviv, May 23, 2016.

[23] Meeting with Israeli academics, Begin-Sadat Center for Strategic Studies, Bar Ilan University, Tel Aviv, May 22, 2016.

Lead we almost did not use artillery. There were very few cannons and we shot just a few rounds which did not make a difference."[24] By contrast, the IDF actively used artillery in 2014 mainly because "in Protective Edge, Hamas had learned and challenged us in a different way . . . and some maneuver forces, particular Golani [in the battle Shuja'iya], needed it."[25] The IDF deployed a total of four artillery battalions—divided into two brigades—to Protective Edge, equipped primarily with M109 howitzers firing 155-mm rounds.[26] Each of these guns fired relatively frequently—11 rounds a day, on average—which was less than in the 2006 Lebanon War and what Southern Command originally planned for the operation but still a considerable amount, especially considering the fact that the artillery fire was often supplemented by large-munition air strikes as well.[27] In fact, by the end of the operation, the artillery branch had exhausted its list of preplanned targets.[28]

On a technical and tactical level, the IDF's use of artillery support was impressive. It increased its use of precision artillery from earlier campaigns and reduced the minimum safe distances for providing fire support.[29] Artillery fire often proved quicker and more responsive than other means of firepower, such as CAS. The IDF also experimented with new technology in the radar domain. Hamas mortar fire accounted for as much as one-third of all IDF casualties during the operation, and the IDF relied for the most part on antiquated Q37 radar to locate Hamas mortar launches. During the operation, the IDF fielded two smaller tactical radars to allow the artillery to identify Hamas mortar positions quickly and then strike with counterfire.[30]

---

[24]   Interview with a senior IDF officer, Tel Aviv, May 23, 2016.

[25]   Interview with a senior IDF officer, Tel Aviv, May 23, 2016.

[26]   Interview with a senior IDF officer, Tel Aviv, May 23, 2016. The IDF decided not to employ its Multiple Launched Rocket System (MLRS) because Gaza was too small an area.

[27] Mehr, 2016.

[28]   Interview with a senior IDF officer, Tel Aviv, May 23, 2016.

[29]   Interview with a senior IDF officer, Tel Aviv, May 23, 2016.

[30]   Interview with a senior IDF officer, Tel Aviv, May 23, 2016.

At the strategic level, artillery — particularly the use of area fire (where artillery fire targets an area in the absence of precise intelligence) — can pose a conundrum between balancing operational necessity and facing international fallout over collateral damage.[31] As noted in the previous chapter, the IDF repeatedly — fairly or unfairly — drew criticism for its use of firepower during the campaign. Deciding how to balance the competing concerns then becomes a strategic issue. As a senior IDF lawyer stated, "There are cases when there is no substitute to artillery. When there are a lot of enemy combatants and using artillery will force the enemy to hide, there are discussions of when using artillery would be legal."[32] The challenge becomes ensuring that the rules of engagement are sufficiently strict to protect legal boundaries and strategic priorities without making "commanders feel like they cannot use these weapons in the operation."[33]

CAS and ISR Coordination with Ground Forces Are Improving

Ironically, while Operation Protective Edge showed the limitations of remote precision strike as a concept, it also underscored the IDF's advances in CAS and ISR capabilities. The IDF proved that it could call in fixed-wing CAS at 250 meters (and sometimes less for emergency situations) for fixed-wing aircraft.[34] The IDF used rotary-wing support at even closer ranges — 100 meters or less.[35] All the while, there were no reported incidents of fratricide.[36] CAS also became quicker than in previous operations.[37] The combination of increasing speed and

---

[31] Mehr, 2016.

[32] Interview with a senior IDF officer, Tel Aviv, June 13, 2016.

[33] Interview with a senior IDF officer, Tel Aviv, June 13, 2016.

[34] Interview with a mid-grade IDF officer, Tel Aviv, May 24, 2016.

[35] Interview with a retired senior IAF officer, Tel Aviv, May 23, 2016.

[36] Interview with a retired senior IAF officer, Tel Aviv, May 23, 2016.

[37] Interview with a mid-grade IDF officer, Tel Aviv, May 24, 2016.

accuracy allowed maneuver forces to rely on CAS in ways they had not done five years earlier during Operation Cast Lead.[38]

Israel also improved its ISR—and particularly its UAS capability—during Protective Edge, although more in capacity than in capability. As one UAS operator commented, "If you try to look at things through time, we haven't changed much since Cast Lead, the same way we operated UASs then, we operate now."[39] The primary difference between Cast Lead and Protective Edge was that during the latter operation, the IDF had many more UASs over Gaza and the IDF could support every mission with two or three UASs.[40] Further, ISR was more accessible during Protective Edge and commanders at the battalion level could see UAS feeds.[41] As one IDF artillery officer said,

> We used tactical UAVs in Protective Edge in masses. We had about 19 teams of tactical UAVs all over the place so that you can direct fire using tactical UAVs. That was the first time it was done and it was amazing. The battalion commander can see his targets. He can't see them with his eyes but once they flew the tactical UAVs it was different.[42]

The IDF owed its improvements in air-ground integration during Protective Edge to both technological advances and organizational advances. At the battalion level, fire-support officers trained on requesting and employing CAS before the conflict.[43] During the operation, the IDF put IAF officers—usually reservists—down at the brigade level to help with air-ground integration.[44] At the command level, the

---

[38] Interview with a mid-grade IDF officer, Tel Aviv, May 24, 2016.

[39] Interview with a mid-grade IDF officer, Tel Aviv, May 22, 2016.

[40] Interview with a mid-grade IDF officer, Tel Aviv, May 24, 2016.

[41] Interview with a mid-grade IDF officer, Tel Aviv, May 22, 2016.

[42] Interview with a senior IDF officer, Tel Aviv, May 23, 2016.

[43] Interview with a mid-grade IDF officer, Tel Aviv, May 24, 2016.

[44] Interview with a mid-grade IDF officer, Tel Aviv, May 24, 2016.

IDF stood up a joint Operations Unit — staffed with both Army and IAF officers — to help with air-ground integration.[45]

For the IDF, the advances in air-ground integration solved not only a tactical problem (i.e., supporting IDF units maneuvering against given Hamas targets), but a strategic one as well, particularly the challenge of lawfare. UASs frequently were used to help assess likely civilian effects of targeting in certain areas.[46] While the IDF still was criticized for its heavy-handed approach after Protective Edge, the civilian death toll arguably would have been higher if not for these advancements in ISR and CAS capabilities.

Tunnels Remain an Unsolved Tactical Problem, but Perhaps Not a Strategic Threat

In many ways, the IDF's lack of preparation for tunnel warfare during Protective Edge is surprising. As mentioned before, Gazan tunnels are hardly a new phenomenon, and Hamas had already used tunnels to great effect — with the Shalit kidnapping in 2006, among other incidents. Indeed, the IDF's lack of intelligence on the tunnels going into Gaza is a topic worthy of investigation and further analysis in its own right.

Even after the conclusion of Protective Edge, tunnels remain a problem. As discussed in the previous chapter, the IDF faces real technological challenges with detecting, fighting in, and ultimately destroying tunnels. Protective Edge saw advancements in the IDF's battle against tunnels, but no definitive solution. As one IDF general officer recounted, "Due to TTPs [tactics, techniques, and procedures], we found two tunnels out of the five" in his area of operation. Weather and luck enabled his unit to find the other ones.[47]

Israel continues to look for ways to solve the tunnel problem. Already, the IDF was using a range of approaches — from age-old solu-

---

[45] Interview with a mid-grade IDF officer, Tel Aviv, May 24, 2016.

[46] Interview with a mid-grade IDF officer, Tel Aviv, May 24, 2016.

[47] Interview with a senior IDF officer, Tel Aviv, May 26, 2016.

tions, such as sniffer dogs, to high-tech solutions, such as robots—to detect and clear tunnels.[48] The Israeli Ministry of Defense invested $60 million into research and development in this area, and the U.S. Congress earmarked an additional $40 million in military aid in December 2015 specifically for antitunnel technologies, with potentially more in subsequent years.[49] The IDF also is making operational changes—expanding the number of combat engineer battalions that can destroy tunnels and training all special operations units to fight in tunnels.[50]

Part of the reason why Israel was caught off-guard by the tunnel threat may have to do with Israeli intelligence collection. As already noted, the IDF continues to make strides with imagery intelligence. Be it with planes, UASs, or cameras mounted along the border fence, Israel continues to improve its aerial monitoring of Gaza. These systems, however, often cannot detect tunnel networks, especially if their openings are inside buildings. As detailed in Chapter Four, other technical solutions to find tunnels have proven elusive. Instead, finding tunnels often requires human intelligence, a less technical but arguably at least as challenging form of intelligence to wield effectively.

Israeli defense analysts are still largely split on whether tunnels pose a strategic threat to Israel, however. Unlike rockets, which can range over much of Israel, tunnels only affect the Israeli communities immediately around Gaza, although media coverage magnifies the psychological effects of tunnels attacks.[51] Moreover, since Gaza lacks a port and must bring in sophisticated digging equipment over land, Hamas may find it increasingly difficult to dig tunnels in the future, especially if Egypt continues to restrict what crosses its border into Gaza.[52] As a result, some of the interviewees suggested that the threat

---

[48] Dan Williams, "Israeli Troops, with Dogs and Robots, Track Gaza Tunnels," Reuters, July 30, 2014.

[49] Barbara Opall-Rome, "Israel Eyes U.S. Funding to Detect, Destroy Hamas Tunnels," *Defense News*, April 18, 2016a.

[50] Interview with a senior IDF officer, Tel Aviv, May 26, 2016.

[51] Interview with an Israeli journalist, Tel Aviv, May 24, 2016.

[52] Interview with a senior reserve IDF officer, Tel Aviv, May 23, 2016.

of tunnels may be overblown. A reserve IDF engineering officer stated, "First of all, the tunnels are the tool of the weak. If you try to understand the phenomenon of the underground medium, it is the tool of the weak. You can vanish, protect yourself, and not deal with the Army of the state."[53]

Reserve Component Proves Its Worth

On an organizational front, perhaps one of the most striking elements of Protective Edge was its use of reserve forces. Within a matter of hours, Israel mobilized tens of thousands of reservists who performed a variety of functions, from backfilling active duty units to augmenting staffs to serving on the front lines.[54] Indeed, some of the early plans for Protective Edge were drafted by reserve officers, and some of the armor companies supporting infantry units in areas were reserve companies.[55] In almost all of the interviews conducted for this report, active component commanders gave glowing reviews of the reservists' performance in combat.

Israel's reserve component owes some of its success during Protective Edge to a number of unique features of the Israeli system. Unlike the American system, where soldiers can enlist directly into the reserve component, all reserve component soldiers in the IDF *must* come from active duty, often supporting the same units they served in active duty and thereby minimizing training time. Israel is a small country, so reservists only need to drive a few hours at most to reach their units, minimizing mobilization time. Finally, unlike the United States, Israel faces a relatively defined set number of enemies, all on its immediate border. So, while reservists might encounter new technologies on the battlefield, they are likely to have some baseline familiarity — if not combat experience — with their adversaries.

---

[53]   Interview with a senior reserve IDF officer, Tel Aviv, May 23, 2016.

[54]   Interview with a senior reserve IDF officer, Tel Aviv, May 24, 2016.

[55]   Interview with a senior reserve IDF officer, Tel Aviv, May 24, 2016.

These advantages notwithstanding, the IDF's ability to deploy its reserves quickly also comes from deliberate organizational choices. Unlike the U.S. model, where the National Guard works for the states unless mobilized to federal service, the IDF reserves are strictly under federal control. Moreover, since the Lebanon War, the IDF has invested more in its reserve component. Reserve brigades conduct regular live fire exercises up to brigade level.[56] Reserve units' equipment—from tanks to clothing—is stored and ready to go.[57] Reserve units are also commanded at the brigade level and above by regular active duty officers and have a cadre of full-time staff to speed the mobilization process.[58] Ultimately, the fact that Israel was able to fairly quickly mobilize and deploy its reserve component in combat during Protective Edge is impressive—especially given that it often takes months to mobilize, train, and certify U.S. reservists before they can deploy to Iraq or Afghanistan.

The IDF Still Wrestles with Other Organizational Challenges

Other aspects of the Israeli organizational structure were functional but perhaps less impressive. For example, in Protective Edge, the IDF fought as combined arms teams at the battalion level, if not below. Indeed, on even lower levels, infantry, engineering, and bomb disposal squads and canine units would often combine to clear military objectives, just as they had in previous operations on West Bank, Gaza, and Lebanon.[59] This was—as least in the minds of senior IDF officers—one of the major lessons coming out of Protective Edge. A senior IDF staff officer at Southern Command remarked, "The most positive lesson learned was the importance of combined operations—of how

---

[56] Interview with a senior reserve IDF officer, Tel Aviv, May 24, 2016.

[57] Interview with a senior reserve IDF officer, Tel Aviv, May 24, 2016.

[58] Interview with a senior reserve IDF officer, Tel Aviv, May 24, 2016.

[59] Shamir, 2015, p. 7.

you make your abilities and the results you can get multiply by really working together in combined task forces."[60]

Combined arms task forces are not, however, the way the IDF currently is organized. As mentioned earlier, the IDF retains separate infantry and armor brigades. While some analysts argue that this organizational scheme allows for economies of scale when training (i.e., allowing an entire armor brigade to train together) and encourages flexibility in the system by forcing the commanders to task organize on the fly, this is a minority view.[61] One IDF general officer argued that IDF ideally would like combined arms brigades, but "the problem with achieving jointness is that the system would be expensive. It is a budget concern."[62] Another IDF officer echoed these concerns. While acknowledging the economies of scale in training for single-arm units, he noted, "it is clear today that fighting has to be combined more at a lower level, and eventually this will outweigh resource constraints and the professional advantages."[63]

If some of the IDF's organizational challenges are budgetary, others may be cultural. Another outstanding question from the operation is the positioning of the commander on the battlefield. Historically, the IDF prefers its commanders at the battalion and even brigade level to be at the front with the troops, rather than back at operations centers. This approach has disadvantages, however. Particularly as warfare becomes more technical, brigades need to control a more diverse array of enablers from operations centers; with increased access to better communications and live imagery feed, situational awareness can be better at an operations center than at the front. Moreover, placing more-senior commanders in front also incurs tactical risk. Indeed, one of the striking aspects of Protective Edge is just how many officers were killed or wounded in the operation, including at critical points in the battle, such as during the Battle of Shuja'iya.

---

[60] Interview with a retired senior IDF officer, Tel Aviv, May 24, 2016.

[61] Interview with a think-tank analyst, Tel Aviv, May 26, 2016.

[62] Interview with a senior IDF officer, Tel Aviv, May 26, 2016.

[63] Interview with a senior IDF officer, Tel Aviv, May 26, 2016.

The IDF is experimenting with organizational changes to mitigate these concerns. For example, it is placing former brigade commanders as chiefs of staff in brigades, so as to better command and control various enablers back at the operations centers while the brigade commander is out in the field.[64] The plan has key benefits in terms of experience in the operations center and built-in redundancy in case something happens to the brigade commander, but also risks friction within a brigade since the chief of staff is now more senior than the commander. It remains an open question whether this change will solve this issue.

Iron Dome Is Effective . . . For Now

In academic circles, the effectiveness of missile defense remains hotly contested. While the IDF touts an effectiveness rate of 90 percent or better, outside academic estimates place the true intercept rate as low as 5 percent.[65] Inside Israel, this debate seems to be moot. All the IDF officers, journalists, and think-tank experts say they believe that Iron Dome worked during Protective Edge, saving Israeli lives and minimizing Israeli property damage. The faith in Iron Dome comes from Israeli casualty statistics. Not only did relatively few Israeli civilians die from indirect fire, but few were wounded in the operation. According to Magen David Adom (Israel's Red Cross), only 69 Israelis were injured as a direct result of rockets — either from rockets or flying glass and other debris.[66] Far more Israelis suffered from second-order effects of living under rocket attack: alerts causing traffic accidents (18), running to shelters (159), and anxiety (581).[67] If Iron Dome's success is as overstated as its critics claim, the placebo effect seems to be almost as good as real thing.

---

[64] Interview with a senior IDF officer, Tel Aviv, May 26, 2016.

[65] See Landau and Bermant, 2014, pp. 37–38.

[66] Shapir, 2014, p. 45.

[67] Shapir, 2014, p. 45.

This is not to say that there are no Israeli skeptics of Iron Dome; rather, that those skeptics raise different concerns. Many IDF officers and policymakers, in fact, view Iron Dome as both a blessing and a curse. The system—in their opinion—obviously saves lives, but it also complicates Israel's ability to justify the operation to an international audience. As one senior Israel policymaker argued, Iron Dome "is a blessing because it buys Israel time, but Israel needs an excuse for why they are killing Palestinians in operations. They need this to convince the Americans. When Iron Dome works so well and so few Israelis die, Israel loses the justification for the operation."[68]

Iron Dome also affects the nature of ground operations. At the political level, Iron Dome relieves pressure on policymakers to achieve quick results and so mitigates the need for Israel to push rapidly ahead with a ground operation.[69] And even when Israel does undertake a ground operation, it does not need to occupy all the possible rocket launch sites, so the ground incursion can be more limited. As a result (and somewhat counterintuitively), Iron Dome likely saved Palestinian civilian lives—as well as Israeli ones—by limiting the scale of the ground operation. The downside of this evolution, of course, is that conflicts last longer. As one think-tank analyst put it, then–Defense Minister Bogie Ya'alon could afford "to change the concept of operations to attrition rather than a decisive campaign. . . . There are no casualties, no harm to Israel, so no need to stop the campaign."[70] A war of attrition, however, often produces unsatisfactory results. As one IDF general officer remarked, "without maneuver [deeper into Gaza], your achievement will be very indecisive."[71]

Israeli analysts were also concerned about whether Iron Dome could perform as well in a future conflict as it did during Protective Edge. As one think-tank analyst remarked, "The next war may be

---

[68] Interview with a senior IDF policymaker, Tel Aviv, May 25, 2016.

[69] Landau and Bermant, 2014, pp. 40–41; interviews with Israeli think-tank analyst, IDF senior officer, and former U.S. official, Tel Aviv, May 24–26, 2016; Shamir, 2015, p. 8; Landau and Bermant, 2014, pp. 40–41.

[70] Interview with Israeli think-tank analyst, Tel Aviv, May 23, 2016.

[71] Interview with a senior IDF officer, Tel Aviv, May 26, 2016.

against Hezbollah. The IDF's information on Hezbollah is biased, but the IDF thinks Hezbollah has 100,000 rockets. In 2006, Hezbollah had 10,000 rockets and they fired 4,000 during the 34 days of the 2006 war, and Israel couldn't stop them from launching rockets until the last day of the cease-fire."[72] Other analysts were also concerned that Iron Dome may not fare as well even in another Gaza war, which would negatively affect the mindset of an Israeli population that had come to expect a high standard of protection against rockets. Hamas already tried to overwhelm Iron Dome by firing salvos of rockets during Protective Edge; larger salvos in a future conflict would stress the system even further. In addition, Hamas supposedly has other new technologies in the works, such as rockets with a low ballistic trajectory to avoid Iron Dome interception but with ranges of 7–8 km to hit targets well inside Israel.[73] Concerns have also been raised that more-precise missiles would increase the number of threats inbound to individual target areas, thereby potentially overwhelming Iron Dome units within range.[74] Finally, analysts note that an adversary—be it Hamas or Hezbollah—does not need much success to cause a disproportionate effect on Israel's economy: A single rocket falling near Tel Aviv's Ben Gurion airport on July 22, 2014, functionally shut down most civilian air travel to Israel for 36 hours. And so, while most Israelis regard Iron Dome's performance in Protective Edge as a success story, it is a story with significant asterisk at the end.

Armored Vehicles Remains Key to Urban Combat

From the ground perspective, on the technological front, Protective Edge underscores the continued importance of armored vehicles for urban combat. Before Protective Edge, the IDF invested in intelligence and airpower, often at the expense of particularly heavy armor

---

[72] Interview with an Israeli think-tank analyst, Tel Aviv, May 23, 2016.

[73] Shapir, 2014, p. 45.

[74] Interviews with Israeli think-tank analysts, Tel Aviv, May 25–26, 2016; Shapir, 2014, p. 47.

platforms like the Merkava tank and the Namer armored personnel carrier.[75] Indeed, in the year preceding Protective Edge, Israel gradually cut the size of its Namer purchase to pay for other priorities.[76] Perhaps the Battle of Shuja'iya demonstrates that airpower and firepower cannot compensate for armored vehicles. One think-tank analyst argued that this was "the number one" lesson of the battle: "Half a year before, they closed the Namer and we said it was a mistake; and immediately after, they reopened the project. You need protection. Mobility is protection."[77]

After Protective Edge, the IDF is once again investing in armored vehicles, purchasing more Namers instead of American V-22 Osprey tilt-rotor aircraft (which the IDF previously planned to deliver to special forces teams).[78] The IDF is also buying the Eitan — a new, indigenously produced multipurpose wheeled armored personnel carrier — to replace its aging M113s.[79] Weighing 35 tons and designed to carry 12 troops, the Eitan costs and weighs half as much as the Namer, which is built on the same platform as the Merkava tank, and Israel hopes the Eitan will allow it to phase out the M113s still in use.[80] For some IDF officers, however, the move comes a little too late: One senior Southern Command staff officer bitterly remarked, "now, after the last operation in Gaza, once again the money is found and so on. Unfortunately there were some people who paid with their lives in that story."[81]

---

[75] Gabi Siboni, "Operations Cast Lead, Pillar of Defense, and Protective Edge: A Comparative Review," in Anat Kurz and Shlomo Brom, eds., *The Lessons of Protective Edge*, Tel Aviv, Israel: Institute for National Security, 2014, p. 33.

[76] Interview with a retired senior IDF officer, Tel Aviv, May 24, 2016.

[77] Meeting with Israeli academics, Begin-Sadat Center for Strategic Studies, Bar Ilan University, Tel Aviv, May 22, 2016.

[78] Shamir, 2015, p. 5.

[79] Interview with a senior IDF officer, Tel Aviv, May 24, 2016.

[80] Barbara Opall-Rome, "Israel Unveils Wheeled, Actively Protected Armored Carrier," *Defense News*, August 1, 2016b.

[81] Interview with a retired senior IDF officer, Tel Aviv, May 24, 2016.

Active Protection Systems Are Effective and Produce Indirect Benefits

An important lesson from the Israeli experience is the need for active protection on vehicles that will face the threat of RPGs and ATGMs. The most advanced of these weapons can defeat any fielded passive and reactive armor systems. The IDF has the Trophy Active Protection System on its tracked Merkava tanks and Namer armored personnel carrier, augmenting more-conventional armor. It is also putting Trophy on the new Eitan wheeled vehicle, which has much less conventional armor than the Merkava or Namer. Indeed, the Israelis are banking on the Trophy to protect the Eitan.[82]

The faith in Trophy comes from experience. Not all vehicles were equipped with Trophy during Protective Edge,[83] but there was near-universal consensus among IDF officers and outside analysts interviewed for this report that vehicles equipped with the Trophy system stood a better chance of surviving not only RPG fire, but also the Kornet ATGM.[84] Indeed, according to some accounts, there were at least 15 instances of active protection systems intercepting Kornet-style missiles.[85] Anecdotally, some IDF patrols reported that they did not even realize that active protection systems had intercepted an incoming round until they returned to their assembly areas and realized the outsides of vehicles were black from Trophy intercepts.[86]

The Trophy system not only protected vehicles, it also produced other indirect benefits on the battlefield. An armor branch general officer remarked that the technology shifted the ways the commanders

---

[82] Opall-Rome, 2016a.

[83] Interview with a senior reserve IDF officer, Tel Aviv, May 24, 2016.

[84] Meeting with Israeli academics, Begin-Sadat Center for Strategic Studies, Bar Ilan University, Tel Aviv, May 22, 2016; interview with an Israeli think-tank analyst, Tel Aviv, May 23, 2016.

[85] Meeting with Israeli academics, Begin-Sadat Center for Strategic Studies, Bar Ilan University, Tel Aviv, May 22, 2016.

[86] Meeting with Israeli academics, Begin-Sadat Center for Strategic Studies, Bar Ilan University, Tel Aviv, May 22, 2016.

behaved; specifically, "units that have Trophy maneuver much quicker and comfortably, but with more risk."[87] The Trophy system also acted as an intelligence-gathering system, identifying where missile and RPG fire came from and aiding the IDF reaction.[88]

Conclusion

Ultimately, Protective Edge teaches a range of strategic, operational, tactical, organizational, and technological lessons about urban combat against an irregular force. As noted in the introduction to this chapter, however, Israel's situation in Gaza differs from what the U.S. military faces in almost every place it operates and likely will operate for the foreseeable future. As a result, some of Israel's lessons from Protective Edge have less relevance to the U.S. Army and the joint force than others, a topic we address in the next chapter.

---

[87] Interview with a senior IDF officer, Tel Aviv, May 24, 2016.

[88] Interview with a senior IDF officer, Tel Aviv, May 24, 2016.

Recommendations for the U.S. Army and the Joint Force

What can the U.S. Army and the joint force learn from Operation Protective Edge? Israel has been a source of vicarious learning for the U.S. military for decades, and these latest Gaza wars are no exception. This chapter, consequently, explores the lessons of Protective Edge for the U.S. Army and the joint force in three sections. It starts by cautioning the reader what lessons the United States might not be able to implement. Israel is a unique country under special circumstances, after all, and overextrapolating from its example is not only inappropriate but dangerous, in some cases. The second section of this chapter highlights what lessons the United States should apply, and the third section makes recommendations for the U.S. Army and the joint force in light of those lessons.

What Lessons May Not Apply

As described in Chapter One, Israel is a small, relatively homogenous country with regional adversaries and faces a distinct set of strategic challenges and benefits that are different from a global superpower like the United States. While it is important for the U.S. Army and the joint force to learn the lessons of Protective Edge and Pillar of Defense, it would be a mistake (as some Israeli senior national security officials themselves realize) for the United States to overextrapolate from the

Israeli example.[1]Consequently, almost as important as identifying the lessons that do apply is understanding which lessons may not apply to the U.S. Army and the joint force.

The IDF Reserve Forces: A Tailored Solution to a Unique Problem

During Operation Protective Edge and Pillar of Defense, the IDF reserve force proved that it could be mobilized quickly, serve as a strategic tool to signal political resolve and, ultimately, pay dividends as a combat multiplier. And yet, despite the clear value of the IDF reserve force during Israel's wars in Gaza, the United States may not be able to replicate this dynamic for at least four reasons.

First, Israel may be structurally better suited to rely on its reserve force. A geographically small country surrounded by adversaries, Israel lacks strategic depth while its small size allows reserve units to mobilize and deploy to the front lines with a speed and level of responsiveness that the U.S. Army cannot mirror, except perhaps when local Army National Guard and/or Army Reserve units respond to local unrest or natural disasters. Fighting close to home—along with universal conscription—also indirectly shapes Israeli culture. Despite the decline in Israeli public support for the reserve service over time, Israeli society still is overall more supportive of military service than Western countries.[2]The United States arguably saw parallel cultural dynamics very early on in its history, during the militia era, but after the frontier closed and the immediate threats to its citizens grew increasingly distant, this ceased to be the case.[3]

---

[1]   Interview with a former senior Israeli national security official, Tel Aviv, May 25, 2016.

[2]   In 2002, for example, more than half of Israelis stated that if given the choice, they would not perform reserve duty, up from 20 percent in 1974. Gabriel Ben-Dor, Ami Pedahzur, and Badi Hasisi, "Israel's National Security Doctrine Under Strain: The Crisis of the Reserve Army," *Armed Forces & Society*, Vol. 28, No. 2, Winter 2002, p. 335.

[3]   For the classic history of the evolution of militia and National Guard, see John K. Mahon, *History of the Militia and the National Guard*, New York: Macmillan Publishing Company, 1983; John Shy, *A People Numerous and Armed: Reflections on the Military Struggle for the American Independence*, revised edition, Ann Arbor, Mich.: University of Michigan Press, 1990; and Michael D. Doubler, *I Am the Guard: A History of the Army National Guard, 1636–2000*, Washington, D.C.: Department of the Army, 2001.

Second, the IDF also enjoys relative macrostrategic continuity that better allows use of its reserves. Despite the variations in political context and the precise tactics employed, Israel largely faces the same adversaries (in this case, Hamas and other Palestinian militant groups) on the same terrain (Gaza) at semiregular intervals. Moreover, at least up to Protective Edge, the basic mission—a punitive operation designed to stop rocket fire and infiltration and restore deterrence—is also largely fixed. By contrast, with the possible exception of when it was routinely rotating through Iraq and Afghanistan at the height of those respective conflicts, the U.S. Army cannot expect the same strategic continuity in its adversary, terrain, and mission. With global interests, the U.S. Army must prepare for a wider array of contingencies against a more varied and dynamic set of adversaries. Consequently, American reservists might face steeper learning curves than their IDF counterparts.

Third, the IDF could also turn to its reserve force in Gaza, partly because of the specific dynamics of these conflicts. Israel's wars tend to be short. By Israeli standards, Operation Protective was a long campaign at 51 days. From a reserve policy standpoint, short conflicts minimize some of the disruptive effects that come from pulling reservists out of their civilian professions for prolonged periods of time. By contrast, protracted deployments pose a greater problem for U.S. Army units that routinely deploy for nine months to a year or more at a time, although this problem is somewhat mitigated by the fact that reservists represent a dramatically smaller percentage of the overall American population.

Israel can also turn to reservists to help fight its wars in Gaza because, for the most part, these conflicts do not feature high-intensity combat. While Protective Edge saw periodic intense battles, such as the battle of Shuja'iya at the start of the ground campaign and the battle of Rafah at the end of the conflict, most IDF troops in the operation did not witness the same fierce fighting. Furthermore, these battles were largely fought by active duty formations, allowing reservists to fill in as necessary but supporting roles. Ultimately, whether the IDF reserve force could replicate its performance in a more intense conflict remains to be seen. Indeed, neither the IDF active nor reserve forces performed

well during the Second Lebanon War, although both have improved markedly during the last decade of Gaza wars.[4]

Finally, on the demand side, the IDF also needs to turn to its reserve forces to solve problems unique to its own force structure. Like the U.S. Army, the IDF has certain key enabling capabilities—such as medical support, interrogators, and IAF liaison officers—that are resident in its reserve forces.[5] Unlike the U.S. Army, the IDF also needs to turn to its reserve forces as a source of operational experience, particularly in the enlisted ranks.[6] Without a professional noncommissioned officer corps and a culture of promoting its officers young, reservists, particularly in lower-echelon units, can provide some of the continuity and knowledge that professional noncommissioned officers provide in the U.S. system.

While the IDF reserve forces provided value during the Gaza conflicts, the lessons do not translate readily to the U.S. Army or the joint force more broadly. Even so, there are aspects of the IDF's reserve system that are worthy of future study, and perhaps even imitation (e.g., the IDF's adoption of multicomponent staff down to relatively low levels), and these lessons need to be viewed in context.[7]

The United States Faces Different Combined Arms, CAS, and ISR Integration Problems

Aside from total force questions, the U.S. Army also wrestles with different organizational issues than the IDF. For example, the Army already incorporates combined arms formations at the brigade and battalion level, and there is little evidence from the IDF's experiences in Gaza that cast doubt on this organizational concept. If anything, multiple IDF senior officers said that they would like to move to an orga-

---

[4] See Johnson, 2011a.

[5] Interview with a mid-grade IDF officer, Tel Aviv, May 23, 2016; interview with a mid-grade IDF officer, Tel Aviv, May 24, 2016.

[6] Interview with a senior IDF reserve officer, Tel Aviv, May 24, 2016.

[7] In a nudge in this direction, the U.S. Army is already experimenting with multicomponent staffs. See William D. Ritter, "Army Reserve Has New Positions Within XVIII Airborne Corps," U.S. Army Reserve Command Public Affairs, March 12, 2015.

nizational concept closer to the U.S. construct—although some feared the costs of such reorganization would be prohibitive.[8]

The U.S. Army and the joint force also confront somewhat different challenges when it comes to ISR integration and CAS. Unlike the Israeli system, the U.S. Army has organic unmanned aerial system support and rotary-wing support at the division level. As a result, the IAF has had to make a deliberate effort for UAS pilots to exercise and build relationships with ground forces, whereas these relationships are habitual in the U.S. system.[9]

At the same time, however, the military services in the Israeli system are less distinct than in the United States, making joint operations somewhat easier to coordinate. The active duty size of the IAF (34,000 airmen) is about a tenth the size of the regular U.S. Air Force, while Israel's ground forces (133,000) are less than one-third of the size of the Regular Army.[10] The smaller size and compact geography, in turn, make for more-frequent interactions between the two arms in Israel as opposed to the U.S. model.

The Dogs That Did Not Bark: Logistics and Intelligence

Two of the stories mentioned only in passing during Israel's wars in Gaza were the intelligence and logistics efforts. The logistics effort during Israel's Gaza wars is most noticeable for its absence. While a study of most U.S. operations would need to feature a discussion of force projection considerations, these concerns took a backseat in Israel's wars in Gaza for the most part, for obvious reasons. With the majority of the IDF operating from within Israel's boundaries and the line of advance extending a mere 2 km inside Gaza, Protective Edge offers few, if any, lessons about expeditionary operations. Similarly, Gaza's small size and proximity to major IAF bases meant that aircraft did not face the same range constraints and time on station limitations that the United States must routinely confront in other theaters. While

---

[8]   Interview with a retired senior IDF officer, Tel Aviv, May 24, 2016; interview with a senior IDF officer, Tel Aviv, May 26, 2016.

[9]   Interview with a mid-grade IDF officer, Tel Aviv, May 22, 2016.

[10] IISS, 2016, p. 33.

there were some sustainment concerns (e.g., reports of Israel running low on Iron Dome interceptors during Pillar of Defense in 2012 and problems with antiquated trucks to carry tanks), Israel's wars in Gaza by and large did not stress the logistics system to the same degree as other conflicts.[11]

As discussed in Chapter Four, Israel did confront intelligence challenges in Gaza. While Protective Edge saw improvements in availability of tactical-level intelligence, the IDF failed to correctly predict when Hamas would agree to cease-fires or map Gaza's tunnel networks ahead of the conflict. These failures notwithstanding, however, Israel enjoys an intelligence edge in Gaza that few, if any, U.S. operations can ever enjoy. The fact that Israel has operated in Gaza for decades means that it knows the culture, the language, and the people with a degree of granularity almost unequaled in any U.S. operation. Moreover, Gaza's (and Southern Lebanon's) small size allows the saturation of ISR sensors. Indeed, according to some unmanned aerial system operators, one of the primary challenges that Israel faced during Protective Edge came from airspace deconfliction issues, rather than insufficient quantities of platforms.[12]

Ultimately, as with combined arms operations and CAS and ISR integration, there may be tactical lessons to be learned from the Israeli experiences during the last two Gaza Wars, but there are fewer macrolessons beyond the general imperative of understanding the nature of one's adversary in these types of conflicts. At the end of the day, Israel enjoys advantages in Gaza that the U.S. Army and the joint force will likely never enjoy in future conflicts.

What the United States Should Learn from Protective Edge

While the United States will probably never face a conflict quite analogous to what Israel faces in Gaza, the United States does confront

---

[11] Interview with retired IDF officer, Tel Aviv, May 24, 2016; Harel, 2013.

[12] Interview with a mid-grade IDF officer, Tel Aviv, May 22, 2016.

similar regional threats and has the same international constraints as Israel. Moreover, the U.S. Army and the joint force could quite likely face a hybrid actor similar to Hamas, be it in the Middle East or elsewhere. Accordingly, Israel's wars in Gaza provide a range of strategic, operational, and technological lessons for the U.S. Army and the joint force at large.

Prioritize Victory over Casualty Sensitivity

Like Israel, the United States also wrestles with the question of casualty sensitivity, particularly when it comes to committing ground troops to conflict zones. Especially in the aftermath of the Afghanistan and Iraq wars, many politicians are loath to take this step. Indeed, in the 2016 presidential elections, Democratic presidential nominee Hillary Clinton pledged, "We are not putting ground troops into Iraq ever again and we're not putting ground troops into Syria."[13] Republican nominee Donald Trump, by contrast, expressed only marginally more willingness to commit ground troops abroad, although his position has varied over time.[14]

Admittedly, the United States faces a different set of dynamics than Israel when deciding whether to commit ground forces. On one side of the equation, the United States fights expeditionary conflicts against enemies that do not pose an immediate threat to the homeland the way Hamas in Gaza does to Israel. Also dissimilar to the IDF's situation, the U.S. military is an all-volunteer force, drawn from a very small percentage of the population, perhaps making the commitment of forces somewhat more palatable. Moreover, Israel faces more intense international scrutiny than the United States whenever it commits ground forces—and since Israel is not a global superpower and lacks a permanent seat on the United Nations Security Council, it is in less of a position to withstand such international pressure.

---

[13] Kristina Wong, "Clinton Vows Not to Commit U.S. Ground Troops to Iraq or Syria," *The Hill*, September 7, 2016.

[14] Bradley Klapper, Lolita C. Baldor, et al., "AP Fact Check: Donald Trump on U.S. Intervention in the Middle East," *PBS News Hour*, August 15, 2016.

These differences notwithstanding, the analytical challenge behind understanding Israeli and American reluctance to use ground forces remains the same. In both cases, the public is clearly reluctant to commit ground troops, with at least two potential hypotheses about why this is the case — simply stated, fear of casualties or a belief that casualties do not produce any concrete results. As shown in Chapter Six, the latter seems to be the driving cause of Israeli public opinion.

Limited research in this area seems to indicate that similar dynamics may hold true in the United States as well. In their study of attitudes toward the Iraq War, political scientists Gelpi, Feaver, and Reifler found that chances of success are the primary driver of public support for conflicts and the public's tolerance for causalities, although other studies reported different results.[15] Similarly, studies of the American military indicate that the indeterminate outcomes of the most recent conflicts — rather than casualties, pay, or tour length — may be the true drivers of troop morale.[16] If true, Israel's wars in Gaza may teach the U.S. Army and the joint force an important lesson for planning the next campaign: When it comes to maintaining popular support for conflicts, there is no substitute for achieving clearly stated policy objectives rapidly.

Western Militaries Have Not Solved the Lawfare Problem

Protective Edge teaches two key lessons about lawfare for the U.S. Army and the joint force. First, lawfare is increasingly a core facet of modern warfare. As Frederick and Johnson found in their study of lawfare, "Incidents leading to relatively modest numbers of civilian deaths would have gone largely unremarked in earlier conflicts, but they now have significant political ramifications and can undermine support for

---

[15] See Christopher Gelpi, Peter D. Feaver, and Jason Reifler, "Success Matters: Casualty Sensitivity and the War in Iraq," *International Security*, Vol. 30, No. 3, Winter 2005/2006. For a sample of the counterargument in the American context (that support is simply correlated with body count), see John Mueller, "The Iraq Syndrome," *Foreign Affairs*, Vol. 84, No. 6, November–December 2005.

[16] See Cohen, 2015a; Cohen, 2015b.

continuing the conflict."[17] Whether it is with the drone program in Afghanistan and Pakistan or the use of air strikes in Iraq and Syria, the U.S. military routinely confronts some of the same lawfare problems that the IDF confronted in Gaza. The lawfare problem becomes all the more vexing when the adversary is embedded within an urban setting.

Second and more important, Western militaries thus far have not found an adequate solution to the lawfare problem. As detailed in Chapter Six, despite all the IDF's efforts to mitigate civilian casualties and collateral damage—and to explain its processes in a very public way—the IDF finds itself losing at lawfare. David Rothkopf, writing about civilian casualties in Gaza and the Ukraine, explains why:

> From a purely political perspective, such tragedies, isolated though they may be, instantly dominate the narrative of a conflict because they speak to the heart of observers—whereas government speeches, Twitter feeds, and press releases seem too coldly rational and calculated, too soulless and self-interested. There are no arguments a political leader or a press officer can make that trump horror or anguish. There is no moral equation that offers a satisfactory calculus to enable us to accept the death of innocents as warranted.[18]

According to Rothkopf, all the technological and tactical solutions to lawfare—well-intentioned though they may be—simply cannot compensate for the emotional impact of civilian casualties. And so, Western militaries find themselves fighting a difficult legal and public opinion battle.

Arguably, the United States has done no better in solving the lawfare problem than the IDF. In fact, the United States has experimented with some of the same tactics that Israel used in Gaza—such as "roof knocking"—to solve the lawfare problem in its counter–Islamic State

---

[17] Frederick and Johnson, 2015, p. 26.

[18] David Rothkopf, "The Slaughter of Innocents: Why Collateral Damage Undoes the Best-Laid Plans of 'Limited' War Makers," *Foreign Policy*, July 17, 2014.

campaign in Iraq and Syria.[19] And, like the IDF, the United States found the results not entirely satisfactory. As coalition spokesperson U.S. Army COL Steve Warren explained, "It was a test to see if it worked…it didn't."[20] And so, the U.S. Army and the joint force—like the IDF—need to continue to develop ways to combat lawfare.

Captured Friendly Soldiers Still Pose an Outsized Problem for Western Militaries

A related conundrum to the lawfare problem is how Western militaries should handle captured friendly soldiers—specifically, how far should the military go to prevent soldiers from being captured in the first place and what price should a state be willing to pay to get its soldiers back? These questions have operational, strategic, and ethical implications. In Israel's case, the lopsided prisoner transfer to free IDF soldier Gilad Shalit likely contributed to the IDF's willingness to employ extensive force against Hamas once the Hannibal directive was invoked during Operation Protective Edge. Right or wrong, Israel faced international criticism for this move, as detailed in Chapter Four. Ultimately, in June 2016, the IDF announced it was revoking the controversial directive.[21]

For its own part, the U.S. Army and the joint force likely face similar operational, strategic, and ethical concerns when it comes to captured soldiers. At present, the U.S. Army and the joint force do not have an equivalent of the Hannibal directive. The U.S. military does have the "Code of Conduct," which directs American service members to resist capture and outlines how they should behave if they do fall into captivity.[22] But the "Code of Conduct"—first enacted by an Executive order in 1955 and finally solidified in 1988—dates to a different era of warfare, long before the war on terrorism began. More-

---

[19] Adam Taylor, "Israel's Controversial 'Roof Knocking' Tactic Appears in Iraq. And This Time, It's the U.S. Doing It," *Washington Post*, April 27, 2016.

[20] Taylor, 2016.

[21] Bob, 2015; Kershner, 2016.

[22] White House, "Code of Conduct for Members of the United States Armed Forces," Executive Order 10631, August 17, 1955.

over, it provides little guidance in how far the United States should go to prevent a soldier from being captured or to retrieve him once he has been captured.

Indeed, the U.S. Army and the joint force confronted the issue of captured service members several times over the past decade. In May 2014, the United States swapped five prominent Taliban detainees held in Guantanamo Bay in exchange for SGT Bowe Bergdahl, and while the deal was not as lopsided as some of the Israeli prisoner exchanges, at least one of the detainees has since returned to the fight.[23] The prisoner exchange remains controversial and highlights the continuing problem of captured soldiers for Western militaries.

Remote Precision Firepower Has Limits

Israel's wars in Gaza also underscore the limits of remote, precision firepower. While Pillar of Defense only extended to an air operation, the campaign ended more as a result of the intervention of the Morsi government in Egypt than the success of Israeli air strikes. Similarly, in Protective Edge, the IAF could not stop the rocket fire from Gaza or solve the tunnel problem. Ultimately, Israel needed ground forces—often applying ample quantities of firepower—to bring Protective Edge to an end.

For the U.S. Army and the joint force, the fact that modern urban combat often requires ground forces employing substantial quantities of firepower has both tactical and strategic implications. On a tactical level, the U.S. Army should learn from the IDF's experiences in Gaza about how to maneuver tanks and infantry formations within dense urban terrain and what procedures to follow to improve fixed-wing CAS responsiveness and precision.

On a more strategic level, however, it would be a mistake for the joint force to operate on the assumption that the combination of precision airpower—perhaps augmented with a handful of special operations forces—serves as a strategic solution. While the prospect of surgical, if casualty-free, conflict has political appeal, and there is no

---

[23] Barbara Starr, "Officials: Detainee Swapped for Bergdahl Suspected of Militant Activities," CNN.com/Politics, January 30, 2015.

denying the power of precision airpower, the promise often does not accord with strategic reality. Indeed, the United States has encountered the limitations of precision airpower repeatedly in its own campaigns against regular and irregular forces. While airpower-heavy campaigns can yield early successes, whether in the early phases of Afghanistan or in Libya, precision airpower alone cannot finish the job. Competent adversaries will endeavor to take away overhead surveillance advantages by hiding targets or by placing these targets in civilian areas to complicate a force's ability to attack and to practice lawfare.

Missile Defense Works

Perhaps the most important technological breakthrough coming out of Israel's wars in Gaza was Iron Dome. As detailed in the previous chapter, despite the academic debates over Iron Dome's effectiveness, there was near-unanimous agreement from those interviewed for this report that Iron Dome worked on a technical level and, in turn, shaped the course of these wars by changing the Israeli political calculus. This success has three important implications for the U.S. Army, the joint force, and American foreign policy in general.

First, Iron Dome serves as an important proof of concept that short-range missile defense is possible. While the U.S. homeland obviously does not face the same immediate missile threat that Israel does — and those threats that United States does face come from long-range intercontinental ballistic missiles of a type not covered by Iron Dome — the U.S. military could still benefit from an Iron Dome or equivalent system. Such a system could be used to help protect U.S. forward operating bases in Iraq and Afghanistan from insurgent rocket attacks and complement existing American Patriot and Terminal High Altitude Air Defense (THAAD) systems in more conventional contexts as well. Indeed, according to news reports, the United States was already contemplating whether to buy Iron Dome or a similar American system to help bolster European air defenses against a potential Russian missile threat.[24]

---

[24] "U.S. Eyes Israeli Short-Range Missile Interceptor for Europe Defence," Reuters, June 27, 2016.

Second, from the standpoint of American foreign policy, U.S. funding of Iron Dome through foreign military aid likely serves other foreign policy objectives—quite apart from developing a weapons technology that the United States might need in other contexts. By helping to mitigate the rocket threat to Israel, Iron Dome kept the Gaza wars as limited conflicts—mitigating the need for the IDF to push deeper into Gaza and engage in a broader and presumably bloodier conflict. In this sense, Iron Dome likely not only saved Israeli lives during these conflicts, but also indirectly saved Palestinian lives.

Finally, the second-order effects of Iron Dome teach a broader point for the U.S. Army and the joint force about the interaction among successful defenses, decisive operations, and politics. As detailed in Chapter Five, some Israeli officers and policymakers believe that Iron Dome's success at protecting the Israeli public made Israeli policymakers less inclined to order more-expansive ground operations. While the U.S. homeland may never face the same indirect fire threat, it may experience similar political dynamics. As successful defenses relieve pressure on the homefront, political will to use decisive force declines. This may—or may not—be a bad thing, and, either way, there is little the U.S. military can do to affect these dynamics. Still, it needs to be cognizant of these underlying forces— particularly for the U.S. Army, which sells itself as providing decisive force.[25]

Active Protection Systems and Armored Vehicles Are Vital

An immediate technological lesson for the U.S. Army from Operation Protective Edge is the importance of armored vehicles and the importance of active protection systems. As demonstrated by Golani's fight in the battle of Shuja'iya, there is no substitute for armored vehicles in a contested urban environment, and older vehicles—such as the M113—simply are not adequate to the task. Golani's experience, indeed, underscores similar U.S. experiences in the battles of Fallujah,

---

[25] For example, see "The U.S. Army Squad: Foundation of the Decisive Force," Association of the United States Army, October 11, 2011; Robert Sisk, "Despite Downsizing, Army Remains Decisive Service in War, Chief Says," Military.com, October 12, 2015.

Sadr City, and elsewhere — all of which highlight the importance of armor in urban terrain.

Furthermore, Operation Protective Edge highlights the value of active protection systems for tanks and other combat vehicles. The Israeli Trophy system performed well against Hamas's RPGs and ATGMs. These systems not only protected the vehicles and the soldiers traveling inside of them, but also produced indirect benefits. Israeli tank commanders, for example, were more aggressive on where and how they maneuvered their tanks, knowing that they had increased protection.[26]

By contrast, the United States has been slow to adopt active protection systems for a host of reasons. This could prove detrimental because the armor on U.S. combat vehicles will not stand up to advanced ATGMs. Indeed, in June 2014, *Janes* reported that 28 of Iraq's U.S.-made M1A1 tanks suffered damage in battles with the Islamic State from RPG-7, Yugoslavian M70 Osa rocket launchers, and other weapons, including at least five of them suffering full armor penetration, mostly from Kornet ATGMs.[27] Especially as the U.S. Army looks to future conflicts, some defense analysts question whether U.S. tanks can fully withstand threats on the modern battlefield.[28] Perhaps, unsurprisingly then, the U.S. Army already is experimenting with active protective systems, including the Israeli Trophy system.[29]

Tunnels Remain an Unsolved Tactical Problem for the United States
Finally, like Israel, the United States faces the challenges of tunnel detection. South Korea discovered four North Korean tunnels underneath the demilitarized zone before 1990, but South Korean officials

---

[26] Interview with a senior IDF officer, Tel Aviv, May 24, 2016.

[27] Jeremy Binnie, "Iraqi Abrams Losses Revealed," IHS Janes 360, website, June 20, 2014.

[28] For example, see Sebastian Roblin, "Is America's M1 Abrams Tank Still the Best in the World?" *National Interest*, August 6, 2016.

[29] Jen Judson, "Army Testing Foreign Active Protection Systems for U.S. Combat Vehicles," *Defense News*, June 29, 2016.

believe that up to 20 more exist.[30] These tunnels, however, are believed to rival Hamas's tunnels under Gaza in their size and sophistication.[31] Closer to home, the United States has discovered at least 13 tunnels across the Mexican border since 2006—mostly used for the drug trade and smuggling.[32] Indeed, some U.S. defense policymakers are pushing for greater American attention to these subterranean threats.[33]

Thanks to these similarities, the United States and its allies may benefit from some of the methods the IDF deployed and currently is developing to counter the tunnel threat. Indeed, some technological cooperation among such countries as the United States, Israel, South Korea, and others is already under way.[34] There are differences among the environments, however, which may limit the effectiveness of this cooperation. (North Korea's tunnels are through rock, rather than sand, for example.)[35]

And yet, the United States may find—as some Israeli analysts argue—that tunnels are ultimately more of a tactical threat than a strategic one. In the case of North Korea, while the threat of tunnel infiltration to South Korea is a matter of concern, it pales in comparison with an evolving nuclear weapons program, missile capabilities, and artillery that can reach Seoul. As for the Mexican border tunnels, these smuggling routes pose a significant law enforcement problem, particularly in the counternarcotics efforts, but no direct national security issues (at least, so far). Nevertheless, U.S. forces will likely confront adversaries that use tunnels. Doctrine and capabilities to operate in this subterranean domain are needed.

---

[30] Paula Hancocks, "Is North Korea Still Digging Tunnels to the South?" CNN.com, October 2, 2014.

[31] Michael Lipin, "Ground Game: Tunnels in Gaza, Korean Peninsula," *Voice of America*, August 21, 2014.

[32] "Huge U.S.-Mexico Drugs Tunnel Found in San Diego," BBC News, April 21, 2016.

[33] For example, see Benjamin Runkle, "Preparing for Warfare's Subterranean Future," *War on the Rocks*, April 16, 2015.

[34] Ron Nixon, "As Donald Trump Calls for Wall on Mexican Border, Smugglers Dig Tunnels," *International New York Times*, September 1, 2016.

[35] Lipin, 2014.

Recommendations for the U.S. Army and the Joint Force

Aside from the lessons-learned aspect of Israel's experiences since the 2006 Lebanon War, there are several specific recommendations for the U.S. Army that are of immediate importance.

Understand the Adversary

The U.S. Army and the joint force, like Israel before the 2006 Lebanon War, have been in continuous operations against irregular adversaries for more than 15 years. Both have adapted to these types of enemies, perhaps most significantly with the adoption of counterinsurgency doctrine. These efforts enabled the withdrawal of U.S. forces from Iraq in 2011 and they are still being practiced in Afghanistan.

Hezbollah and Hamas, however, are not irregular adversaries. They have significant niche capabilities that enable them to employ stand-off fires that only state actors possessed previously. They are capable of producing mass casualties with their indirect rocket and missile fires, defeating current U.S. Army armor with advanced ATGMs, and challenging low-level air operations with MANPADS and other air defense systems.

The U.S. Army is making a concerted effort, particularly at the National Training Center, to return to decisive action training based on combined arms. This is necessary to engage with hybrid adversaries, but also to contend with state actors (Russia, China, Iran, North Korea) that provide these adversaries with weaponry and that have far greater capabilities. The U.S. Army lacks key capabilities to counter many of these weapons, which it could confront on future battlefields. Importantly, the challenge of mentally preparing leaders and soldiers for this more lethal adversary is also necessary in a force that has rarely had a platoon at risk and has focused on force protection against IEDs and lightly armed adversaries. Hybrid and state adversaries can put battalions and larger formations at risk, as they have in Ukraine.

Invest in Active Protection Systems and Armored Vehicles

The problem of confronting advanced ATGMs—which can defeat U.S. armor—is a critical issue. The Army is testing several solutions to

provide protection to its Abrams tanks, Bradley Fighting Vehicles, and Strykers.[36] This effort must proceed as rapidly as possible, even if it only means fielding an interim solution for early deploying units. Additionally, the need for active protection systems also applies to U.S. Army aviation—enabling aircraft to support combined arms maneuvers in the face of an increasingly sophisticated air defense threat.

Materiel solutions are important, but they are only part of a comprehensive DOTMLPF-P approach to these proliferating threats. Joint and service doctrines need refreshing and exercising—e.g., suppression of ATGMs by mortars and artillery and joint suppression of enemy air defenses, which are skills the joint force has not employed in a generation. Organizational constructs may need adapting, while training will need to evolve to address these threats. And, again, leaders will have to understand these more capable adversaries after focusing almost exclusively on irregular enemies. All that said, none of the other elements of the DOTMLPF-P approach are sufficient to defeat the ATGM and MANPADS threat without materiel solutions.

Develop and Field Rocket and Missile Defenses

Another characteristic of the battlefields in Lebanon and Gaza—as well as in Ukraine—is the ubiquity of rockets. Iron Dome is a first step in addressing the problem. It proved largely sufficient for the challenge posed by Hamas during Operation Protective Edge. Whether it can protect against massed rocket fire that Israel could confront in a war with Hezbollah, however, remains unknown. Consequently, Israel is developing other systems, such as David's Sling and Arrow.

The U.S. Army and the joint force will face rocket and missile attacks in the future, ranging from limited hybrid adversary capabilities to the sophisticated systems fielded by states. Again, part of the solution to this threat spans the DOTMLPF-P, beginning with a deep appreciation that this threat is now a condition on future battlefields. The Army, in particular, needs to develop service and joint capabilities to locate rocket and missile launches, long-range firing capabilities to destroy them, and defenses to counter them, particularly in fixed sites.

---

[36] Judson, 2016.

Finally, recognition of this problem should inform how the Army operates in the field, particularly in signature management for its headquarters and key sustainment nodes.

Understand the Limits of Precision Fires in Urban Context

In remarks at the October 2016 Association of the U.S. Army annual meeting, GEN Mark Milley, Army Chief of Staff, made it clear that urban operations are in the Army's future. While noting that "the Army has been designed, manned, trained, and equipped for the last 241 years to operate primarily in rural areas," he stressed that

> In the future, I can say with very high degrees of confidence, the American Army is probably going to be fighting in urban areas. . . . We need to man, organize, train and equip the force for operations in urban areas, highly dense urban areas, and that's a different construct. We're not organized like that right now.[37]

The IDF's operations in Gaza, as well as the Army's own experiences in Sadr City, Fallujah, Mogadishu, and Panama City offer insights across the DOTMLPF-P about how to prepare for these types of operations.

Avoiding urban areas has not only been the Army's preferred construct, it is also an environment that policymakers want to avoid, given the heightened potential for friendly and civilian casualties and collateral damage. Yet, the city offers the defender clear advantages by complicating overhead sensing and precision strikes that have characterized U.S. operations since Operation Desert Storm in Iraq. Consequently, adversaries will seek to thwart U.S. advantages by hiding in the city and among large populations, just as in Gaza during Operations Cast Lead and Protective Edge. Ultimately, the U.S. Army will need to develop equipment—such as active protection systems—as well as the tactics, techniques, and procedures to operate effectively in this environment.

---

[37] Michelle Tan, "Army Chief: Soldiers Must be Ready to Fight in 'Megacities,'" *Defense News*, October 5, 2016.

Prepare for Subterranean Operations

Operation Protective Edge revealed a dimension of the battlespace that surprised Israel: subterranean operations. Although the IDF had encountered tunnels and bunkers in the past in Lebanon and Gaza, the extent and operational use of tunnels and underground facilities was unexpected. This was verified by the Commission of Inquiry into Protective Edge, which "ruled that the IDF had not prepared properly to face the tunnel threat."[38]

Tunnels and other subterranean structures are another way for an adversary that is susceptible to overhead observation to hide and largely neutralize U.S. joint forces' ISR-strike advantages, and it is a dimension of combat that requires ground forces.

This is not a new problem for the U.S. Army: It encountered extensive tunneling and use of underground facilities during the Vietnam War; the Islamic State is using tunnels in the urban areas it controls;[39] and North Korea also employs subterranean operations.[40] In megacities, subterranean structures are often a component of the urban infrastructure—subways, underground parking garages, basements—that can be operationalized by an adversary. Or, they can be used by U.S. forces in urban defenses.

This is an aspect of the future operational environment that the U.S. Army needs to understand across the DOTMLPF-P.

Final Thoughts

There are obvious differences between the security challenges that the United States and Israel face. Still, the two nations have a long history of learning from each other, particularly in understanding when key inflection points are occurring in the operational environment. Indeed,

---

[38] Amir Rapaport, "The Underground Tunnel Omission: A Predictable Failure," *Israel Defense*, October 21, 2016.

[39] Rod Nordland, "Iraqi Forces Attack Mosul, a Beleaguered Stronghold for ISIS," *New York Times*, October 16, 2016.

[40] Lipin, 2014.

the 1973 Yom Kippur War was a key catalyst in the development of AirLand Battle and many of the key weapon systems still in the U.S. Army's arsenal. Today, the U.S. Army and the joint force need to continue to learn from IDF's challenges and successes, especially given changing strategic environments.

The last decade and a half of confronting the irregular challenges of Afghanistan and Iraq have had consequences for the preparedness of the U.S. joint force, particularly the Army and the Marine Corps:

> The recent focus on irregular adversaries in highly developed theaters of war has led us to tailor our equipment to that type of conflict, particularly in the area of force protection. This somewhat narrow focus raises the question of what type of equipment we will need to defeat future adversaries *across the spectrum* of likely conflicts. Although the Army has largely shifted its focus from specific irregular wars and counterinsurgency to expeditionary operations and decisive action, it is still equipped largely with major platforms developed and built in the 1970s and 1980s or with materiel developed for the irregular challenges of Iraq and Afghanistan.[41]

Specific areas of adaptation included materiel, command and control, and operating procedures. Materiel adaptation examples include Mine-Resistant Ambush-Protected vehicles and up-armored High-Mobility Multipurpose Wheeled Vehicle (HMMWV) to protect soldiers against IEDs and the Counter Rocket, Artillery and Mortar System to deal with the relatively limited indirect fire threat. Command and control adapted to flow from large, networked headquarters that integrate and synchronize information from across the nation's resources. And the Army's operating procedures have come to depend on its units deploying to large in-place facilities, instead of expeditionary operations to austere locations.[42]

---

[41] David E. Johnson, *The Challenges of the "Now" and Their Implications for the U.S. Army*, Santa Monica, Calif.: RAND Corporation, PE-184-A, 2016, p. 4.

[42] Johnson, 2016, p. 4.

The United States, however, is now in a new strategic environment where it finds itself in competition with two powerful state actors—Russia and China—simultaneously. At the strategic level, the challenges posed by Chinese and Russian anti-access and area denial systems are significant. The United States must have capabilities to gain access and operate successfully against these capabilities to have a credible deterrent. The prospect of failure in a war with Russia over the Baltics, and the possibility of escalation, is a daunting proposition for NATO partners and an issue that is driving a new focus on high-end threats to ground operations in the Army and Marine Corps.[43] This renewed interstate competition, while important in and of itself, is also improving the capabilities of other state and nonstate actors as partners or proxies for Russia and China or their friends (Iran and Syria). Hezbollah has reportedly acquired advanced air defense systems and antiship capabilities from Syria and Russia, which could be employed to significantly raise costs for U.S. efforts to gain access into Lebanon or elsewhere in the Mediterranean and destabilize the current Lebanese government.[44] Furthermore, the recent attacks by Iran-aligned Houthi rebels with antiship missiles against a United Arab Emirates logistics ship, the USS *Mason*, and the USS *Ponce* show that high-end capabilities are proliferating in the Middle East beyond Hezbollah.[45] These developments show that U.S. access challenges in Middle East are becoming more complex. Finally, if U.S. or coalition forces suffered surprisingly high casualties in a fight with a state-supported hybrid

---

[43] For the dangers to NATO in Russia in the Baltics scenario, see David A. Shlapak and Michael W. Johnson, *Reinforcing Deterrence on NATO's Eastern Flank: Wargaming the Defense of the Baltics*, Santa Monica, Calif.: RAND Corporation, RR-1253-A, 2016

[44] Johnson, 2016, p. 4.

[45] Johnson, 2016, p. 4; also see Matthew Rosenberg and Mark Mazzetti, "U.S. Ship Off Yemen Fires Missiles at Houthi Rebel Sites," *New York Times*, October 12, 2016; Jeremy Vaughan, Michael Eisenstadt, and Michael Knights, "Policy Watch 2706: Missile Attacks on the USS *Mason*: Principles to Guide a U.S. Response," Washington Institute for Near East Policy, website, October 12, 2016; Jeremy M. Sharp, *Yemen: Recent Attacks Against U.S. Naval Vessels in the Red Sea*, CRS Insight, IN10599, October 21, 2016.

actor, it could unhinge U.S. or international support, not unlike when U.S. casualties in Mogadishu derailed U.S. policy in Somalia in 1993.[46]

Operation Protective Edge, when seen as an evolution of IDF learning since the 2006 Lebanon War, offers new insights into the adversaries that the United States and its Army could face tomorrow morning as well as into the future — and the capability gaps it faces even against such adversaries as Hamas and Hezbollah, much less state adversaries such as Russia, China, North Korea, and Iran. These are gaps that the Army must communicate with urgency to policymakers, given their potential to unhinge future strategies against competent, well-armed adversaries.

The IDF's operations also show the enduring value of land forces against hybrid adversaries that attempt to thwart U.S. advantages in precision strike and intelligence, surveillance, and reconnaissance by hiding in complex terrain and among the people. This is the future security environment for which the U.S. Army and the joint force must prepare or it could unnecessarily face the same surprises Israel encountered in Lebanon in 2006 with stand-off fires, or in Gaza in 2014 with tunnels.

---

[46] Johnson, 2016, p. 4.

Abbreviations

ATGM	antitank guided missile
CAS	close air support
DOTMLPF-P	doctrine, organization, training, materiel, leadership and education, personnel, facilities and policy
IAF	Israeli Air Force
IDF	Israel Defense Forces
IED	improvised explosive device
ISR	intelligence, surveillance, and reconnaissance
km	kilometers
LOAC	Law of Armed Conflict
MANPADS	man-portable air-defense systems
mm	millimeter
MMR	multimission radar
NATO	North Atlantic Treaty Organization
OCHA	UN Office for the Coordination of Humanitarian Affairs
PA	Palestinian Authority
PCHR	Palestinian Center for Human Rights
PLO	Palestinian Liberation Organization
PIJ	Palestinian Islamic Jihad
RPG	rocket-propelled grenades

UAS	unmanned aerial system
UAV	unmanned aerial vehicle
UN	United Nations
UNHCR	UN Human Rights Council
UNOSAT	United Nations Operational Satellite Applications Program
UNRWA	United Nations Relief and Works Agency
WHO	World Health Organization

References

"17 Minutes in Hell," Israel Foreign Affairs, website, May 2, 2016. As of August 2, 2016:
http://israelforeignaffairs.com/2016/05/17-minutes-in-hell

Abrams, Elliott, "Winners & Losers," *Weekly Standard*, November 22, 2012. As of January 20, 2017:
http://www.weeklystandard.com/winners-losers/article/663843

Amnesty International and Forensic Architecture, "'Black Friday': Carnage in Rafah," undated. As of July 29, 2016:
https://blackfriday.amnesty.org/report.php

Army Doctrine Reference Publication No. 3-0, *Operations*, Washington, D.C.: Headquarters, Department of the Army, November 2016. As of May 30, 2017:
http://www.apd.army.mil/epubs/DR_pubs/DR_a/pdf/web/ADRP%203-0%20 FINAL%20WEB.pdf

Ashkenazi, Eli, "Hamas Defeated IDF in Virtual Warfare During Gaza Conflict, Study Shows," *Haaretz*, January 3, 2013.

Aviad, Guy, "Hizbollah's Force Buildup of 2006–2009: Foundations and Future Trends," *Military and Strategic Affairs*, Vol. 1, No. 3, December 2009.

Avni, Benny, "Peace on Hold as Kidnapping of Israeli Teens Divides Palestinians," *Newsweek*, June 24, 2014. As of July 29, 2016:
http://www.newsweek.com/2014/07/04/ peace-hold-kidnapping-israeli-teens-divides-palestinians-256032.html

Baker, Luke, "Shadow of Israel's Pullout from Gaza Hangs Heavy 10 Years On," Reuters, August 10, 2015. As of June 28, 2016:
http://www.reuters.com/article/ us-israel-gaza-disengagement-insight-idUSKCN0QF1QQ20150810

Bandow, Doug, "Egypt's Al-Sisi Establishes Tyranny Mubarak Only Dreamed Of: Washington Should Stop Playing the Fool by Praising Cairo's Commitment to Democracy," *Forbes*, September 1, 2014. As of July 28, 2016: https://www.forbes.com/sites/dougbandow/2014/09/01/egypts-al-sisi-establishes-tyranny-mubarak-only-dreamed-of-washington-should-stop-playing-the-fool-by-praising-cairos-commitment-to-democracy/#69c8a4da53ef

Barhoum, Khalil, "The Origin and History of the PLO," web page, Trans Arab Research Institute, undated. As of December 19, 2016: http://tari.org/index.php?option=com_content&view=article&id=10&Itemid=10

Barnard, Anne, and Isabel Kershner, "Neighborhood Ravaged on Deadliest Day So Far for Both Sides in Gaza," *International New York Times*, July 20, 2014. As of July 27, 2016: http://www.nytimes.com/2014/07/21/world/middleeast/gaza-israel.html?action=click&contentCollection=Middle%20East&module=RelatedCoverage&region=Marginalia&pgtype=article&_r=1

Barzak, Ibrahim, "After Attack on Jeep, Israeli Army Kills 4 in Gaza," Associated Press, November 10, 2012. As of December 19, 2016: https://www.yahoo.com/news/attack-jeep-israeli-army-kills-4-gaza-175914332.html?ref=gs

Barzak, Ibrahim, and Ian Deitch, "UN School Sheltering Palestinians in Gaza Caught in Cross-Fire; 15 Killed," Associated Press, July 24, 2014. As of December 19, 2016: http://www.usnews.com/news/world/articles/2014/07/24/gaza-fighting-rages-amid-cease-fire-efforts

Beaumont, Peter, "Palestinian Unity Government of Fatah and Hamas Sworn In," *The Guardian*, June 2, 2014a. As of July 29, 2016: https://www.theguardian.com/world/2014/jun/02/palestinian-unity-government-sworn-in-fatah-hamas

———, "Israeli Strike on Gaza School Kills 15 and Leaves 200 Wounded," *The Guardian*, July 24, 2014b. As of July 28, 2016: https://www.theguardian.com/world/2014/jul/24/israeli-strike-un-school-gaza-kills-women-children

Beinin, Joel, and Lisa Hajjar, *Palestine, Israel, and the Arab-Israeli Conflict: A Primer*, Washington, D.C.: Middle East Research and Information Project, February 2014. As of June 23, 2016: http://www.merip.org/sites/default/files/Primer_on_Palestine-Israel(MERIP_February2014)final.pdf

Ben-David, Lenny, "Gazan Casualties: How Many and Who They Were," in Hirsh Goodman and Dore Gold, eds., *The Gaza War 2014: The War Israel Did Not Want and the Disaster It Avoided*, Jerusalem, Israel: Jerusalem Center for Public Affairs, 2015a, pp. 141–151.

———, "Hamas' Order of Battle: Weapons, Training, and Targets," in Hirsh Goodman and Dore Gold, eds., *The Gaza War 2014: The War Israel Did Not Want and the Disaster It Avoided*, Jerusalem, Israel: Jerusalem Center for Public Affairs, 2015b, pp. 109-117.

Ben-Dor, Gabriel, Ami Pedahzur, and Badi Hasisi, "Israel's National Security Doctrine Under Strain: The Crisis of the Reserve Army," *Armed Forces & Society*, Vol. 28, No. 2, Winter 2002, pp. 233–255.

Ben Meir, Yehuda, "Operation Protective Edge: A Public Opinion Roller Coaster," in Anat Kurz and Sholmo Brom, eds., *The Lessons of Protective Edge*, Tel Aviv, Israel: Institute for National Security, 2014, pp. 129–134.

Ben Yishay, Ron, and Matan Tzuri, "Gaza Militants Resume Rocket Fire on Southern Israel, Attack IDF Troops on Border," Ynet News, July 7, 2014. As of August 1, 2016:
http://www.ynetnews.com/articles/0,7340,L-4538943,00.html

Benjamin, David, "Israel, Gaza and Humanitarian Law: Efforts to Limit Civilian Casualties," in Hirsh Goodman and Dore Gold, eds., *The Gaza War 2014: The War Israel Did Not Want and the Disaster It Avoided*, Jerusalem, Israel: Jerusalem Center for Public Affairs, 2015, pp. 45–59.

Benn, Aluf, "Israel Killed Its Subcontractor in Gaza," *Haaretz*, November 2012. As of December 20, 2016:
http://www.haaretz.com/israel-news/israel-killed-its-subcontractor-in-gaza. premium-1.477886

Berti, Benedetta, "No Blank Cheques: Morsi and Hamas," *Fathom*, Spring 2013. As of December 19, 2016:
http://fathomjournal.org/no-blank-cheques-morsi-and-hamas/

Binnie, Jeremy, "Iraqi Abrams Losses Revealed," IHS Janes 360, website, June 20, 2014. As of September 21, 2016:
http://www.janes.com/article/39550/iraqi-abrams-losses-revealed

Black, Ian, "Fajr-5 Missile Gives Palestinians Rare if Short-Lived Advantage," *The Guardian*, November 16, 2012. As of January 17, 2017:
https://www.theguardian.com/world/2012/nov/16/fajr5-missile-gaza-israel-iran

Blumenthal, Max, "The Fire Next Time," *World Post*, July 16, 2015. As of December 19, 2016:
http://www.huffingtonpost.com/max-blumenthal/
the-fire-next-time-gaza-strip_b_7809290.html

Bob, Yonah Jeremy, "You'll Miss Our Kids Starting First Grade, Bat Mitzva, Weddings," *Jerusalem Post*, July 23, 2014. As of July 27, 2016:
http://www.jpost.com/Operation-Protective-Edge/
Youll-miss-our-kids-starting-first-grade-bat-mitzva-weddings-368540

———, "Analysis: Colonel's Promotion Signals All Clear on Controversial Hannibal Protocol Incident," *Jerusalem Post*, July 8, 2015. As of July 29, 2016: http://www.jpost.com/Israel-News/Analysis-Colonels-promotion-signals-all-clear-on-controversial-Hannibal-Protocol-incident-408313

Breaking the Silence, *This Is How We Fought in Gaza: Soldier's Testimonies and Photographs from Operation Protective Edge*, Jerusalem, Israel: 2014. As of July 31, 2016: http://www.breakingthesilence.org.il/pdf/ProtectiveEdge.pdf

Bregman, Ahron, "UN War Crimes Panel Must Investigate Israeli Colonel Who Brought 'Holy War' to Gaza," *The Conversation*, August 18, 2014. As of December 19, 2016: https://theconversation.com/un-war-crimes-panel-must-investigate-israeli-colonel-who-brought-holy-war-to-gaza-30630

Broad, William J., "Weapons Experts Raise Doubts About Israel's Antimissile System," *New York Times*, March 20, 2013. As of December 19, 2016: http://www.nytimes.com/2013/03/21/world/middleeast/israels-iron-dome-system-is-at-center-of-debate.html

Brom, Shlomo, ed., *In the Aftermath of Operation Pillar of Defense, the Gaza Strip*, Tel Aviv, Israel: Institute for National Security Studies, November 2012.

Bronfeld, Saul, "Fighting Outnumbered: The Impact of the Yom Kippur War on the U.S. Army," *Journal of Military History*, Vol. 71, No. 2, April 2007, pp. 465–498.

Bronner, Ethan, "A Gaza Truce Undone by Flaws May Be Revived by Necessity," *New York Times*, December 18, 2008. As of July 15, 2016: http://www.nytimes.com/2008/12/19/world/middleeast/19gaza.html

Brulliard, Karin, "Attacks Intensify Along Gaza Border," *Washington Post*, November 16, 2012.

Brulliard, Karin, and Abigail Hauslohner, "Israel Pounds Gaza from Air as Troops Assemble," *Washington Post*, November 18, 2012.

B'tselem, "B'tselem Reviews 2013: 5-Year High in Number of Palestinian Fatalities in West Bank," December 30, 2013. As of July 28, 2016: http://www.btselem.org/press_releases/20131230_2013_fatalities_statistics

Byman, Daniel, "Israel's Gaza Withdrawal 10 Years Later: More Successful Than You Think," *War on the Rocks*, August 13, 2015. As of July 25, 2016: http://warontherocks.com/2015/08/israels-gaza-withdrawal-more-successful-than-you-think/

"Cabinet Okays 75,000 Reservists for Possible Gaza Operation," *Jerusalem Post*, November 16, 2012.

Caldwell William B., IV, Dennis M. Murphy, and Anton Menning, "Learning to Leverage New Media: The Israel Defense Forces in Recent Conflicts," *Military Review*, May–June 2, 2009, pp. 2–10.

Central Intelligence Agency, "Middle East: Gaza Strip," *World Factbook*, 2016. As of July 15, 2016:
https://www.cia.gov/library/publications/the-world-factbook/geos/print_gz.html

Chairman of the Joint Chiefs Instruction, 3010.02E, *Guidance for Developing and Implementing Joint Force*, Washington, D.C.: U.S. Department of Defense, August 17, 2016.

Chorev, Harel, and Yvette Shumacher, "The Road to Operation Protective Edge: Gaps in Strategic Perception," *Israel Journal of Foreign Affairs*, Vol. 8, No. 3, 2014, pp. 9–24.

Cohen, Daniel, and Danielle Levin, "Operation Protective Edge: The Cyber Perspective," in Anat Kurz and Shlomo Brom, eds., *The Lessons of Protective Edge*, Tel Aviv, Israel: Institute for National Security, 2014, pp. 59–63.

Cohen, Gili, "IDF: Gaza Civilians Killed Due to Faulty Airstrike," *Haaretz*, November 19, 2012.

———, "IDF: Bloodiest Battle in Gaza Could Have Been Much Worse," *Haaretz*, July 28, 2014. As of July 27, 2016:
http://www.haaretz.com/israel-news/.premium-1.607496

Cohen, Raphael S., "In the Ranks: Making Sense of Military Morale," *World Affairs*, May/June, 2015a, pp. 59–66.

———, "Understanding the U.S. Military's Morale 'Crisis,'" *Lawfare*, blog post, June 28, 2015b. As of September 19, 2015:
https://www.lawfareblog.com/understanding-us-militarys-morale-crisis

Database Desk, "Operation 'Protective Edge': A Detailed Summary of Events," web page, International Institute for Counterterrorism, IDC Herzliya, December 7, 2014. As of August 2, 2016:
https://www.ict.org.il/Article/1262/
Operation-Protective-Edge-A-Detailed-Summary-of-Events

Davis, Richard G., *The 31 Initiatives: A Study in Air Force Army Cooperation*, Washington, D.C.: Office of Air Force History, U.S. Air Force, 1987.

"Disengagement Timeline," *Haaretz*, August 19, 2005. As of July 25, 2016:
http://www.haaretz.com/news/disengagement-timeline-1.167506

Doubler, Michael D., *I Am the Guard: A History of the Army National Guard, 1636–2000*, Washington, D.C.: Department of the Army, 2001.

Dunlap, Charles J., Jr., "Lawfare Today . . . and Tomorrow," in Raul A. Pedrozo and Daria P. Wollschlaeger, eds., *International Law and the Changing Character of War*, Newport, R.I.: U.S. Naval War College, International Law Studies Series, Vol. 87, 2011.

"Egypt Court Bans Palestinian Hamas Group," Reuters via Al Jazeera, March 4, 2014. As of December 19, 2016:
http://www.aljazeera.com/news/middleeast/2014/03/
egypt-court-bans-palestinian-hamas-group-2014348358109790.html

Eldar, Shlomi, "Egypt Threatens Hamas Rule," *Al-Monitor*, January 16, 2014. As of July 28, 2016:
http://www.al-monitor.com/pulse/originals/2014/01/
egypt-israel-gaza-hamas-tamarod-movement.html

Eran, Oded, "The United States and the Middle East," in Shlomo Brom, ed., *In the Aftermath of Operation Pillar of Defense: The Gaza Strip*, Tel Aviv, Israel: Institute for National Security Studies, November 2012, pp. 49–53.

Erlanger, Steven, "Israelis Warn of Military Response to Gaza Attack," *New York Times*, June 25, 2006. As of July 29, 2016:
http://www.nytimes.com/2006/06/25/world/middleeast/26mideastcnd.html

"Everything You Need to Know About the Israel-Gaza Conflict," ABC News, July 31, 2014. As of July 29, 2016:
http://abcnews.go.com/International/israel-gaza-conflict/story?id=24552237

Federman, Josef, and Ian Deitch, "Bodies of Missing Israeli Teens Found in West Bank," Associated Press, July 1, 2014. As of December 19, 2016:
http://bigstory.ap.org/article/bodies-missing-israeli-teens-found-west-bank

Fetini, Alyssa, "The Gaza Strip," *Time*, January 7, 2009. As of July 15, 2016:
http://content.time.com/time/world/article/0,8599,1870148,00.html

Filiu, Jean-Pierre, "Gaza, Victim of History," *New York Times*, August 26, 2014. As of February 16, 2017:
https://www.nytimes.com/2014/08/27/opinion/gaza-victim-of-history.html

Fishman, Alex, "IDF Braces for Budget Cuts," Ynetnews.com/Business & Finance, July 26, 2012. As of December 16, 2016:
http://www.ynetnews.com/articles/0,7340,L-4260928,00.html

Fiske, Gavriel, and Mitch Ginsburg, "IDF Blames Hamas for 'Terror Tunnel' from Gaza to Israel," *Times of Israel*, October 13, 2013. As of July 29, 2016:
http://www.timesofisrael.com/
hamas-terror-tunnel-found-running-from-gaza-to-israel/

Frederick, Bryan, and David E. Johnson, *The Continued Evolution of U.S. Law of Armed Conflict Implementation: Implications for the U.S. Military*, Santa Monica, Calif.: RAND Corporation, RR-1122-OSD, 2015. As of January 25, 2017:
http://www.rand.org/pubs/research_reports/RR1122.html

Friedson, Felice, "Israel Shocked by Scope of Hamas Tunnels in Gaza, but Locating Them Still a Challenge," Media Line via *National Post*, August 12, 2014. As of July 29, 2016:
http://www.nationalpost.com/m/search/blog.html?b=news.nationalpost.com/2014/08/08/israel-shocked-by-scope-of-hamas-tunnels-in-gaza-but-locating-them-still-a-challenge/&q=Gaza&o=376

Gady, Franz-Stefan, "A Tempest in a Teacup: Forget Hybrid Warfare!" *The Diplomat*, February 14, 2015. As of December 14, 2016:
http://thediplomat.com/2015/02/a-tempest-in-a-teacup-forget-hybrid-warfare/

Gamio, Lazaro, Richard Johnson, and Adam Taylor, "The Crisis in Gaza," *Washington Post*, August 1, 2014. As of July 25, 2016:
http://www.washingtonpost.com/wp-srv/special/world/the-gaza-crisis/

"Gaza Crisis: Toll of Operations in Gaza," BBC News, September 1, 2014. As of August 2, 2016:
http://www.bbc.com/news/world-middle-east-28439404

"Gaza High-Rises Hit by Israeli Strikes," *Al Jazeera*, August 25, 2014. As of December 19, 2016:
http://www.aljazeera.com/news/middleeast/2014/08/gaza-high-rise-hit-israeli-rockets-2014825213929205207.html

"Gaza Rocket Fire Persists; Gov't Okays IDF Reserves Call-Up," Ynetnews.com, November 15, 2012.

"Gaza Strip, May 2005," Perry Castaneda Map Collection, University of Texas Libraries, the University of Texas at Austin, undated. As of June 22, 2016:
http://www.lib.utexas.edu/maps/middle_east_and_asia/gaza_strip_may_2005.jpg

Gelpi, Christopher, Peter D. Feaver, and Jason Reifler, "Success Matters: Casualty Sensitivity and the War in Iraq," *International Security*, Vol. 30, No. 3, Winter 2005/2006, pp. 7–46.

Ghoshroy, Subrata, "Israel's Iron Dome: A Misplaced Debate," *Bulletin of the Atomic Scientists*, July 29, 2014. As of January 3, 2017:
http://thebulletin.org/israel%E2%80%99s-iron-dome-misplaced-debate7349

Ginsburg, Mitch, "A Stunning Initial Success for the IDF, Now What?" *Times of Israel*, November 15, 2012.

———, "Three Soldiers Killed in a Booby-Trapped House in Gaza," *Times of Israel*, July 23, 2014. As of July 28, 2016: http://www.timesofisrael.com/three-soldiers-killed-in-gaza-strip-wednesday/

———, "A Year On, Army Looks to Last Gaza War for Lessons on Fighting the Next One," *Times of Israel*, July 7, 2015.

Gold, Zack, and Benedetta Berti, "Why Is the Israel-Hamas Ceasefire Eroding?" *Sada*, Middle East Analysis, Carnegie Endowment for International Peace, January 28, 2014. As of July 28, 2016:
http://carnegieendowment.org/sada/?fa=54341

Goldenberg, Tia, and Ibrahim Barzak, "Israel, Hamas Dig In as Gaza Talks Go On in Cairo," Associated Press, August 7, 2014. As of December 19, 2016:
https://web.archive.org/web/20140807120848/http://www.seattlepi.com/news/world/article/Israel-Hamas-dig-in-as-Gaza-talks-go-on-in-Cairo-5673606.php

Goldstone, Richard, "Reconsidering the Goldstone Report on Israel and War Crimes," *Washington Post*, April 1, 2011. As of January 17, 2017:
https://www.washingtonpost.com/opinions/reconsidering-the-goldstone-report-on-israel-and-war-crimes/2011/04/01/AFg111JC_story.html

Golov, Avner, "The Campaign to Restore Israeli Deterrence," in Shlomo Brom, ed., *In the Aftermath of Operation Pillar of Defense: The Gaza Strip*, Tel Aviv, Israel: Institute for National Security Studies, November 2012, p. 24.

Goodman, Hirsh, "Israel's Narrative—An Overview," in Hirsh Goodman and Dore Gold, eds., *The Gaza War 2014: The War Israel Did Not Want and the Disaster It Avoided*, Jerusalem, Israel: Jerusalem Center for Public Affairs, 2015, pp. 7–28.

Gunning, Jeroen, "What Drove Hamas to Take on Israel?" BBC News, July 18, 2014. As of August 1, 2016:
http://www.bbc.com/news/world-middle-east-28371966

"Hamas Claims Rocket Fire on Jerusalem, Tel Aviv and Haifa," News24, July 8, 2014. As of August l, 2016:
http://www.news24.com/World/News/Hamas-claims-rocket-fire-on-Jerusalem-Tel-Aviv-and-Haifa-20140708

"Hamas: Terrorists in Zikim Are Hamas's Naval Commando Men," Ynetnews.com, July 8, 2014. As of August l, 2016:
http://www.ynetnews.com/articles/0,7340,L-4539891,00.html

Hancocks, Paula, "Is North Korea Still Digging Tunnels to the South?" CNN.com, October 2, 2014. As of September 21, 2016:
http://www.cnn.com/2014/10/02/world/asia/north-korea-dmz-tunnels/

Harel, Amos, "IDF's Lessons from Last Gaza Conflict: Buy New Tank Carriers; Train Away from the Front Lines," *Haaretz*, June 25, 2013.

———, "Soldiers Killed in Gaza Were Deployed in 50-Year-Old APC," *Haaretz*, July 20, 2014a. As of July 27, 2016:
http://www.haaretz.com/israel-news/.premium-1.606238

———, "With the Troops in the Strip in Gaza, Israel's Facebook Generation Fights Well," *Haaretz*, July 26, 2014b. As of July 28, 2016:
http://www.haaretz.com/israel-news/.premium-1.607320

———, "Top General in Gaza War: We Could Have Retaken the Strip," *Haaretz*, October 10, 2014c. As of July 27, 2016:
http://www.haaretz.com/israel-news/.premium-1.620080

———, "Bleak Gaza War Report Shows How Next Conflict Will Begin," *Haaretz*, May 10, 2016. As of August 1, 2016:
http://www.haaretz.com/israel-news/.premium-1.718875

Harel, Amos, and Avi Issacharof, "Escalation in the South: Did Hamas Plan This Act or Was It Dragged into It by Extreme Factions?" *Haaretz*, November 11, 2012. As of December 20, 2016:
http://www.haaretz.co.il/news/politics/1.1861265

Harkov, Lahav, "Rise in Terror Plots Against Israelis, Jews," *Jerusalem Post*, May 30, 2012. As of January 20, 2017:
http://www.jpost.com/Defense/Rise-in-terror-plots-against-Israelis-Jews

Hecht, Eado, "The Tunnels in Gaza," Testimony before the UN Commission of Inquiry on the 2014 Gaza Conflict, February 2015.

Heller, Mark A., "Israeli Deterrence in the Aftermath of Protective Edge," in Anat Kurz and Sholmo Brom, eds., *The Lessons of Protective Edge*, Tel Aviv, Israel: Institute for National Security, 2014, pp. 81–85.

Heller, Or, "The Newest Tool in the Toolbox of the IDF," *Israel Defense*, May 11, 2016.

Herbert, Paul H., *Deciding What Has to Be Done: William E. DePuy and the 1976 Edition of FM 100-5*, Fort Leavenworth, Kan.: Combat Studies Institute, U.S. Army Command and General Staff College, 1988.

Herzog, Chaim, *The Arab-Israeli Wars*, second edition, New York: Vintage Books, 2005.

Herzog, Michael, "Powder Keg in Gaza," PolicyWatch 1994, the Washington Institute, November 1, 2012. As of January 20, 2017:
http://www.washingtoninstitute.org/policy-analysis/view/powder-keg-in-gaza

Hoffman, Frank G., "Hybrid Warfare and Challenges," *Joint Forces Quarterly*, Vol. 52, No. 1, 2009, pp. 34–48.

Hroub, Khaled, *Hamas: Political Thought and Practice*, Washington, D.C.: Institute for Palestine Studies, 2000.

"'Huge Row' as Shin Bet Says It Warned IDF Months Ahead of Summer War," *Times of Israel*, November 10, 2014. As of July 29, 2016:
http://www.timesofisrael.com/
huge-row-as-shin-bet-says-it-warned-idf-months-ahead-of-summer-war/

"Huge U.S.-Mexico Drugs Tunnel Found in San Diego," BBC News, April 21, 2016. As of September 21, 2016:
http://www.bbc.com/news/world-us-canada-36099336

Human Rights Watch, "Israel/Gaza: Israeli Airstrike on Home Unlawful," December 7, 2012. As of December 19, 2016:
https://www.hrw.org/news/2012/12/07/israel/gaza-israeli-airstrike-home-unlawful

IAF—*See* Israeli Air Force. IDF—

See Israel Defense Forces.

"IDF Kills Hamas Military Chief; Launches Operation Pillar of Defense," *Haaretz*, November 14, 2012.

"IDF Pummels Gaza, Orders Call-Up, After Rockets Encroach on Tel Aviv," *Times of Israel*, November 15, 2012.

IISS—*See* International Institute for Strategic Studies.

Inbar, Efraim, and Eitan Shamir, "Mowing the Grass: Israel's Strategy for Protracted Intractable Conflict," *Journal of Strategic Studies*, Vol. 37, No. 1, February 2014, pp. 65–90.

"International Community Welcomes Palestinian Unity Government," Reuters and *Jerusalem Post*, June 3, 2014. As of July 29, 2016:
http://www.jpost.com/Diplomacy-and-Politics/
EU-says-open-to-working-with-Palestinian-unity-government-355252

International Crisis Group, *Israel and Hamas: Fire and Ceasefire in a New Middle East*, Middle East Report No. 133, 2012.

International Institute for Strategic Studies, *The Military Balance 2016*, London: Routledge, 2016.

International Monetary Fund, "West Bank and Gaza; Key Issues," September 12, 2014. As of April 12, 2017:
https://www.imf.org/external/country/WBG/RR/2014/091214.pdf

Isikoff, Michael, "In Personal Plea, Top Hamas Leader Calls on Obama to Stop 'Holocaust' in Gaza," Yahoo News, August 25, 2014. As of December 19, 2016:
https://www.yahoo.com/news/in-personal-plea--top-hamas-leader-calls-on-obama-to-stop--holocaust--in-gaza-180315615.html

Israel Defense Forces, "Updating: Over 70 Rockets Fired at Israel from Gaza," blog post, October 24, 2012a. As of December 16, 2016:
https://www.idfblog.com/blog/2012/10/24/
updating-50-rockets-fired-at-israel-from-gaza/

———, "Operation Pillar of Defense: Summary of Events," IDFblog.com, November 22, 2012b. As of July 30, 2016:
https://www.idfblog.com/2012/11/22/
operation-pillar-of-defense-summary-of-events/

———, "IDF Targets Versus UN Map," 2014a. As of August 2, 2016:
https://www.idfblog.com/wp-content/uploads/2014/08/
Shujaiya-maps-comparison2.jpg

———, "Operation Protective Edge by the Numbers," IDFblog.com, August 5, 2014b. As of July 29, 2017:
https://www.idfblog.com/2014/08/05/operation-protective-edge-numbers/

———, "The Attack Against Israel You Haven't Heard About," blog post, August 22, 2014c. As of July 28, 2016:
https://www.idfblog.com/blog/2014/08/22/attack-israel-havent-heard/

———, "A Soldier's Account from Gaza: How Hamas Used Human Shields," blog post August 25, 2014d. As of July 28, 2016:
https://www.idfblog.com/blog/2014/08/25/
soldiers-account-gaza-hamas-used-human-shields/

"Israel Changes Status of 2 Soldiers Whose Bodies Are Held by Hamas," *Times of Israel*, June 10, 2016. As of July 27, 2016:
http://www.timesofisrael.com/
israel-changes-status-of-2-soldiers-whose-bodies-are-held-by-hamas/

"Israel Launches Military Offensive in Gaza," *Al Jazeera*, July 7, 2014. As of January 4, 2017:
http://america.aljazeera.com/articles/2014/7/7/israel-launched-
deadlyairstrikesingaza.html

Israel Ministry of Foreign Affairs, "Pillar of Defense—Statement by Defense Minister Ehud Barak," November 14, 2012. As of January 10, 2016:
http://mfa.gov.il/MFA/PressRoom/2012/Pages/
Pillar_of_Defense-Statement_DM_Barak_14-Nov-2012.aspx

———, "Rocket Fire from Gaza and Ceasefire Violations After Operation Cast Lead (Jan 2009)," web page, December 25, 2014. As of January 10, 2016:
http://www.mfa.gov.il/mfa/foreignpolicy/terrorism/pages/
palestinian_ceasefire_violations_since_end_operation_cast_lead.aspx

———, Twitter post, July 25, 2015. As of August 2, 2016:
https://twitter.com/israelmfa/status/492646699580809217

"Israel-Gaza Violence in Maps," BBC, November 21, 2012. As of April 21, 2017:
http://www.bbc.com/news/world-middle-east-20394242

Israeli Air Force, "IAF Analyzes 'Pillar of Defense,'" undated. As of July 21, 2016:
http://www.iaf.org.il/4389-40011-en/IAF.aspx

"Israeli Gunfire Kills Palestinian Boy in Gaza Clash: Medics," Reuters, November 8, 2012. As of April 10, 2017:
http://www.reuters.com/article/
us-palestinians-israel-violence-idUSBRE8A711O20121108

"Israeli Official Arrives in Cairo for 'Gaza Truce Talks' as Hamas Demands End to 'Aggression, Assassinations,'" Naharnet Newsdesk, November 18, 2012. As of December 19, 2016:
http://www.naharnet.com/stories/en/61263-israeli-official-arrives-in-cairo-for-gaza-truce-talks-as-hamas-demands-end-to-aggression-assassinations

Israeli Security Agency (Shin Bet), "Monthly Summary—April 2011," May 2011a. As of January 20, 2017:
https://www.shabak.gov.il/SiteCollectionImages/english/TerrorInfo/reports/apr11report-en.pdf

———, "Monthly Summary—August 2011," September 2011b. As of January 20, 2017:
https://www.shabak.gov.il/SiteCollectionImages/english/TerrorInfo/reports/aug11report-en.pdf

———, "Rocket Fire Compared to Rounds of Escalation That Took Place in 2011," April 2012a. As of January 17, 2017:
http://archive.is/YRqj

———, "Monthly Summary—June 2012," July 2012b. As of January 20, 2017:
https://www.shabak.gov.il/SiteCollectionImages/english/TerrorInfo/reports/june12report-en.pdf

———, "Monthly Summary—October 2012," November 2012c. As of January 20, 2017:
https://www.shabak.gov.il/SiteCollectionImages/english/TerrorInfo/reports/oct12report-en.pdf

———, "2012 Annual Summary—Terrorism and CT Activity Data and Trends," December 30, 2012d.

———, "2013 Annual Summary Terrorism and CT Activity," December 1, 2013.

———, "2014 Annual Summary Terrorism and CT Activity," December 31, 2014.

"Israel's 'Errant Fire Could Have Caused School Shelling,'" ITV, July 24, 2014. As of December 19, 2016:
http://www.itv.com/news/update/2014-07-24/israels-errant-fire-could-have-caused-school-shelling/

Issacharof, Avi, "As IDF Strike Kills Entire Family in Gaza, Israel Is Starting to Get in Trouble," *Haaretz*, November 19, 2012.

———, "Hamas Deploys 600-Strong Force to Prevent Rocket Fire at Israel," *Times of Israel*, June 17, 2013. As of July 29, 2016:
http://www.timesofisrael.com/hamas-establishes-special-force-to-prevent-rocket-fire/

———, "Hamas May Be Fighting a Losing Battle to Stop Gaza Rocket Fire," *Times of Israel*, January 24, 2014, As of July 29, 2016:
http://www.timesofisrael.com/
hamas-may-be-fighting-a-losing-battle-to-stop-gaza-rocket-fire/

Issacharoff, Avi, Barak Ravid, Gili Cohen, Yanir Yagna, and Natasha Mozgovaya, "Live Blog: Day 6 of Israel-Gaza Conflict 2012," *Haaretz*, November 19, 2012. As of March 29, 2017:
http://www.haaretz.com/israel-news/
live-blog-day-6-of-israel-gaza-conflict-2012-1.478922

Jerusalem Media and Communications Centre, "Hamas-Fateh Conflict," web page, January 24, 2009. As of July 15, 2016:
http://www.jmcc.org/fastfactspag.aspx?tname=13

"Jewish Extremists Held Over Palestinian Teen's Murder," Agence France Presse via Ma'an News Agency, July 6, 2014. As of December 19, 2016:
http://www.maannews.com/Content.aspx?id=710424

Johnson, David E., *Military Capabilities for Hybrid War: Insights from the Israel Defense Forces in Lebanon and Gaza*, Santa Monica, Calif.: RAND Corporation, OP-285-A, 2010. As of February 14, 2017:
http://www.rand.org/pubs/occasional_papers/OP285.html

———, *Hard Fighting: Israel in Lebanon and Gaza*, Santa Monica, Calif.: RAND Corporation, MG-1085-A/AF, 2011a. As of January 24, 2017:
http://www.rand.org/pubs/monographs/MG1085.html

———, *Heavy Armor in the Future Security Environment*, Santa Monica, Calif.: RAND Corporation, OP-334-A, 2011b. As of February 14, 2017:
http://www.rand.org/pubs/occasional_papers/OP334.html

———, *Preparing for "Hybrid" Opponents: Israeli Experiences in Lebanon and Gaza*, Santa Monica, Calif.: RAND Corporation, RB-9620-A, 2011c. As of February 14, 2017:
http://www.rand.org/pubs/research_briefs/RB9620.html

———, "Fighting the 'Islamic State': The Case for U.S. Ground Forces," *Parameters*, Vol. 45, No. 2, Summer 2015, pp. 7–17.

———, *The Challenges of the "Now" and Their Implications for the U.S. Army*, Santa Monica, Calif.: RAND Corporation, PE-184-A, 2016. As of February 14, 2017:
http://www.rand.org/pubs/perspectives/PE184.html

Johnson, David E., and John Gordon, IV, *Observations on Recent Trends in Armored Forces*, Santa Monica, Calif.: RAND Corporation, OP-287-A, 2010. As of February 14, 2017:
http://www.rand.org/pubs/occasional_papers/OP287.html

Johnson, David E., Matthew Wade Markel, and Brian Shannon, *The 2008 Battle of Sadr City: Reimagining Urban Combat*, Santa Monica, Calif.: RAND Corporation, OP-335-A, 2011. As of February 14, 2017:
http://www.rand.org/pubs/occasional_papers/OP335.html

Johnson, David E., Jennifer D. P. Moroney, Roger Cliff, Matthew Wade Markel, Laurence Smallman, and Michael Spirtas, *Preparing and Training for the Full Spectrum of Military Challenges: Insights from the Experiences of China, France, the United Kingdom, India, and Israel*, Santa Monica, Calif.: RAND Corporation, MG-836-OSD, 2009. As of February 14, 2017:
http://www.rand.org/pubs/monographs/MG836.html

Judson, Jen, "Army Testing Foreign Active Protection Systems for U.S. Combat Vehicles," *Defense News*, June 29, 2016. As of September 21, 2016:
http://www.defensenews.com/story/defense/land/vehicles/2016/06/29/army-testing-foreign-active-protection-systems-us-combat-vehicles/86529894/

Kalman, Aaron, and Associated Press, "Netanyahu Says It's His Responsibility to Exact Price for Rockets on the South," *Times of Israel*, November 13, 2012. As of January 10, 2016:
http://www.timesofisrael.com/im-responsible-states-netanyahu/

Kam, Ephraim, "Following the Operation: The Balance Between the Two Sides," in Shlomo Brom, ed., *In the Aftermath of Operation Pillar of Defense: The Gaza Strip*, Tel Aviv, Israel: Institute for National Security Studies, November 2012.

———, "Egypt: The Non-Neutral Broker," in Anat Kurz and Shlomo Brom, eds., *The Lessons of Operation Protective Edge*, Tel Aviv, Israel: Institute for National Security Studies, 2014, pp. 179–182.

Kaufman, Gerald, "Why I Believe Israel Is Committing War Crimes," blog post, *Huffpost Politics* (United Kingdom), November 20, 2012. As of December 19, 2016:
http://www.huffingtonpost.co.uk/sir-gerald-kaufman/gaza-israel-palestine_b_2164599.html

Keinon, Herb, "Outline of Protective Edge Cease-Fire Agreement with Hamas," *Jerusalem Post*, August 28, 2014. As of July 29, 2016:
http://www.jpost.com/Arab-Israeli-Conflict/Outline-of-Protective-Edge-cease-fire-agreement-with-Hamas-372560

———, "Iran Trying to Move Yakhont Missiles and SA-22 Air Defense Systems to Hezbollah," *Jerusalem Post*, August 20, 2015. As of October 15, 2016:
http://www.jpost.com/Arab-Israeli-Conflict/Iran-trying-to-move-Yakhont-missiles-and-SA-22-Air-Defense-Systems-to-Hezbollah-412754

Kershner, Isabel, "Abbas's Premier Tells Israel to Reopen Gaza," *New York Times*, December 14, 2007. As of July 26, 2016:
http://www.nytimes.com/2007/12/14/world/middleeast/14mideast.html

———, "Israel Agrees to Truce with Hamas on Gaza," *New York Times*, June 18, 2008. As of July 26, 2016:
http://www.nytimes.com/2008/06/18/world/middleeast/18mideast.html

———, "Four Palestinian Militants Killed in Israeli Airstrikes," *New York Times*, October 24, 2012. As of December 19, 2016:
http://www.nytimes.com/2012/10/25/world/middleeast/
gaza-militants-fire-rockets-and-mortars-into-southern-israel.html

———, "Israeli Military Revokes Use of Maximum Force to Foil Captures," *New York Times*, June 28, 2016. As of July 29, 2016:
http://www.nytimes.com/2016/06/29/world/middleeast/
israel-hannibal-procedure.html

"Key Maps: Six-Day War," BBC, undated. As of July 27, 2016:
http://news.bbc.co.uk/2/shared/spl/hi/middle_east/03/v3_israel_palestinians/
maps/html/six_day_war.stm

Khazan, Olga, "Israel Army Says Jabari Had 'Blood on His Hands,'" *Washington Post*, November 14, 2012. As of January 20, 2016:
https://www.washingtonpost.com/news/worldviews/wp/2012/11/14/
israel-army-says-jabari-had-blood-on-his-hands/

Klapper, Bradley, Lolita C. Baldor, et al., "AP Fact Check: Donald Trump on U.S. Intervention in the Middle East," *PBS News Hour*, August 15, 2016. As of September 19, 2016:
http://www.pbs.org/newshour/rundown/
ap-fact-check-donald-trump-mideast-history/

Kramer, Gudrun, *A History of Palestine: From Ottoman Conquest to the Founding of the State of Israel*, Princeton, N.J.: Princeton University Press, 2011.

Kurz, Anat, *A Conflict Within a Conflict: The Fatah-Hamas Strife and the Israeli-Palestinian Peace Process*, Institute for National Security Studies, 2009.

Landau, Emily B., and Azriel Bermant, "Iron Dome Protection: Missile Defense in Israel's Security Concept," in Anat Kurz and Sholmo Brom, eds., *The Lessons of Protective Edge*, Tel Aviv, Israel: Institute for National Security, 2014, pp. 37–42.

Lapid, Ephraim, and Amir Rapaport, "'We Are Preparing for the Worst,'" *Israel Defense*, August 17, 2012.

Lappin, Yaakov, "More Iron Dome Batteries to Be Deployed Across Counter," *Jerusalem Post*, July 13, 2014c. As of July 22, 2016:
http://www.jpost.com/Operation-Protective-Edge/
More-Iron-Dome-batteries-to-be-deployed-across-country-362522

———, "Inside the IDF's War in Shejaia to Save Southern Israel," *Jerusalem Post*, July 28, 2014b. As of July 27, 2016:
http://www.jpost.com/Operation-Protective-Edge/
Inside-the-IDFs-war-in-Shejaia-to-save-southern-Israel-369102

———, "Hamas Less of a Threat to Ground Forces in Gaza Than Previously Thought, Intel Officer Tells Post," *Jerusalem Post*, August 25, 2014c. As of July 27, 2016:
http://www.jpost.com/Arab-Israeli-Conflict/Hamas-a-less-threatening-enemy-than-previously-estimated-Nahal-intelligence-officer-tells-Post-372232

Lappin, Yaakov, et al., "Gaza Terrorists Fire Two Rockets at Tel Aviv," *Jerusalem Post*, November 16, 2012. As of January 20, 2017:
http://www.jpost.com/Defense/Gaza-terrorists-fire-two-rockets-at-Tel-Aviv

Laub, Karin, and Ibrahim Barzak, "Hamas Displays Gaza Grip, as Protest Call Fails," Associated Press, November 11, 2014. As of July 28, 2016:
https://www.yahoo.com/news/hamas-displays-gaza-grip-protest-call-fails-145843926.html

Laub, Zachery, "Hamas," web page, Council on Foreign Relations, August 1, 2014. As of July 22, 2016:
http://www.cfr.org/israel/hamas/p8968

Lazaroff, Tova, "Netanyahu: Iran Behind Cyber Attacks on Israel," *Jerusalem Post*, September 14, 2014. As of July 28, 2016:
http://www.jpost.com/Israel-News/Watch-Live-Netanyahu-addresses-cyber-security-conference-375290

Levi, Elior, "Hamas Executes Member Who May Have Betrayed Deif's Location," Ynetnews.com, February 7, 2016. As of August 2, 2016:
http://www.ynetnews.com/articles/0,7340,L-4763162,00.html

Levinson, Charles, and Adam Entous, "Israel's Iron Dome Defense Battled to Get Off the Ground," *Wall Street Journal*, November 26, 2012.

Lieberman, Avigdor, interview with Ynet Studio (translated from Hebrew), November 20, 2012. As of December 20, 2016:
http://www.ynet.co.il/articles/0,7340,L-4309293,00.html

Limor, Yoav, "Gantz's Halftime Test," *Israel Hayom* (translated from Hebrew), January 25, 2013. As of December 20, 2016:
http://www.israelhayom.co.il/site/newsletter_article.php?id=26175

Lipin, Michael, "Ground Game: Tunnels in Gaza, Korean Peninsula," *Voice of America*, August 21, 2014. As of September 21, 2016:
http://www.voanews.com/a/ground-game-tunnels-in-gaza-korean-peninsula/2423631.html

"Live Blog: Day 8 of Israel-Gaza Conflict 2012," *Haaretz*, November 21, 2012. As of March 29, 2017:
http://www.haaretz.com/israel-news/live-blog-day-8-of-israel-gaza-conflict-2012-1.479350

"Live Updates: Operation Protective Edge, Day 1," *Haaretz*, July 8, 2014. As of April 5, 2017:
http://www.haaretz.com/israel-news/1.603677

"Live Updates: Operation Protective Edge, Day 2," *Haaretz*, July 9, 2014. As of April 5, 2017:
http://www.haaretz.com/israel-news/1.603913

"Live Updates: Operation Protective Edge, Day 10," *Haaretz*, July 18, 2014. As of April 5, 2017:
http://www.haaretz.com/israel-news/1.605590

"Live Updates: Operation Protective Edge, Day 13," *Haaretz*, July 20, 2014. As of August 2, 2016:
http://www.haaretz.com/israel-news/1.606129

"Live Updates: Operation Protective Edge, Day 23," *Haaretz*, July 30, 2014. As of July 28, 2016:
http://www.haaretz.com/israel-news/1.607945

Logan, Nick, "Mourning, Military Strikes After Israeli Teens Found Dead," *Global News*, July 1, 2014. As of January 4, 2017:
http://globalnews.ca/news/1426608/
mourning-military-strikes-after-israeli-teens-found-dead/

Lynch, Sarah, "Gaza Conflict Puts Crimp in Tunnel Smuggling Biz," *USA Today*, November 22, 2012. As of January 20, 2017:
http://www.usatoday.com/story/news/world/2012/11/21/
gaza-tunnels-smuggling/1718265/

Mahon, John K., *History of the Militia and the National Guard*, New York: Macmillan Publishing Company, 1983.

"Mashaal: Gazans to Respect Truce if Israel Does," Reuters, November 21, 2012. As of December 19, 2016:
http://www.jpost.com/Diplomacy-and-Politics/
Mashaal-Gazans-to-respect-truce-if-Israel-does

Massi, Alessandria, "Timeline of Events in Gaza and Israel Shows Sudden, Rapid Escalation," *International Business Times*, July 23, 2014. As of January 4, 2017:
http://www.ibtimes.com/
timeline-events-gaza-israel-shows-sudden-rapid-escalation-1636264

Mehr, Benny, "The Lessons Regarding Statistical Artillery," *Israel Defense*, June 20, 2016.

Meir Amit Intelligence and Terrorism Information Center, "Operation Pillar of Defense – Update No. 8," November 22, 2012. As of August 3, 2016:
http://www.terrorism-info.org.il/en/article/20433

Meo, Nick, "How Israel Killed Ahmed Jabari, Its Toughest Enemy in Gaza," *The Telegraph*, November 17, 2012. As of January 17, 2017:
http://www.telegraph.co.uk/news/worldnews/middleeast/israel/9685598/
How-Israel-killed-Ahmed-Jabari-its-toughest-enemy-in-Gaza.html

Ministry of Foreign Affairs, "Israel Under Fire—April 2011," statement, April 10, 2011. As of January 20, 2017:
http://mfa.gov.il/MFA/ForeignPolicy/Terrorism/Pages/
Israel_under_fire-April_2011.aspx

Missile Defense Agency, "United States and Israel Sign Agreement on Iron Dome Weapon System," press release, March 8, 2014. As of January 17, 2017:
https://www.mda.mil/news/14news0002.html

"More Than 65 Killed in Israeli Shelling in Gaza City," Reuters via Ynetnews.com, July 20, 2014. As of July 27, 2016:
http://www.ynetnews.com/articles/0,7340,L-4547139,00.html

Morley, Jeffrey, "Israeli Withdrawal From Gaza Explained," *Washington Post*, August 10, 2015. As of July 25, 2016:
http://www.washingtonpost.com/wp-dyn/content/article/2005/08/10/
AR2005081000713.html

al-Mughrabi, Nidal, "Israel Hammers Hamas in Gaza Offensive," Reuters, November 14, 2012a. As of December 19, 2016:
http://www.reuters.com/article/
us-palestinians-israel-hamas-idUSBRE8AD0WP20121114

———, "Egypt-Led Truce Hopes Crumble as Gaza Rocket Rattles Tel Aviv," Reuters, November 16, 2012b. As of December 19, 2016:
http://news.nationalpost.com/news/world/israel-middle-east/
egypt-led-truce-hopes-crumble-as-gaza-rocket-rattles-tel-aviv

———, "Factbox: Gaza Targets Bombed by Israel," Reuters, November 21, 2012c. As of January 20, 2017:
http://www.reuters.com/article/
us-palestinians-israel-gaza-idUSBRE8AK0H920121121

———, "Israel Kills Gaza Militant Blamed for Rockets During Sharon Funeral," Reuters, January 22, 2014. As of December 19, 2016:
http://www.reuters.com/article/
us-palestinians-israel-violence-idUSBREA0K1V620140122

Mueller, John, "The Iraq Syndrome," *Foreign Affairs*, Vol. 84, No. 6, November–December 2005, pp. 44–54.

Murray, Williamson, and Peter Mansoor, eds., *Hybrid Warfare: Fighting Complex Opponents from the Ancient World to the Present*, Cambridge, UK: Cambridge University Press, 2012.

Nebehay, Stephanie, "Gaza Hospitals Stretched, Need Supplies to Treat Wounded: WHO," Reuters, November 17, 2012. As of December 19, 2016:
http://www.reuters.com/article/
us-palestinians-israel-who-idUSBRE8AG0I120121117

Newton, Creede, "Legal Battles on Horizon in the Ruins of Gaza," *Al Jazeera*, February 21, 2015. As of July 28, 2016:
http://www.aljazeera.com/news/2015/02/
legal-battles-horizon-ruins-gaza-150212072631357.html

Nixon, Ron, "As Donald Trump Calls for Wall on Mexican Border, Smugglers Dig Tunnels," *International New York Times*, September 1, 2016. As of September 21, 2016:
http://www.nytimes.com/2016/09/02/us/us-mexico-border-wall-tunnels.html

Nordland, Rod, "Iraqi Forces Attack Mosul, a Beleaguered Stronghold for ISIS," *New York Times*, October 16, 2016. As of October 22, 2016:
http://www.nytimes.com/2016/10/17/world/middleeast/
in-isis-held-mosul-beheadings-and-hints-of-resistance-as-battle-nears.html

al-Noughrabi, Nidal, "Dalu Family in Gaza Mourns Dead After Israel Bombs House," Reuters, November 19, 2012. As of December 19, 2016:
http://www.huffingtonpost.com/2012/11/19/dalu-family-gaza_n_2159086.html

OCHA — *See* United Nations Office for the Coordination of Humanitarian Affairs.

Office of the Historian, "The 1967 Arab-Israeli War," web page, U.S. Department of State, undated. As of August 22, 2016:
https://history.state.gov/milestones/1961-1968/arab-israeli-war-1967

Opall-Rome, Barbara, "Israel Eyes U.S. Funding to Detect, Destroy Hamas Tunnels," *Defense News*, April 18, 2016a. As of August 1, 2016:
http://www.defensenews.com/story/defense/international/
mideast-africa/2016/04/18/israel-hamas-tunnels-gaza-funding-us/83186564/

———, "Israel Unveils Wheeled, Actively Protected Armored Carrier," *Defense News*, August 1, 2016b. As of August 2, 2016:
http://www.defensenews.com/story/defense/land/2016/08/01/
israel-unveils-wheeled-actively-protected-armored-carrier/87907090/

"Operation Pillar of Defense," Globalsecurity.org, March 3, 2013. As of January 17, 2017:
http://www.globalsecurity.org/military/world/war/operation-pillar-of-defense.htm

"Operation Pillar of Defense: Israel Under Fire," *Haaretz*, November 15, 2012.

Oren, Michael B., *Six Days of War: June 1967 and the Making of the Modern Middle East*, New York: Ballantine Books, 2002.

"Oslo I Accords (Declaration of Principles of Interim Self-Government Agreements)," web page, Council on Foreign Relations, September 13, 1993. As of July 22, 2016:
http://peacemaker.un.org/israelopt-osloaccord93

Palestinian Center for Human Rights, "Israeli Attacks on Palestinian Fishermen in the Gaza Sea," fact sheet, July 2, 2012a. As of December 19, 2016:
http://pchrgaza.org/en/?p=5013

———, "Israeli Attacks on Palestinian Fishermen in Gaza Sea," fact sheet, October 1, 2012b. As of December 19, 2016:
http://pchrgaza.org/en/?p=5002

———, "Attempts to Rescue the al-Dalu Family Ongoing; Israeli Occupation Forces Destroy House over Its Residents," November 19, 2012c. As of December 19, 2016:
http://pchrgaza.org/en/?p=1873

———, "On the 18th Day of the Israeli Offensive on Gaza," web page, July 25, 2014. As of December 19, 2016:
http://pchrgaza.org/en/?p=1611

Pan, Esther, "Middle East: The Gaza Withdrawal," web page, Council on Foreign Relations, August 18, 2005. As of July 18, 2016:
http://www.cfr.org/israel/middle-east-gaza-withdrawal/p8595

PCHR—*See* Palestinian Center for Human Rights.

Pedatzur, Reuven, "Missiles vs. Metal Pipes," *Haaretz*, May 14, 2007. As of December 14, 2016:
http://www.haaretz.com/missiles-vs-metal-pipes-1.220492

———, "Why Did Israel Kill Jabari?" *Haaretz*, December 4, 2012. As of December 20, 2017:
http://www.haaretz.com/opinion/why-did-israel-kill-jabari.premium-1.482224

———, "How Many Rockets Has Iron Dome Really Intercepted?" *Haaretz*, March 9, 2013. As of December 19, 2016:
http://www.haaretz.com/opinion/
how-many-rockets-has-iron-dome-really-intercepted.premium-1.508277

Perry, Mark, "Why Israel's Bombardment of Gaza Neighborhood Left U.S. Officers 'Stunned,'" *Al Jazeera America*, August 27, 2014. As of July 27, 2016:
http://america.aljazeera.com/articles/2014/8/26/
israel-bombing-stunsusofficers.html

Pfeffer, Anshel, "War by All Means—How the IDF Fights in 2012," *Haaretz*, November 15, 2012.

Pfeffer, Anshel, and Yanir Yagna, "Iron Dome Successfully Intercepts Gaza Rocket for First Time," *Haaretz*, April 7, 2011. As of January 17, 2017:
http://www.haaretz.com/israel-news/
iron-dome-successfully-intercepts-gaza-rocket-for-first-time-1.354696

Podolsky, Philip, "Sderot Mayor Hunger Strikes to Protest Budget Shortfall for Rocket-Clobbered Town," *Times of Israel*, October 25, 2012. As of January 20, 2017:
http://www.timesofisrael.com/sderot-mayor-goes-on-hunger-strike/

Popovich, Elad, "A Classical Analysis of the 2014 Israel-Hamas Conflict," *CTC Sentinel*, Vol. 7, No. 11, November/December 2014.

Postol, Theodore A., *Indicators of Iron Dome's Performance in Pillar of Defense*, March 12, 2013. As of January 4, 2017:
http://www.magenlaoref.org.il/
IndicatorsofIronDomePerformanceMarch122013.pdf

———, "The Evidence That Shows That Iron Dome Is Not Working," *Bulletin of Atomic Scientists*, July 19, 2014. As of January 4, 2017:
http://thebulletin.org/evidence-shows-iron-dome-not-working7318

Prime Minister's Office, "Lieutenant Colonel Dolev Keidar," July 21, 2014. As of July 27, 2016:
http://www.pmo.gov.il/English/TerrorInjured/Pages/vicDolevKeidar.aspx

Public Law 112-10, Department of Defense and Full-Year Continuing Appropriations Act, Section 8072, 2011.

Putz, Ulrike, "A Visit to a Gaza Rocket Factory," *Der Speigel*, January 29, 2008. As of December 14, 2016:
http://www.spiegel.de/international/world/graveyard-shift-for-islamic-jihad-a-visit-to-a-gaza-rocket-factory-a-531578.html

Rafael Advanced Defense Systems, "Iron Dome," web page, undated. As of July 22, 2016:
http://www.rafael.co.il/5614-689-en/Marketing.aspx

Raghavan, Sudarsan, William Booth, and Ruth Eglash, "Israel, Hamas Agree to 72-Hour Humanitarian Cease-Fire," *Washington Post*, August 1, 2014. As of July 27, 2016:
https://www.washingtonpost.com/world/israel-presses-ahead-with-gaza-offensive-calls-up-16000-more-reservists/2014/07/31/40281e0d-819f-4ebf-9a7c-5f36bda97e36_story.html

Raitasalo, Jyri, "Hybrid Warfare: Where's the Beef?" *War on the Rocks*, April 23, 2015. As of December 14, 2016:
http://warontherocks.com/2015/04/hybrid-warfare-wheres-the-beef/

"Ranges of Hamas's Rockets," Stratfor.com, July 9, 2014.

Rapaport, Amir, "A Robotic Forward Guard," interview with Colonel Nir Halamish, Head of the IDF Ground Forces Command's Weapons Development Division, *IsraelDefense*, November 3, 2012.

———, "The Underground Tunnel Omission: A Predictable Failure," *Israel Defense*, October 21, 2016. As of October 22, 2016:
http://www.israeldefense.co.il/en/content/
underground-tunnel-omission-predictable-failure

Ravid, Barak, et al., "Delegitimization of Israel Must Be Delegitimized," *Haaretz*, October 16, 2009. As of December 17, 2016:
http://www.haaretz.com/news/
delegitimization-of-israel-must-be-delegitimized-1.5970

Ritter, William D., "Army Reserve Has New Positions Within XVIII Airborne Corps," U.S. Army Reserve Command Public Affairs, March 12, 2015. As of February 14, 2017:
https://www.army.mil/article/144398/ARMY_RESERVE_HAS_NEW_
POSITIONS_WITHIN_XVIII_AIRBORNE_CORPS

Rivlin, Paul, "Economics and the War in Gaza," *Iqtisadi [Middle East Economy]*, Vol. 4, No. 8, August 31, 2014. As of July 29, 2016:
http://www.aftau.org/document.doc?id=283

Roblin, Sebastian, "Is America's M1 Abrams Tank Still the Best in the World?" *National Interest*, August 6, 2016. As of September 21, 2016:
http://nationalinterest.org/feature/
americas-m1-abrams-tank-still-the-best-the-world-17263

"The Rockets from Hamas, and the Iron Dome That Could Use Patching," NPR, interview with MIT professor Theodore Postol, July 9, 2014. As of January 9, 2017:
http://www.npr.org/2014/07/09/330183774/
the-rockets-from-hamas-and-the-iron-dome-that-could-use-patching

Rogers, Ann, "Investigating the Relationship Between Drone Warfare and Civilian Casualties in Gaza," *Journal of Strategic Studies*, Vol. 7, No. 4, Article 8, 2014, p. 101.

Romjue, John L., *From Active Defense to Airland Battle: the Development of Army Doctrine, 1973–1982*, Fort Monroe, Va.: Historical Office, U.S. Army Training And Doctrine Command, 1984.

Rosenberg, Matthew and Mark Mazzetti, "U.S. Ship Off Yemen Fires Missiles at Houthi Rebel Sites," *New York Times*, October 12, 2016. As of October 15, 2016:
http://www.nytimes.com/2016/10/13/world/middleeast/
yemen-rebels-missile-warship.html

Rothkopf, David, "The Slaughter of Innocents: Why Collateral Damage Undoes the Best-Laid Plans of 'Limited' War Makers," *Foreign Policy*, July 17, 2014.

Rubenstein, Daniel, "Hamas' Tunnel Network: A Massacre in the Making," in Hirsh Goodman and Dore Gold, eds., *The Gaza War 2014: The War Israel Did Not Want and the Disaster It Avoided*, Jerusalem, Israel: Jerusalem Center for Public Affairs, 2015a, pp. 119–129.

———, "Key Moments in a 50-Day War: A Timeline," in Hirsh Goodman and Dore Gold, eds., *The Gaza War 2014: The War Israel Did Not Want and the Disaster It Avoided*, Jerusalem, Israel: Jerusalem Center for Public Affairs, 2015b, pp. 153–165.

Rubin, Uzi, *Israel's Air and Missile Defense During the 2014 Gaza War*, Tel Aviv, Israel: Begin-Sadat Center for Strategic Studies, Bar-Ilan University, Mideast Security and Policy Studies No. 111, 2015.

Rudoren, Jodi, "Israel Struck by Rocket from Gaza After a Death," *New York Times*, February 26, 2013. As of July 29, 2016:
http://www.nytimes.com/2013/02/27/world/middleeast/
rocket-from-gaza-hits-israel-breaking-cease-fire.html

———, "What the Oslo Accords Accomplished," *New York Times*, September 30, 2015. As of July 26, 2016:
http://www.nytimes.com/2015/10/01/world/middleeast/
palestinians-mahmoud-abbas-oslo-peace-accords.html

Rudoren, Jodi, and Somini Sengupta, "U.N. Report on Gaza Finds Evidence of War Crimes by Israel and by Palestinian Militants," *New York Times*, June 22, 2015. As of October 22, 2016:
http://www.nytimes.com/2015/06/23/world/middleeast/israel-gaza-report.html

Rudoren, Jodi, Fares Akram, and Isabel Kershner, "Israeli Airstrike Kills Three Generations of a Palestinian Family," *New York Times*, November 18, 2012.

Runkle, Benjamin, "Preparing for Warfare's Subterranean Future," *War on the Rocks*, April 16, 2015. As of September 21, 2016:
http://warontherocks.com/2015/04/preparing-for-warfares-subterranean-future/

Rynhold, Jonathan, and Dov Waxman, "Ideological Change and Israel's Disengagement from Gaza," *Political Science Quarterly*, Vol. 123, No. 1, 2008, pp. 11–37.

Schadlow, Nadia, "The Problem with Hybrid Warfare," *War on the Rocks*, April 2, 2015. As of December 14, 2016:
http://warontherocks.com/2015/04/the-problem-with-hybrid-warfare/

Schelling, Thomas C., *Arms and Influence*, New Haven, Conn.: Yale University Press, 2008.

Schweitzer, Yoram, "The Rise and Fall of Suicide Bombings in the Second Intifada," *Strategic Assessment*, Vol. 10, No. 3, October 2010. As of July 18, 2016:
http://www.inss.org.il/uploadimages/Import/(FILE)1289896644.pdf

Segal, Udi, "Under the Radar: The Israeli Deception that Preceded the Operation in Gaza," *Mako* (translated from Hebrew), November 15, 2012. As of December 20, 2016:
http://www.mako.co.il/news-military/security/Article-812624f87c00b31004.htm

Shamir, Eitan, "Operational Pillar of Defense: An Initial Strategic and Military Assessment," *Perspectives*, Begin-Sadat Center for Strategic Studies, No. 189, December 4, 2012.

———, "The 2014 Gaza War: Rethinking Operation Protective Edge," *Middle East Quarterly*, Spring 2015, pp. 1–12.

———, "Gaza Operation 2014: A Clash of Strategies," Begin-Sadat Center for Strategic Studies, Bar Ilan University, Tel Aviv, Israel, undated.

Shamir, Eitan, and Eado Hecht, "Gaza 2014: Israel's Attrition vs Hamas' Exhuastion," *Parameters*, Vol. 44, No. 4, Winter 2014/2015, pp. 81–90.

Shapir, Yiftah S., "Iron Dome: The Queen of Battle" in Shlomo Brom, ed., *In the Aftermath of Operation Pillar of Defense, the Gaza Strip*, Tel Aviv, Israel: Institute for National Security Studies, November 2012.

———, "Rocket Warfare in Operation Protective Edge," in Anat Kurz and Shlomo Brom, eds., *The Lessons of Protective Edge*, Tel Aviv, Israel: Institute for National Security, 2014, pp. 43–50.

Shapir, Yiftah S., and Gal Perel, "Subterranean Warfare: A New-Old Challenge," in Anat Kurz and Shlomo Brom, Eds., *The Lessons of Protective Edge*, Tel Aviv, Israel: Institute for National Security, 2014, pp. 51–57.

Sharp, Jeremy M., *U.S. Foreign Aid to Israel*, Washington, D.C.: Congressional Research Service, RL33222, June 10, 2015.

———, *Yemen: Recent Attacks Against U.S. Naval Vessels in the Red Sea*, CRS Insight, IN10599, October 21, 2016. As of February 14, 2017:
https://fas.org/sgp/crs/mideast/IN10599.pdf

Sherwood, Harriet, "In Gaza, Hamas Fighters Are Among Civilians. There Is Nowhere Else for Them to Go," *The Guardian*, July 24, 2014. As of December 19, 2016:
https://www.theguardian.com/world/2014/jul/24/gaza-hamas-fighters-military-bases-guerrilla-war-civilians-israel-idf

Sherwood, Harriet, and Hazem Baloush, "Hamas Tunnelling Again in Gaza as Israelis Fear Attack from Below," *The Guardian*, March 31, 2016. As of July 28, 2016:
https://www.theguardian.com/world/2016/mar/30/hamas-tunnelling-again-in-gaza-as-israelis-fear-attack-from-below

Sherwood, Harriet, Peter Beaumont, and Chris McGreal, "Israeli Airstrike Hits Hamas PM's Office," *The Guardian*, November 17, 2012.

Shlapak, David A., and Michael Johnson, *Reinforcing Deterrence on NATO's Eastern Flank: Wargaming the Defense of the Baltics*, Santa Monica, Calif.: RAND Corporation, RR-1253-A, 2016. As of February 14, 2017:
http://www.rand.org/pubs/research_reports/RR1253.html

Shmulovich, Michal, "Large Terror Tunnel from Gaza Discovered Near Kibbutz," *Times of Israel*, January 15, 2013. As of July 29, 2016:
http://www.timesofisrael.com/
idf-says-large-terror-tunnel-from-gaza-discovered-near-kibbutz/

Shoval, Lilach, and Gadi Golan, "IDF Foils Hamas Naval Commando Attack," *Israel Hayom*, July 9, 2014. As of August 1, 2016:
http://www.israelhayom.com/site/newsletter_article.php?id=18687

Shoval, Lilach, and Daniel Siryoti, "Israel to Deploy New Intelligence Battalion on Egyptian Border," *Hayom*, November 21, 2011.

Shy, John, *A People Numerous and Armed: Reflections on the Military Struggle for the American Independence,* revised edition, Ann Arbor, Mich.: University of Michigan Press, 1990.

Siboni, Gabi, "Operations Cast Lead, Pillar of Defense, and Protective Edge: A Comparative Review," in Anat Kurz and Shlomo Brom, eds., *The Lessons of Protective Edge*, Tel Aviv, Israel: Institute for National Security, 2014, pp. 27–36.

Siboni, Gabi, and A. G., "Will Hamas be Better Prepared during its Next Confrontation with Israel?" *Military and Strategic Affairs*, Vol. 7, No. 2, September 2015, pp. 73–102.

Siryoti, Daniel, and Lilach Shoval, "Ahmed Jabari Funeral Draws Large Crowds, but No Hamas Leaders," *Israel HaYom*, November 15, 2012. As of April 17, 2017:
http://www.israelhayom.com/site/newsletter_article.php?id=6425

Sisk, Robert, "Despite Downsizing, Army Remains Decisive Service in War, Chief Says," Military.com, October 12, 2015. As of September 20, 2016:
http://www.military.com/daily-news/2015/10/12/
despite-downsizing-army-remains-decisive-service-war-chief-says.html

Sobczak, Blake, "Security: A 'Cyber Superpower' Prepares for War," *Energy Wire News*, July 14, 2015. As of July 28, 2016:
http://www.eenews.net/stories/1060021702

"Soldiers Shoot Dead 20-Year-Old Man Near Gaza Border," Reuters via *Ma'an News*, November 5, 2012. As of December 19, 2016:
http://www.maannews.com/Content.aspx?id=533909

Speyer, Lea, "Terrorists Attempt to Steal Dead Body of IDF Soldier," *Breaking Israel News*, July 29, 2014. As of July 28, 2016:
http://www.breakingisraelnews.com/19155/
terrorists-attempt-steal-dead-body-idf-soldier/#w0SmPbTmzCxu1Fpp.99

Starr, Barbara, "Officials: Detainee Swapped for Bergdahl Suspected of Militant Activities," CNN.com/Politics, January 30, 2015. As of December 12, 2016:
http://www.cnn.com/2015/01/29/politics/bergdahl-swap-prisoner-militant-activity/

———, "Pentagon Adopts Israeli Tactic in Bombing ISIS," CNN.com/Politics, April 27, 2016. As of December 12, 2016:
http://www.cnn.com/2016/04/26/politics/u-s-uses-israeli-tactic-isis-bombing/

State of Israel, *The 2014 Gaza Conflict (7 July–26 August 2014): Factual and Legal Aspects*, Israel Ministry of Foreign Affairs, May 2015. As of December 12, 2016:
http://mfa.gov.il/ProtectiveEdge/Documents/2014GazaConflictFullReport.pdf

Stern, Willy, "Attorneys at War: Inside an Elite Military Law Unit," *Weekly Standard*, June 15, 2015.

Swain, Richard M., *Selected Papers of General William E. DePuy*, Fort Leavenworth, Kan.: Combat Studies Institute, U.S. Army Command and General Staff College, 1994. As of September 21, 2016:
http://usacac.army.mil/cac2/cgsc/carl/download/csipubs/
SelectedPapersofGeneralWilliamDepuy.pdf

Tan, Michelle, "Army Chief: Soldiers Must Be Ready to Fight in 'Megacities,'" *Defense News*, October 5, 2016. As of October 22, 2016:
http://www.defensenews.com/articles/
army-chief-soldiers-must-be-ready-to-fight-in-megacities

Taylor, Adam, "Israel's Controversial 'Roof Knocking' Tactic Appears in Iraq. And This Time, It's the U.S. Doing It," *Washington Post*, April 27, 2016. As of October 28, 2016:
https://www.washingtonpost.com/news/worldviews/wp/2016/04/27/
israels-controversial-roof-knocking-tactic-appears-in-iraq-and-this-time-its-the-u-s-doing-it/

Telhami, Shibley, and Steven Kull, *Israeli Public Opinion After the November 2012 Gaza War*, Saban Center for Middle East Policy at the Brookings Institution, November 30, 2012.

Tessler, Tzviki, Home Front Command Chief of Staff, "Assessment of Home Front Readiness Against Threats," lecture at INSS (in Hebrew), August 1, 2012.

Tharoor, Ishaan, "How Israel Helped Create Hamas," *Washington Post*, July 30, 2014. As of July 22, 2016:
https://www.washingtonpost.com/news/worldviews/wp/2014/07/30/
how-israel-helped-create-hamas/

Thrall, Nathan, "Hamas's Chances," *London Review of Books*, Vol. 36, No. 16, August 21, 2014. As of December 19, 2016:
http://www.lrb.co.uk/v36/n16/nathan-thrall/hamass-chances

"Timeline: Israel Launches Operation Pillar of Defense Amid Gaza Escalation," *Haaretz*, November 20, 2012. As of January 20, 2017:
http://www.haaretz.com/israel-news/timeline-israel-launches-operation-pillar-of-defense-amid-gaza-escalation.premium-1.479284

Tira, Ron, "Operation Protective Edge: Ends, Ways and Means and the Distinct Context," *Infinity Journal*, September 10, 2014.

Trofimov, Yaroslav, "Jewish Baby Boom Alters Israeli-Palestinian Dynamic," *Wall Street Journal*, July 14, 2016. As of December 19, 2016:
http://www.wsj.com/articles/
jewish-baby-boom-alters-israeli-palestinian-dynamic-1468499825

Trybula, David C., "*Big Five" Lessons for Today and Tomorrow*, Alexandria, Va.: Institute for Defense Analyses, 2012.

"Turkey and Iran Accuse Israel of 'Ethnic Cleansing' and 'War Crimes' in Gaza," Agence France Presse via *Al Arabiya*, November 20, 2012. As of December 19, 2016:
http://english.alarabiya.net/articles/2012/11/20/250765.html

Ullman, Harlan, James Wade, Jr., L. A. Edney, Frederick Franks, Jr., Charles Horner, Jonathan Howe, and Keith Brendley, *Shock and Awe: Achieving Rapid Dominance*, Washington, D.C.: National Defense University, October 1996.

UN—*See* United Nations.

UNHCR—*See* United Nations Human Rights Council

United Nations, "UN Mission Finds Evidence of War Crimes by Both Sides in Gaza Conflict," September 15, 2009a. As of January 20, 2017:
http://www.un.org/apps/news/story.asp?NewsID=32057#.V5enCWf2bIU

———, "By Recorded Vote, General Assembly Urges Israel, Palestinians to Conduct Credible, Independent Investigations into Alleged War Crimes in Gaza," November 5, 2009b. As of January 17, 2017:
http://www.un.org/press/en/2009/ga10883.doc.htm

———, "Secretary-General's Remarks to the Security Council (as delivered)," web page, November 21, 2012a. As of January 10, 2017:
http://www.un.org/sg/statements/index.asp?nid=6452

———, "General Assembly Votes Overwhelmingly to Accord Palestine 'Non-Member Observer State' Status in United Nations," November 29, 2012b. As of January 20, 2017:
http://www.un.org/press/en/2012/ga11317.doc.htm

United Nations General Assembly, "Bureau of Committee on the Exercise of the Inalienable Rights of the Palestinian People Strongly Condemns Ongoing Israeli Military Operation in Gaza," GA/PAL/1311, United Nations, July 21, 2014. As of July 27, 2014:
http://www.un.org/press/en/2014/gapal1311.doc.htm

———, *Report of the Independent Commission of Inquiry Established Pursuant to Human Rights Council Resolution S-21/1*, OHCHR.org, A/HRC/29/52, June 24, 2015. As of October 22, 2016:
http://www.ohchr.org/EN/HRBodies/HRC/CoIGazaConflict/Pages/ReportCoIGaza.aspx

United Nations High Commissioner for Human Rights, *Report of the United Nations High Commissioner for Human Rights on the Implementation of Human Rights Council resolutions S-9/1 and S-12/1*, Human Rights Council, March 6, 2013. As of December 19, 2016:
http://www.ohchr.org/Documents/HRBodies/HRCouncil/RegularSession/Session22/A.HRC.22.35.Add.1_AV.pdf

United Nations Human Rights Council, *Report of the Detailed Findings of the Commission of Inquiry on the 2014 Gaza Conflict*, A/HRC/29/CRP.4, June 24, 2015. As of December 19, 2016:
http://www.ohchr.org/EN/HRBodies/HRC/CoIGazaConflict/Pages/ReportCoIGaza.aspx

United Nations Office for the Coordination of Humanitarian Affairs, *Humanitarian Monitor Monthly Report*, New York, January 2013. As of July 28, 2016:
http://www.ochaopt.org/documents/ocha_opt_the_humanitarian_monitor_2013_02_28_english.pdf

———, *Gaza Initial Rapid Assessment*, August 27, 2014.

United Nations Operational Satellite Applications Program, "Satellite Based Damage Assessment of Gaza Strip, Palestinian Occupied Territory," September 18, 2014. As of July 25, 2016:
http://unosat-maps.web.cern.ch/unosat-maps/PS/CE20140715PSE/UNOSAT_A0_Portrait_Overview_Map_Gaza_Strip_20140827_v5.pdf

UNOSAT—*See* United Nations Operational Satellite Applications Program.

"The U.S. Army Squad: Foundation of the Decisive Force," Association of the United States Army, October 11, 2011. As of September 20, 2016:
https://www.ausa.org/publications/us-army-squad-foundation-decisive-force

U.S. Embassy Tel Aviv, "Dan Shapiro Visits the Tunnel Penetrating Israel from Gaza, October 17, 2013," via Wikimedia Commons, October 17, 2013. As of July 29, 2016:
https://commons.wikimedia.org/wiki/File:Dan_Shapiro_visits_the_tunnel_penetrating_Israel_from_Gaza,_October_17,_2013_(10327938914).jpg

"U.S. Eyes Israeli Short-Range Missile Interceptor for Europe Defence," Reuters, June 27, 2016. As of September 20, 2016:
http://www.reuters.com/article/defense-usa-israel-idUSL8N19J2C5

U.S. House of Representatives, 113th Cong., 1st Sess., Emergency Supplemental Appropriations Resolution, Washington, D.C., H. J. Res. 76, 2014.

———, 114th Cong., 1st Sess., National Defense Authorization Act for Fiscal Year 2016, H. R. 1735, 2016. As of January 4, 2017:
https://www.govtrack.us/congress/bills/114/hr1735/text

Usher, Graham, "The New Hamas: Between Resistance and Participation," web page, Middle East Research and Information Project, August 21, 2005. As of July 25, 2016:
http://www.merip.org/mero/
mero082105?ip_login_no_cache=7983738edfc68a6ca64f5860df2b2679

Vaughan, Jeremy, Michael Eisenstadt, and Michael Knights, "Policy Watch 2706: Missile Attacks on the USS *Mason*: Principles to Guide a U.S. Response," Washington Institute for Near East Policy, website, October 12, 2016. As of February 14, 2017:
http://www.washingtoninstitute.org/policy-analysis/view/
missile-attacks-on-the-uss-mason-principles-to-guide-a-u.s.-response

Al Waheidi, Majd, "7 Hamas Members Are Killed in Tunnel Collapse in Gaza," *New York Times*, January 28, 2016. As of July 28, 2016:
https://www.nytimes.com/2016/01/29/world/middleeast/
palestinians-gaza-tunnel-hamas.html

White, Jeffery, "The Combat Performance of Hamas in the Gaza War," *CTC Sentinel*, Vol. 7, No. 9, September 2014, pp. 9–13.

White House, *National Security Strategy*, Washington, D.C., February 2015. As of March 29, 2017:
https://obamawhitehouse.archives.gov/sites/default/files/docs/
2015_national_security_strategy.pdf

———, "Code of Conduct for Members of the United States Armed Forces," Executive Order 10631, August 17, 1955. As of December 12, 2016:
http://www.au.af.mil/au/awc/awcgate/readings/code_of_conduct2.htm

Williams, Dan, "Israeli Troops, with Dogs and Robots, Track Gaza Tunnels," Reuters, July 30, 2014. As of February 14, 2017:
http://www.reuters.com/article/
us-mideast-gaza-tunnels-idUSKBN0FZ20Y20140730

Wilson, Scott, "Hamas Sweeps Palestinian Elections, Complicating Peace Efforts in Mideast," *Washington, Post*, January 27, 2006. As of July 26, 2016:
http://jewishjournal.com/cover_story/132997/

Wilson, Simone, "What Really Happened in the Battle of Khuzaa, Gaza?" *Jewish Journal*, September 4, 2014. As of July 28, 2016:
http://www.jewishjournal.com/israel/article/
what_really_happened_in_the_battle_of_khuzaa_gaza

Wong, Kristina, "Clinton Vows Not to Commit U.S. Ground Troops to Iraq or Syria," *The Hill*, September 7, 2016. As of September 19, 2016:
http://thehill.com/policy/defense/
294915-clinton-vows-not-to-commit-american-ground-troops-to-iraq-or-syria

Yadlin, Amos, "The Strategic Balance of Protective Edge: Achieving the Strategic Goal Better, Faster and at a Lower Cost," in Anat Kurz and Shlomo Brom, eds., *The Lessons of Protective Edge*, Tel Aviv, Israel: Institute for National Security, 2014a, pp. 199–211.

———, "Operation Protective Edge: The Goals, and the Strategy to Achieve Them," INSS Insight No. 571, Institute for National Security Studies, July 9, 2014b.

Yaghi, Mai, "Israel Warns 100,000 Gazans to Flee as Truce Efforts Resume," Agence France Presse, July 15, 2014. As of January 4, 2017:
http://www.digitaljournal.com/news/world/
new-israeli-air-strikes-bring-gaza-toll-to-200-medics/article/390129

Yalin, Eshkol Haim, "Seven More Rockets to the South: No School in Ashkelon," interview with *Haaretz* (translated from Hebrew), June 21, 2012. As of June 21, 2016:
http://www.haaretz.co.il/news/politics/1.1736551

Yashiv, Eran, "The Economics of the Gaza Situation: A Crucial Element in the Conflict and the Resolution," blog post, INSS Insight No. 585, Institute for National Security Studies, August 6, 2014. As of July 28, 2016:
http://www.inss.org.il/index.aspx?id=4538&articleid=7459

Youngs, Tim, and Ben Smith, "Hamas and the Seizure of Gaza," United Kingdom House of Commons Library, Research Paper 07/60, July 6, 2007.

Yourish, Karen, and Josh Keller, "The Toll in Gaza and Israel, Day by Day," *New York Times*, August 8, 2014.

Zanotti, Jim, *Israel: Background and U.S. Relations*, Washington, D.C.: Congressional Research Service, October 28, 2016.

Zanotti, Jim, Carol Migdalovitz, Jeremy M. Sharp, Casey L. Addis, Christopher M. Blanchard, and Rhoda Margesson, *Israeli and Hamas Conflict in Gaza (2008–2009)*, Congressional Research Service, February 19, 2009. As of July 15, 2016:
https://www.fas.org/sgp/crs/mideast/R40101.pdf

Zitun, Yoav, "Number of MI Officers on the Rise," Ynetnews.com, July 13, 2012. As of July 28, 2016:
http://www.ynetnews.com/articles/0,7340,L-4255032,00.html

———, "IDF: We Uncovered Gaza Terror Tunnel Leading to Israel," Ynet News, July 7, 2014. As of August l, 2016:
http://www.ynetnews.com/articles/0,7340,L-4539146,00.html

———, "IDF's Givati Brigade Most Highly Decorated Unit," Ynetnews.com, February 3, 2015. As of July 28, 2016:
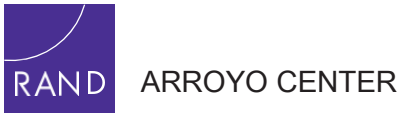http://www.ynetnews.com/articles/0%2c7340%2cL-4622299%2c00.html

Zitun, Yoav, and Elior Levy, "A House Hit in Sderot. Launches at Netivot; No Casualties," Ynet.co.il (translated from Hebrew), November 11, 2012. As of December 20, 2016:
http://www.ynet.co.il/articles/0,7340,L-4303990,00.html

———, "Four Soldiers Injured from Anti-Tank Rocket Fired from Gaza," *Ynet*, November 10, 2012.

For more than a decade now, Israel has clashed with Hamas in Gaza, in cycles of violence defi ned by periods of intense fi ghting followed by relative lulls. This report covers a fi ve-year period of this confl ict—from the end of Operation Cast Lead in 2009 to the end of Operation Protective Edge in 2014. Drawing on primary and secondary sources and an extensive set of interviews, it analyzes how an advanced military fought a determined, adaptive, hybrid adversary.

It describes how the Israel Defense Force (IDF) operationally, organizationally, and technologically evolved to meet asymmetric threats. Most broadly, this report details the IDF's increasing challenge of striking a delicate balance between the intense international legal public scrutiny and the hard operational realities of modern urban warfare. In this respect, this report's title—"From Cast Lead to Protective Edge"—captures more than just the names of the two operations that chronologically bracket its scope; it also describes the tension the IDF confronted between the military necessities driving maximalist uses of force and the political imperative for more restrained operations. This report draws a series of lessons from the Israeli experience for the U.S. Army and the joint force: from the importance of armored vehicles and active protection systems to the limitations of airpower in urban terrain and of conventional militaries to deter nonstate actors.

RAND ARROYO CENTER

www.rand.org

$37.50