Short War in a Perpetual Conflict

Implications of Israel’s 2014 Operation Protective Edge for the Australian Army

Dr. Russell W. Glenn

June 2016
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The manuscript was submitted in May 2015.

This material is based on work supported by the Australian Army under contract number ARS 14/12.

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National Library of Australia Cataloguing-in-Publication entry:
Creator: Glenn, Russell W., author.
Title: Short war in a perpetual conflict: implications of Israel’s 2014 operation protective edge for the Australian army / Russell Glenn.
ISBN: 9780994460844 (paperback)
Series: Army research paper; no. 9.
Notes: Includes bibliographical references.
Subjects: Arab-Israeli conflict.
Social media–Political aspects–Israel.
Social media–Political aspects–Palestine.
Israel–History, Military–21st century.

Army Research Papers
ISSN: 2203-5893

DPS APR024-16
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Executive Summary

Israel’s is a state of continuous conflict, frequently of the armed variety, and not uncommonly achieving levels of violence that qualify as war. Significant spikes in that level of violence have occurred several times during the past decade alone. These include – but are by no means limited to – the Second Lebanon War (July-August 2006), Operation Cast Lead (December 2008-January 2009), and Operation Protective Edge (July-August 2014). The third of these constitutes the focus of this study while the two preceding help to establish a foundation for considering that most recent spike in violence. This analysis will identify of issues relevant to assisting the Australian Army’s preparation for future conflict. Much of the analysis will additionally be of interest to Australian policymakers, the country’s multinational partners, and students of contemporary conflict. Some of the following pages’ observations will suggest areas of greater cooperation between the army and its joint, multinational, and civilian whole-of-government partners. A few reach so far as to potentially influence relationships with nongovernmental organisations (NGOs), inter-governmental organisations (IGOs), and industry representatives.

The causes of Operation Protective Edge (OPE) are debatable, interconnected, linked to larger antipathies, and remain largely unresolved in the aftermath of the hard boil of killing lessening to a simmer. While those in Gaza confront a single battlefield threat (Israeli state forces), that country instead finds itself fighting a number of adversaries during operations in the Gaza Strip. Hamas is foremost among them, but other groups such as the Palestinian Islamic Jihad (PIJ) fight Israel semi-autonomously in the interest of gaining or retaining sway among the local populace, international funders,
and members of their own ranks. Akin to Australia’s foes in Afghanistan, there is no single Gazan enemy any more than ‘the Taliban’ represents a cohesive and uniform entity.

The Second Lebanon War and Operation Cast Lead dominate the following first two chapters. Chapter 1 provides a concise description of the events comprising each while the second considers those in light of several areas pertinent to Australia’s security concerns:

- Urban operations
- Subterranean operations
- Information operations and exploitation of social media
- Kinetic targeting
- Command and control/Leadership
- Doctrine and concepts
- Training
- Intelligence.

(Readers interested in studying either the Second Lebanon War or Operation Cast Lead can find more comprehensive coverage available in the author’s freely available All Glory is Fleeting: Insights from the Second Lebanon War and Glory Restored? The Implications of the 2008-2009 Gaza War in Times of Extended Conflict, respectively.)

It is in chapter 3 that we turn to Operation Protective Edge proper. Readers will find revalidation of both Israeli and Australian lessons from recent conflicts, in particular those relating to the complexity of operating in urban environments, the challenges posed by subterranean facilities, and the growing impact of social media in particular and information operations (IO) more generally. Lessons though they are, the observations also cover previously recognized but still unresolved difficulties: urban fratricide, problems associated with targeting in densely populated terrain, the ponderous behaviour of states in the social media arena, foes’ use of indirect fire to attack static positions such as forward operating bases, the growing risk of cyber attack, and no few others. There are new discoveries as well, some that introduce disturbing issues better confronted during exercises and other preparations for future combat than once battles.

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have commenced. Events precipitating the last of OPE’s ceasefires, for example, imply that Hamas’s centre of gravity (or at least a decisive point of particularly vital importance) was a civilian residential rather than military target.

The fourth and final chapter draws on both identified insights from previous Israeli wars and Operation Protective Edge to once again consider areas of import to Australia’s ground force. A list of these follows, the discussion accompanying each touching briefly on a point or two of notable relevance. All receive far more robust coverage in the final chapter itself.

**Urban operations**

The urban environment dominated its soldiers’ activities during Operation Protective Edge, that though the Israel Defense Forces (IDF) limited its incursions into Gaza to three kilometres depth or less. The majority of OPE fratricide incidents took place in built-up areas. Hamas repeated previously proven tactics such as rigging buildings for demolition once Israeli personnel moved into the structures. A devil’s stew of urbanization and the enemy’s reliance on subterranean facilities ranging from underground launch sites to tunnels hundreds of metres in length made routine patrols difficult and difficult operations treacherous. Improved command and control permitted dramatic reductions in danger close air support engagements while lapses in basic force protection procedures cost multiple soldiers their lives. Some accepted – and virtually unquestioned – lessons from previous combat were found to merit reconsideration, e.g., some hyper-precise engagements of urban targets were thought by some to be detrimental rather than desirable. These evolutions and newly experienced challenges have caused the IDF to relook its force structure. Engineers in particular will find their numbers dramatically increased during future contingencies.

**Subterranean operations**

Israel’s demonstrated willingness to trade extraordinary numbers of its prisoners for the return of only one of its own kidnapped soldiers established conditions in which the currency of a captured soldier is thought by Hamas to have inestimable value. (Hezbollah to Israel’s north feels much the same.) “Attack tunnels”, those constructed from Gaza into Israel and running at
depths of up to 35 or 40 meters, therefore became a means not only to wage lethal attacks but also to act as conduits for raiding parties specifically seeking to capture one or more of their foes. That subterranean facilities have proven so effective for so broad a spectrum of purposes suggests they will increasingly become a feature of less technologically capable adversaries in years ahead. Insights from such operations – to include those regarding the booby-trapping of these features, their deliberately indirect and multi-channelled construction, and difficulty in detecting and neutralizing larger subterranean passages – thus merit Australian Army attention. While soldiers will probably not find themselves in static positions long enough to allow construction of tunnels as sophisticated as those running from Gaza into Israel, lessons taken from observations regarding tactics involving these and other below ground features can be readily adapted to more likely challenges.

Information operations

The information operations arena is one that at first would seem to put state and non-state actors on a relatively level playing field, at least in comparison with the training and technological advantages Western nation state armed forces have when competing with irregular foes. That surface is less even than first appears. State information operations capabilities include technological advantages. (Israel, for example, could routinely call or message individuals and groups in Gaza thanks to its control of telephone exchanges.) Yet in much of the information realm the individual has ready access to internet or other social media platforms and often benefits from his or her ability to ‘report’ live from a conflict area while less likely to arose the suspicions sometimes accompanying government representatives. The immediacy and first-person character of such postings – combined with presumptions of sender objectivity and underdog status – puts state information operations at a disadvantage. (Such underdog status can also apply to non-state actors and situations more broadly. Hamas suffered minimal recrimination after firing of a rocket that put international travellers flying into or out of Ben Gurion airport on July 22, 2014 at risk.)

State information operations campaigns similarly suffer from an inability to keep pace with the tempo of social media development and evolution. Military doctrine and acquisition processes are measured in years. Creation
of new social media applications (apps) and dramatic improvements in capabilities of existing apps can take but weeks or months. Few are the states (Israel being an exception) that recognize the extent of this challenge much less act to address it. This is true despite the proliferation of the primary means for participating in social media exchanges: smartphones. Smartphone penetration (per cent of population with such an apparatus) in Australia’s region includes Indonesia at 23% and Thailand (49%), this in contrast to Australia’s 75% as of late 2013-early 2014.² Penetration is increasing in the region, suggesting the magnitude of the challenge for Australia will be an increasing one.

Social media offers more traditional intelligence opportunities in addition to those involving information operations. Monitoring of social media sites used by Gaza’s population provided insights regarding disgruntlement with Hamas leadership unavailable via other sources. Subsequent posting of unmanned aerial vehicle (UAV) video on IDF internet sites allowed the IDF to follow up, countering claims by Hamas that it was not misappropriating humanitarian aid. Interestingly, there are few effective measures of IO effectiveness despite its recognized importance. The most common – number of followers – suffers from the same shortfall as did such notoriously poor metrics as body count (e.g., US in Vietnam) and dollars spent (US in 2003+ Iraq): it fails to gauge effect, e.g., whether messages are influencing audiences in the manner desired.

Command and control/Leadership

The IDF initiated a number of command and control (C²) adaptations in the aftermath of OPE. Responsiveness of indirect fire and air support should improve with the introduction of ‘firepower attack and assistance teams’ to infantry battalions previously served by a single fire control officer. Fielding of the IDF Digital Army Program (DAP), only in place at company and above echelons during Operation Protective Edge, will continue in both the active and reserve forces. DAP’s several enhancements include real time monitoring of friendly force locations, a capability that allowed 250-meter danger close engagements versus the previous 1,000-meter standard.

Coordination with nongovernmental and inter-governmental organizations continued to challenge all parties involved. Positive steps such as providing these organizations with maps identical to those in use by IDF personnel abetted orchestration of assets and served to reduce confusion. However, while communications channels were well defined and designed to minimize interference with tactical unit operations, the process employed for NGO/IGOs to request their movements be coordinated with IDF units was recognized as unacceptably long and cumbersome.

Adaptation of OPE command and control lessons by the Australian Army must consider the Gaza theatre’s operational and environmental conditions, conditions likely to be quite different than those experienced during most Australian Defence Force (ADF) undertakings. While dense urbanization will be confronted all too frequently during future operations, the compact nature of that theatre, its proximity to Israel’s capital, and resultantly highly centralized nature of decision-making makes the Israeli example a particularly unique one. Similar cautions apply when considering the performance of command and control and other IDF technologies.

**Intelligence**

Similarly, the proximity of Gaza and related extent of IDF intelligence regarding the Strip means lessons from this functional area should similarly be adapted with care. Nonetheless, one area particularly worthy of note is the relationship between the IDF Spokesperson’s Office and intelligence community. Contact between the two was routine with intelligence inputs helping to advise design, targeting, and conduct of IO activities. Australia’s intelligence and information operations managers would find benefits in establishing similar procedures, relationships, and doctrine and incorporating them in exercises at all echelons. Intelligence identification and monitoring of key social media platforms, apps, or users will likewise be important not only for information operations purposes but also others of relevance to tactical operations and concerns at the operational and strategic levels.

**Technology**

Israel faces a number of technology challenges during OPE. Foremost among these were the dangers posed by (1) rocket, missile, and mortar fire,
and (2) difficulties in detecting and destroying subterranean passageways, in particular the so-called attack tunnels dug from Gaza into Israeli territory.

Those primarily at risk due to indirect fire from the Strip lived within forty kilometres of the border, suffering 92% of launches from Gaza. While longer-range systems can be interdicted by the Iron Dome missile defence system, that capability is ineffective against mortar and the shortest-range rocket systems for which it is not designed.

Tunnels present heretofore unseen issues, at least in terms of the sophistication of their construction and sheer number. Running at the considerable depths noted above, lined with concrete, deliberately changing direction any number of times, and frequently with branches from the main course that further complicates neutralization, no existing Israeli military capability can easily deny usage for extended periods. The ultimate solution – engineers physically emplacing explosive charges and later detonating them – is rife with dangers. These include the above-noted booby traps; risk of confronting enemy combatants; and the vulnerability of personnel, equipment, and supplies inherent in bringing materiel forward and readying passages for destruction.

**Force Protection**

While the longer and more complex attack tunnels posed direct dangers to those in Israel, soldiers manoeuvring in Gaza found themselves exposed to assault from earlier cleared areas after enemy combatants took advantage of in-place and well concealed tactical tunnels or other passageways between buildings within the Strip proper. The greatest loss of IDF life in a single event came when Gazan fighters infiltrated into structures adjacent to a broken-down M113 personnel carrier. Seven men died when the enemy engaged with rocket-propelled grenade and small arms fire. These perils provided complements to others involving explosive-rigged buildings, anti-vehicular improvised explosive devices (IEDs), use of non-combatants to lure soldiers into ambushes, and other tactics that magnified the already considerable risks inherent in urban operations.

Nor were force protection problems limited to the battlefield. Combat stress reaction reared its head once again. Cyber capabilities and information operations were constantly under assault by both amateur individuals and
highly sophisticated state-sponsored attacks. The lessons offered in these latter realms are numerous, wide-ranging, and include cautions regarding types of threats as of yet not experienced at other than the strategic level… and that only rarely.

Additional observations

The above insights note some of the differences that should be taken into account when contemplating the application of Operation Protective Edge lessons for future Australian Army contingencies. Gaza’s is less than half the territory of even Canberra’s metropolitan area. The limited size of the OPE theatre and Israel’s potential future operational areas means the IDF is a force that need not deploy in the sense that the ADF must. Lacking this necessity for large-scale air or maritime movement, Israel’s ground forces can rely on very heavy vehicles such as its Merkava tanks and Namer infantry fighting vehicles. Rivers, peer competitors, and other factors likewise lacking or few in number limit the range of capabilities those forces need to plan for. Strategic objectives in Gaza are dissimilar from those of Australia; use of force to temporarily dampen overt hostilities in full expectation that more of the same will be needed in several years time do not fit well with Western thinking (what Israelis refer to as ‘mowing the lawn’ or ‘mowing the grass’). Yet, differences aside, many are the insights from OPE that offer value to a force readying for war in these opening decades of the 21st century. Urban fighting in densely populated Gaza did nothing to disabuse a student of war’s concerns regarding the continued challenges in that environment. While Australia and those with whom it will fight as partners are unlikely to rely on vehicles like Merkava and Namer, their modes of transport and fighting will need protection against both distant and intimate (often urban) threats. Equipping currently fielded vehicles and future acquisitions with active in addition to passive protection merits serious consideration. So too do potential Gazan adaptations such as more sophisticated use of unmanned aerial vehicles (UAVs) or mass nonviolent resistance.

Operation Protective Edge also reinforces timeless lessons too frequently relearned, ones no army should forget but nearly all do to some extent: the need to maintain vigilance in even ‘rear’ areas, ill-advisedness of relying on one service in lieu of joint operations, and need to bring all available assets to bear – military, other departments of government, NGO,
IGO, and perhaps even commercial – being but three. These and others reassert themselves in the more detailed pages that follow. Others new – those dealing with social media, cyber defence, and (to some extent) subterranean challenges, for example – likewise merit consideration despite the differences in strategic environment and ends sought. Perhaps most evident is the need for intellectual, doctrinal, and organizational flexibility and adaptability. Without it, no force can effectively keep pace with the inevitable action/reaction/counteraction sequence that is inherently a part of conflict.
Acknowledgements

Foremost, I thank the many individuals who granted interviews in support of this work, both those evident through mentions in footnotes and the bibliography and others who for various reasons requested their insights remain anonymous. This study would be far less rich in substance were it not for the collective you.

Long time friend and professional colleague Brigadier General (IDF, res) Gideon Avidor was again fundamental in my meeting many of those with valuable observations; further no little of my understanding of nuances related to the fighting in 2014 Gaza is attributable to discussions with Gideon. His wife Maggie and daughters Hadas and Topaz ensured I was not without enlightened conversation beyond talk related to work, that over most memorable offerings on the tables before us. Australian defence attaché to Israel and Turkey, Colonel Jim Burns, worked with Dr. Albert Palazzo in Canberra to ensure quick resolution when a bureaucratic hiccup threatened to impede several valuable interviews with serving Israeli military personnel, a resolution likewise made possible thanks to make-it-happen initiative on the part of Major Peter Lerner from the IDF Spokesperson’s Office. I thank colleague John Caldwell for providing a useful reference early in my literature review.

As ever during my research efforts of recent years, Ms. Gayle Stephenson was behind the scenes, flawlessly compiling notes in the service of the whole being both of appropriate quality and timeliness.
## Abbreviations

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Expansion/Explanation</th>
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<tbody>
<tr>
<td>ABC AM</td>
<td>an Australian Broadcasting Corporation morning show</td>
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<tr>
<td>ADF</td>
<td>Australian Defence Force</td>
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<tr>
<td>ALO</td>
<td>air liaison officer</td>
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<tr>
<td>AM</td>
<td>amplitude modulation radio</td>
</tr>
<tr>
<td>APC</td>
<td>armoured personnel carrier</td>
</tr>
<tr>
<td>ARS</td>
<td>Army Research Scheme</td>
</tr>
<tr>
<td>ATGM</td>
<td>anti-tank guided missile</td>
</tr>
<tr>
<td>BBC</td>
<td>British Broadcasting Company</td>
</tr>
<tr>
<td>BG or Brig. Gen.</td>
<td>brigadier general</td>
</tr>
<tr>
<td>C2 or C^2</td>
<td>command and control</td>
</tr>
<tr>
<td>C4 or C^4</td>
<td>command, control, communications, and computers</td>
</tr>
<tr>
<td>C^4I</td>
<td>command, control, communications, computers, and intelligence</td>
</tr>
<tr>
<td>CA</td>
<td>civil affairs or California</td>
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<tr>
<td>CAC</td>
<td>Cyberspace Administration of China</td>
</tr>
<tr>
<td>CEO</td>
<td>chief executive officer</td>
</tr>
<tr>
<td>CLA</td>
<td>Coordination and Liaison Administration</td>
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<tr>
<td>CMOC</td>
<td>civil-military coordination center</td>
</tr>
<tr>
<td>CNN</td>
<td>Cable News Network</td>
</tr>
<tr>
<td>COGAT</td>
<td>Coordinator of Government Activities in the Territories</td>
</tr>
<tr>
<td>CRS</td>
<td>Congressional Research Service</td>
</tr>
<tr>
<td>CSR</td>
<td>combat stress reaction</td>
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<td>CT</td>
<td>Connecticut</td>
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<tr>
<td>DAP</td>
<td>Digital Army Program (Israel)</td>
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<td>DDoS</td>
<td>distributed denial of service</td>
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<td>DNS</td>
<td>domain name service</td>
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<td>Acronym</td>
<td>Expansion/Explanation</td>
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<tr>
<td>DoD</td>
<td>Department of Defense</td>
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<td>Dr</td>
<td>Doctor</td>
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<td>EBO</td>
<td>effects based operations</td>
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<td>EQ</td>
<td>emotional quotient</td>
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<tr>
<td>FAA</td>
<td>Federal Aviation Administration (US)</td>
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<td>FBI</td>
<td>Federal Bureau of Investigation (US)</td>
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<tr>
<td>FM</td>
<td>frequency modulation radio</td>
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<td>HUMINT</td>
<td>human intelligence</td>
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<td>IAF</td>
<td>Israeli Air Force</td>
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<td>ICRC</td>
<td>International Committee of the Red Cross</td>
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<tr>
<td>IDF</td>
<td>Israel Defense Forces</td>
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<tr>
<td>IED</td>
<td>improvised explosive device</td>
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<tr>
<td>IFC</td>
<td>International Finance Corporation</td>
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<tr>
<td>IFV</td>
<td>infantry fighting vehicle</td>
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<tr>
<td>IGO</td>
<td>inter-governmental organization</td>
</tr>
<tr>
<td>INS</td>
<td>Israeli Navy Ship</td>
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<tr>
<td>INSS</td>
<td>Institute for National Security Studies (Israel)</td>
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<tr>
<td>IO</td>
<td>information operations</td>
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<tr>
<td>IQ</td>
<td>intelligence quotient</td>
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<tr>
<td>IR</td>
<td>Islamic Resistance</td>
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<tr>
<td>ISA</td>
<td>Israeli Security Agency</td>
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<td>ISIS</td>
<td>Islamic State in Iraq and Syria</td>
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<tr>
<td>IT</td>
<td>information technology</td>
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<tr>
<td>J3</td>
<td>operations section on a joint staff</td>
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<tr>
<td>J5</td>
<td>plans and policy section on a joint staff</td>
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<tr>
<td>JDAM</td>
<td>Joint Direct Attack Munition</td>
</tr>
<tr>
<td>JINSA</td>
<td>Jewish Institute for National Security Affairs</td>
</tr>
<tr>
<td>K9</td>
<td>term used to refer to activities involving dogs (canines)</td>
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<td>Acronym</td>
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<tr>
<td>km</td>
<td>Kilometre</td>
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<td>KS</td>
<td>Kansas</td>
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<tr>
<td>LNO</td>
<td>liaison officer</td>
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<tr>
<td>Lt. Col. or LTC</td>
<td>lieutenant colonel</td>
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<tr>
<td>LTG</td>
<td>lieutenant general</td>
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<tr>
<td>M</td>
<td>Million</td>
</tr>
<tr>
<td>M113</td>
<td>model of armoured personnel carrier (US manufactured)</td>
</tr>
<tr>
<td>MD</td>
<td>Maryland</td>
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<tr>
<td>MG</td>
<td>major general</td>
</tr>
<tr>
<td>MIT</td>
<td>Massachusetts Institute of Technology</td>
</tr>
<tr>
<td>mm</td>
<td>Millimetre</td>
</tr>
<tr>
<td>MS</td>
<td>Master of Science</td>
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<tr>
<td>NATO</td>
<td>North Atlantic Treaty Organization</td>
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<tr>
<td>NCO</td>
<td>non-commissioned officer</td>
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<tr>
<td>NDC</td>
<td>National Defense College</td>
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<tr>
<td>NGO</td>
<td>nongovernmental organization</td>
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<td>NY</td>
<td>New York</td>
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<tr>
<td>OCHA</td>
<td>United Nations Office for the Coordination of Humanitarian Affairs</td>
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<td>OCL</td>
<td>Operation Cast Lead</td>
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<td>OPE</td>
<td>Operation Protective Edge</td>
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<td>OPSEC</td>
<td>operations security</td>
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<tr>
<td>PA</td>
<td>Palestinian Authority</td>
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<tr>
<td>PhD</td>
<td>Doctorate</td>
</tr>
<tr>
<td>PIJ</td>
<td>Palestinian Islamic Jihad</td>
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<td>PLO</td>
<td>Palestine Liberation Organization</td>
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<tr>
<td>PR</td>
<td>public relations</td>
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<tr>
<td>PRCS</td>
<td>Palestinian Red Crescent Society</td>
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<td>Acronym</td>
<td>Expansion/Explanation</td>
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<td>PSYOP</td>
<td>psychological operations</td>
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<td>Q&amp;A</td>
<td>question and answer</td>
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<td>res</td>
<td>Reserve</td>
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<tr>
<td>ret</td>
<td>Retired</td>
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<tr>
<td>ROE</td>
<td>rules of engagement</td>
</tr>
<tr>
<td>RPG</td>
<td>rocket-propelled grenade (or the launcher for such munitions)</td>
</tr>
<tr>
<td>SEA</td>
<td>Syrian Electronic Army</td>
</tr>
<tr>
<td>SLW</td>
<td>Second Lebanon War</td>
</tr>
<tr>
<td>T-55</td>
<td>model of Warsaw Pact tank</td>
</tr>
<tr>
<td>TORC2H</td>
<td>Elbit corporation command and control system that makes up a part of the IDF’s Digital Army Program</td>
</tr>
<tr>
<td>UAV</td>
<td>unmanned aerial vehicle</td>
</tr>
<tr>
<td>TTP</td>
<td>tactics, techniques, and procedures</td>
</tr>
<tr>
<td>UGC</td>
<td>user-generated content</td>
</tr>
<tr>
<td>UK</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>UN or U.N.</td>
<td>United Nations</td>
</tr>
<tr>
<td>UNDP</td>
<td>United Nations Development Program</td>
</tr>
<tr>
<td>UNHRC</td>
<td>United Nations Human Rights Council</td>
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<td>UNRWA</td>
<td>United Nations Relief and Works Agency</td>
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Introduction

War was always here. Before man was, war waited for him. The ultimate trade awaiting its ultimate practitioner.3

Cormac McCarthy
Blood Meridian

“A child of 9 in Gaza has memories of three wars in six years.”4

Roger Cohen, ‘What Will Israel Become?’

The second quotation above actually understates the frequency of combat outbreaks between Israel’s military and factions in Gaza. Five rather than three significant flare-ups have taken place in the half-dozen years encompassing 2008-2014, these in addition to the almost routine firing of rockets, missiles, or mortars from Gaza into Israel or Israel Defense Forces (IDF) operations striking targets in that narrow strip of land along the Mediterranean Sea:

• Operation Hot Winter (February-March 2008)5
• Operation Cast Lead (December 2008-January 2009)
• Operation Returned Echo (March 2012)
• Operation Pillar of Defense (November 2012)
• Operation Protective Edge (July-August 2014)

5 Also translated as “Operation Warm Winter.”
It is the last that is the primary focus of this study, the objective being to identify issues and lessons of interest to the Australian Army and broader government of which it is a part.

**Backdrop to Operation Protective Edge**

The last serious street fighting I saw in Gaza was in early 2008, and it was almost like it was ‘amateur hour’, with fighters in Gaza parading around with their weapons but not really able to stop the Israeli forces. Now it appears they’ve learned they must keep a much lower profile. They’ve developed what could be called commando tactics and are taking full advantage of their knowledge of their turf.⁶

Raphael Cohen and Gabriel Scheinmann
‘The Grim Lessons of “Protective Edge”’

On February 26, 2013, a rocket fired from the Gaza Strip landed south of the Israeli city of Ashqelon, legendary home to Delilah and the shorn strongman Samson. It was the first such event since the ceasefire ending Operation Pillar of Defense on November 22nd of the previous year, a span notable for its over three-month duration. Palestinian acts of aggression in the twelve months following that single rocket launch would include:

- Launching fifty-eight further rockets and fourteen mortar rounds
- Six improvised explosive device (IED) attacks on IDF patrols
- An identical number of small arms engagements of Israeli military or civilian personnel in the border region between Israel and Gaza
- The digging of an unidentified number of tunnels from Gaza into or approaching Israeli territory
- Two Molotov cocktail assaults on IDF patrols.

Resulting casualties across these many events were five IDF soldiers wounded. The tempo of both rocket and ground attacks from Gaza would increase beginning in December 2013, activities culminating in the kidnapping of three Israeli teenagers not in Gaza but in the West Bank to its east, that on June 12, 2014.⁷

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…Or such is the view from one perspective in the seemingly interminable conflict that marks relations between Israel and Gaza. Walking around the imaginary table to view the situation from another viewpoint, a study citing data drawn from United Nations (UN) sources states that between the ceasefire ending Operation Pillar of Defense in 2012 and that first firing of a rocket toward Ashqelon in late February 2013 the following took place:

- Sixty-three small arms engagements by the IDF in Gaza
- Thirteen incursions by Israeli armed forces into the Strip
- Thirty attacks on Gaza fishing vessels by the Israeli Navy.  

The implication: that it was Israeli acts of aggression that motivated the February 26, 2013 rocket attack and subsequent escalation of violence by parties in Gaza that precipitated Operation Protective Edge the following year. As is frequently the case with regional recitations of events, the truth might encompass both of the competing narratives, draw on select material from within each and that from other parties, and very likely rest somewhere between the multiple interpretations.

Analysis in the following pages seeks to present as objective a perspective as possible in its analysis. While it is impossible – and at times misleading – to avoid discussion of political influences on military operations by the opposing sides, this investigation will include such considerations only in the context of drawing insights and lessons supportive of material relevant to Australia’s military and its partner nations.

Before delving into the events comprising Operation Protective Edge (OPE), however, it is valuable to consider relevant precursor conflicts in some detail. The remainder of this chapter therefore focuses primarily on the two most significant of those undertakings: the 2006 Second Lebanon War – during which the IDF found itself challenged to a far greater extent than expected by the non-state actor Hamas – and 2008-2009 Operation Cast Lead in Gaza. The latter provides some degree of redemption for events in 2006 while also establishing a baseline for later consideration of how the Israel Defense Forces and Hamas adapted (or failed to adapt) between that latter event and Operation Protective Edge. Chapter 2 investigates these overviews in light of several issues known to be of particular interest to the Australian Army as it readies itself for future undertakings. Chapter 3

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returns to the primary focus of OPE, considerably expanding on the brief description of that fifty days of fighting provided just above before handing over to chapter 4 and once again reconsidering issues of notable import to Australia’s ground force through the less of the 2014 war.

**The Second Lebanon War, August-September 2006**

At 0905 local time, two IDF armoured Humvees were hit by at least one roadside bomb and rocket-propelled grenades fired by a squad of IR [Islamic Resistance] fighters hidden in dense undergrowth on the Israeli side of the border fence 1.5 km northwest of the Lebanese village of Aitta Shaab. Three IDF soldiers were killed in the assault and three wounded, with another two abducted by the IR team. The ambush site was well chosen, falling into a ‘dead zone’ at the bottom of a wadi…. At least one Merkava tank and an IDF platoon in armoured personnel carriers crossed the border in pursuit of the IR abductors. At around 1100, a Merkava tank struck a massive improvised explosive device (IED) consisting of some 200-300 kg of explosive, one of many IEDs planted by the IR at potential infiltration routes along the Blue Line. The tank was destroyed in the blast, killing all four crew members. An eighth soldier was killed in heavy fighting with local IR combatants…. Ehud Olmert, the Israeli prime minister, declared the abduction ‘an act of war’ and blamed the Lebanese government…. A bewildered Lebanese government, which knew nothing of Hizbullah’s plans beforehand, announced that it ‘was unaware of the operation, does not take responsibility for it and does not endorse it’.9

Jane’s Intelligence Review
‘Deconstructing Hizbollah’s surprise military prowess’

The above hints at many of the chief elements Israel found so challenging during the Second Lebanon War: sharply honed enemy combat capabilities, intelligence failing to detect well prepared defences, and dubious targeting decisions. The IDF and government at large would be criticized for their performances during the two-month conflict (both the defence minister and IDF chief of staff would be replaced in consequence), criticism that triggered broad and largely effective improvements in the armed forces. Political masters would learn lessons as well, lessons that include being more conservative in their definition of wartime objectives sought.

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9 “Deconstructing Hizbollah’s surprise military prowess,” Jane’s Intelligence Review, November 1, 2006.
Prime Minister Ehud Olmert initially declared the following five were Israel’s objectives as the country undertook combat operations:

- ‘The return of the hostages, Ehud (Udi) Goldwasser and Eldad Regev, taken during the initial Hezbollah raid into Israeli territory;
- A complete cease fire;
- Deployment of the Lebanese army in all of southern Lebanon;
- Expulsion of Hizbullah from the area, and
- Fulfilment of United Nations Resolution 1559’.

The IDF confronted a relatively lightly armed but somewhat technologically sophisticated force during its support of these objectives. Hezbollah’s was a military arm whose weapons in considerable part came to southern Lebanon courtesy of either Iran or Syria. Ground force personnel carried AK-47 rifles, machine guns, rocket-propelled grenade launchers, and anti-armour capabilities that included Sagger, Kornet-E, and Metis-M anti-tank guided missiles (ATGMs) used to great effect in the rough terrain that characterizes the Lebanese south. (Fourteen IDF tanks, to include Israel’s most advanced model, the Merkava 4, would suffer destruction due to ATGM fire, another six succumbing to mines.) Other systems included unmanned aerial vehicles.

(UAVs); the shore-launched C-802 anti-ship missile that struck the Israeli Navy’s Hanit, a Sa’ar 5 class corvette, killing four sailors; and a large number of rockets used to attack targets in Israeli territory. The combatants employing these arms fell into three general categories:

- Full-time military personnel consisting of well-trained and highly disciplined irregular fighters aged in their late twenties to late thirties and numbering in the few hundreds. Generally operating in teams of fifteen to twenty, these men were given tasks demanding their refined skills, e.g., firing rockets or anti-tank missiles from bunkers and tunnels or acting as snipers.

- Village guard units whose members were less well trained but in many cases equally well disciplined and even more combat experienced due to their fighting during Israel’s lengthy occupation of southern Lebanon ending less than ten years before. These were part-time irregular fighters who remained in many of southern Lebanon’s small villages after the departure of non-combatants. Savvy given their knowledge of locale terrain, they complemented Hezbollah’s full-time force well.

- Fighters not associated with Hezbollah who also confronted IDF soldiers.

Little was known of both Hezbollah defences and various defenders despite the longstanding competition along Israel’s northern border, that thanks to Hezbollah’s operational security being far better than Israel’s defence services were used to dealing with in the once occupied territory. The combination of the adversary’s excellent internal security and (perhaps) a belief that Hezbollah had little changed since the IDF’s withdrawal from Lebanon a half-dozen years earlier meant that the effectiveness of resistance surprised many in the attacking force and their government in Jerusalem. The defending enemy used the many wadis, steep-banked valleys, and hilltop villages to great effect in ambushing the better equipped Israelis. Fighters’ excellent use of the rugged terrain, urban cover and concealment, mines, IEDs, and long fields of fire provided by buildings atop high ground.

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14 Hizbullah’s intelligence apparatus,” Jane’s Terrorism & Security Monitor (September 13, 2008).

combined with an unprecedented sheepishness on the part of Israeli army leaders to close with the foe in an effort to avoid casualties. The result was a slogging advance uncharacteristic of a force with a legacy of adroit manoeuvre and rapid destruction of its adversaries.

Such effective defence within Lebanon had accompaniment in Hezbollah’s use of indirect fire that struck targets in Israel, strikes effective both in the physical damage wrought and psychological influence amongst those directly targeted and observers farther afield. Launch sites were so well camouflaged that IDF soldiers were said to have literally walked over covered positions without detecting them. The irregular force would ultimately launch some 4,000 rockets and missiles at military and civilian targets. Wounded ran into the thousands; fifty-three civilians were killed while approximately two thousand buildings were destroyed or badly damaged.16

Israel confronted an enemy arguably better prepared and led than some of the state militaries confronted in 1948, 1956, 1967, and 1973. That was in part due to Hezbollah recruiting much as do conventional armed forces, conducting personnel exchanges with regional security organizations, and developing its own doctrine. Leaders are expected to conduct post-operation debriefings and prepare after-action reports in the service of improving future preparedness much as are those in professional militaries. The organization’s commanders provide centralized guidance for subordinate leaders trained to conduct decentralized operations, making it difficult for IDF intelligence sources to collect tactical information even as Hezbollah monitored Israeli frequency-hopping radios with sophisticated devices.17

Costly fighting continued until August 14, 2006 when participants agreed to the terms of United Nations (UN) Resolution 1701. The IDF had reached the Litani River (extending east-west just under ‘Lebanon’ on the map in Figure 1.1 above) four days before – commonly considered the northern border of southern Lebanon, – effectively surrounding much of Hezbollah’s

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remaining fighting force. The Second Lebanon War had, in a little over a month of combat:

- Resulted in over one thousand Lebanese killed, many of them civilians
- Displaced approximately one million non-combatants
- Destroyed thousands of residences on both sides of the border
- Severely damaged Lebanon’s transportation infrastructure, much of it via aerial bombardment distant from and unrelated to support of fighting in the south
- Caused the deaths of 119 IDF personnel.\(^\text{18}\)

### Causes of Israeli Shortfalls and Corrective Actions

In retrospect, those seeking to determine what underlie Israel’s difficulties pointed to decreased training in basic combat skills due to demands related to the Second Intifada (2001-2005) and other internal security duties or a misplaced belief that there would be sufficient training time were the IDF to confront more competent foes than those throwing rocks and employing suicide bombers. Others felt commanders too greatly relied on command and control technologies provided in their command posts rather than leading in the field. Only one brigade commander is thought to have crossed into Lebanon during the two-month conflict.\(^\text{19}\)

Of the five objectives identified by the Israeli prime minister during the onset of military operations, only one – ‘a complete ceasefire’ – can be said to have been accomplished. Ironically, it was the only one of the five made possible by initiation of hostilities in the first place. The other overly ambitious, likely unachievable, yet publicly stated objectives set Israel up for


an information operations failure. It was a lesson not learned from Operation Summer Rains, that begun a month before the beginning of the Second Lebanon War when a June 25, 2006 Gazan raid into Israel via a 300-meter tunnel resulted in two IDF soldiers killed and the kidnapping of a third: Corporal Gilad Shalit. The two stated objectives of Summer Rains were (1) the safe release of Shalit and (2) cessation of rocket launches from Gaza into Israel. Like those forwarded at the beginning of the war in Lebanon, both were politically attractive, would constitute public relations coups if achieved, but proved impossible to accomplish in the immediate term.

Operation Cast Lead
(December 2008-January 2009)21

You cannot develop any real peace process with the Palestinians without solving Gaza.22

Udi Dekel
Institute for National Security Studies

The closing of 2008 saw Israel in its second major conflict in just over two years, this to the south and west of Lebanon, the primary foe being the Palestinian group governing Gaza rather than Hezbollah. Hamas had come to power in the Gaza Strip after ousting Fatah in 2006 democratic elections. New to the experience of elected government, Hamas was by no means unknown to Israel or the West. Between 1989 and March 2004 the group’s suicide bomber, rocket, and other attacks had killed some 550 and wounded more than 1,200.23 Most – but not all – victims were Israelis. Resisting Hamas dictates in Gaza could be deadly business as twenty-one Palestinians found in August 2008. Radical Sheikh Abut al-Hour al-Maqdessi, the head of Jun Ansar Allah (Soldiers of the Partisans of God) who had accused the ruling organization’s members of being insufficiently Islamic, and many members of Fatah would pay the ultimate price for antagonizing the Strip’s rulers. Operation Cast Lead would lend an opportunity to confront Israel and thereby raise the legitimacy of Hamas in

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22 Udi Dekel (Managing Director, Institute for National Security Studies) interview with Dr. Russell W. Glenn, Tel Aviv, January 22, 2015.
the eyes of its governed. It would also act as cover for further purging Gaza of unwanted challengers.24

Though never altogether devoid of attacks on Israeli, thanks to a June ceasefire the latter half of 2008 had seen a sharp drop off in mortar and rocket fire after a first half of the year quite active in that regard. (See Figure 1.2.) Ever-increasing rocket ranges had meant almost 15% of Israel’s population was at risk, to include those in the cities of Ashdod (population 210,000), Be’er Sheva (also spelled ‘Beersheba’, 185,000), and the aforementioned Ashqelon (110,000).25 See the map of Israel at Figure 1.3.) The November renewal of attacks followed an Israeli raid into Gaza on the fourth of that month, an operation ostensibly undertaken to disrupt Hamas efforts to kidnap Israeli soldiers. Egyptian efforts to extend the six-month ceasefire failed, Hamas announcing it at an end with its original December 19, 2008 expiration. Sixty rockets were launched against Israel five days later. Operation Cast Lead (OCL) was about to begin.

Figure 1.2: 2008 Gazan Mortar and Rocket Attacks Against Israel26

![Figure 1.2: 2008 Gazan Mortar and Rocket Attacks Against Israel](http://upload.wikimedia.org/wikipedia/commons/2/28/Rock_mort_gaza_2008.JPG)


Hamas military capabilities

Estimates varied widely regarding the military strength Hamas and other groups in Gaza could bring to bear. Hamas’s own Izz al-Din units, better known as Qassam brigades, were in total thought to have numbered between 6,000 and 15,000 personnel in mid-summer 2007. Some

estimates stated that the number – whatever it might have been eighteen months prior to the outbreak of OCL – had doubled by December of the following year. Internal security forces beyond those in the Qassam brigades were thought to have provided another 13,000 or more individuals, but determining whether this value was accurate is difficult given the overlap between those in Qassam brigades who simultaneously had a role in other security organizations. Those additional groups fell into five primary groups:

- Police (formerly known as the Executive Force, which included both the elite Rapid Intervention Force and Naval Police)
- Internal Security Service
- Security and Protection Force
- National Security
- Civil Defense Service.

Police were thought to be the most significant of this quintet, numbering some 6,000 or more personnel armed with assault rifles, anti-tank weapons, and grenades. It was the Naval Police that sought to engage Israeli naval vessels.

These forces quickly purged Gaza of Fatah military personnel in the brief struggle for Strip control in 2007, demonstrating that Qassam brigades and their accompanying security organizations were the most capable Palestinian armed force in either Gaza or the West Bank. Other militants also posed a threat to the IDF, this from groups that coordinated their activities with Hamas to a greater or lesser extent. They included several hundred fighters in the Popular Resistance Committee and over 1,000 members of the Palestinian Islamic Jihad.

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Rocket-propelled grenade launchers (RPGs), mortars, rockets, and improvised explosive devices (IEDs) complemented small arms in these groups. Rockets ranged from the Gaza-manufactured Qassam to Iranian 122mm Katyushas. Though reported, the presence of anti-vehicular weaponry beyond RPGs or sophisticated air defense capabilities remained unconfirmed throughout OCL.34

Less capable than the forces fielded by Hezbollah in 2006, the conflict environment in Gaza also differed significantly in terms of terrain. Southern Lebanon’s steep-banked wadis, sharp changes in elevation, compartmentalization, and sheer greater expanses gave way to the condensed, largely flat, extremely densely populated, and highly urbanized geography of Gaza. (Gaza contains only 360 square kilometres. For comparison purposes, the Australian Army’s Puckapunyal training area covers 400 square kilometres while that of the US Army’s Fort Riley encompasses 407.) The Dutch live in one of Europe’s most densely populated countries with 493 persons per square kilometre. The megacity of Los Angeles had an equivalent population density of 3,156. That for Gaza measured 5,045.5 across the entire Strip.35 Physical infrastructure frequently matched this human concentration. Some living and commercial areas had ‘streets’ so narrow as to preclude use by IDF vehicles. Residents bridged the distance between opposite sides of such passageways with sheets of corrugated metal or other materials, making it difficult if not impossible for overhead monitoring with unmanned aerial vehicles (UAVs) and other systems.

**IDF capabilities and preparations**

The Israel Defense Forces had responded quickly to identified shortfalls in the aftermath of the Second Lebanon War. Training incorporated conventional in addition to intifada-type tasks; urban exercises in particular gained increased emphasis with sophisticated new mock built-up areas such as that on Tze’elim Air Force Base outside Beersheba being added to the IDF inventory. Doctrine found faulty in the earlier conflict was cast aside in favour of reintroducing more traditional and proven approaches. Training of leaders likewise gained renewed emphasis. After significant problems with air-ground coordination and inter-service cooperation in 2006, ground and

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air forces were brought in line such that effective joint operations became a reality. Other enhancements included providing more realistic expectations regarding tactical ground intelligence. (Leaders used to intifada operations expected a similar level of detail during the Second Lebanon War despite the considerable difference in intelligence penetration of Palestinian territories.) Equipment underwent upgrades. At the strategic level, development of an understanding that more realistic and public relations savvy strategic objectives were a necessity took hold. The changes were significant; that they were put into effect in a little over two years is particularly notable.

Training, equipping, and doctrinal improvements were accompanied by detailed planning for the pending operation in Gaza. Deception activities included those at the strategic level with Foreign Minister Tzipi Livni visiting Egypt just days before Operation Cast Lead’s initiation.36 IDF soldiers were granted leaves and armed forces schools held graduations as per schedules. These actions at higher echelons had accompaniment at the lowest tactical levels. Knowing Hezbollah had been able to monitor and track IDF soldier cell phones, leaders prohibited taking such devices forward to assembly areas or attack positions.

**Combat during Operation Cast Lead**

Israeli aircraft swept in from the Mediterranean just before noon on December 27, 2008, striking targets throughout the Strip in what was the largest air operation in IAF history. Training camps, weapons storage sites, command and control locations, rocket manufacturing factories, and other targets were among the 180 struck by initial sorties.37 The next four days would see target lists expanded to take into account Hamas leaders’ homes, Qassam brigade forces, select infrastructure, and known underground facilities.38 Despite the preliminary deception and operations security precautions, the movement of command and control equipment and Hamas leaders to hide positions two days prior to the first attacks suggests surprise was not complete.39


39 It is very likely that Hamas leaders had prepared to reposition critical assets and suspected an Israeli attack to be in the offing. An international aid representative told the author, ‘Since August, everybody was expecting the operation. The Israeli focus was on Gaza. It was very much planned. It was in the air’. Anonymous interview with Dr. Russell W. Glenn.
The air force took precautions to reduce civilian casualties. Pilots dropped very small munitions on rooftops as a warning to non-combatants in a procedure that came to be known as ‘knocking on the roof’. Leaflet drops, broadcasts over the radio, and targeted telephone calls accompanied the practice. Follow-on attacks employed more destructive but still damage-limiting munitions, to include the 250-pound GBU-39 Small Diameter or Small Smart Bomb, a precision-guided, limited-effects weapon containing only fifty pounds of explosive but with the same penetration capability as 2000-pound munitions.

Ground operations – the OCL ‘air-ground phase’ in IDF terms – began approximately a week after those initial bombing runs from the Mediterranean. Government spokesmen made it clear that the January 3, 2009 offensive was in no way part of an effort to displace the government of Gaza either via its destruction, replacement by the Fatah-led Palestinian Authority, or Israeli occupation. Three brigades assigned to the Gaza Division territorial command (Golani, Givati, and Paratroopers Brigades) manoeuvred on Gaza City and locations in its immediate vicinity while a fourth under the division’s command sliced through the Strip south of that urban area to separate the southern and northern portions of the territory. (See Figure 1.4.) Each brigade plotted attack axes to avoid obvious avenues of approach (notable after Israeli losses in Lebanon due to IEDs and ambushes when routes for unit advances were evident to Hezbollah). Commanders additionally used UAV imagery to select less threatening approaches, employing the Stefan mine-clearing system when confronting suspected minefields or using it to blast paths through urban areas when necessary. The four active duty units were to a limited extent supported by several reserve brigades also falling under the oversight of Gaza Division.

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Ground forces preferred night operations given the presumption of superior Israeli limited-visibility training, IDF possession of night vision systems, and lack of this technology in Qassam organizations. Infantry led urban assaults with tanks, armoured bulldozers, and other support being called forward when necessary. Tactical manoeuvre sought to turn defenders out of their positions, reliance on firepower being a primary procedure when such tactics failed or were infeasible. Despite the precautions taken to reduce casualties caused by aerial bombing, ground force rules of engagement were reportedly relaxed, the objective being to minimize IDF ground force casualties.


46 BG Avidor disagrees with sources stating that rules of engagement (ROE) were loosened during operations in Gaza. He suggests that ROE were in fact more restrictive during Operation Cast Lead than during the Second Lebanon War but that the intense urbanization created a perception of increased devastation in comparison to the relatively rural areas of operation for ground forces in 2006 Lebanon. BG Gideon Avidor (IDF, ret.) review comments to Dr Russell W. Glenn, February 13, 2010.
While rocket attacks on Israel numbered up to eighty daily during the opening days of Operation Cast Lead, such munitions impacted Israeli territory less than twenty times daily during the period immediately preceding the January 18, 2009 Israeli ceasefire declaration. OCL casualties ultimately included thirteen Israelis killed, three civilians and one soldier due to rocket attacks and nine soldiers during combat in Gaza (four of whom were victims of friendly fire). The United Nations reported 518 Israeli wounded. Determining Palestinian losses was less definitive. Quoting from the author’s previous study on Operation Cast Lead:

The Palestinian Ministry of Health and several human rights organizations put the number of Palestinians killed at over 900 with injured exceeding 4,250. The Palestinian Center for Human Rights set the number killed at 1,417 and provided names and ages for each of the dead, including over 900 civilians. Israeli Defense Forces estimates fell between these values, the number cited as dead being some 1,300. (A second IDF source cited this number as 1,166, of which “more than half were “Hamas terror operatives”.”) The most significant point of disagreement is on the proportion of civilians to Hamas fighters who lost their lives, Israel claiming that up to two-thirds were enemy combatants…. A correspondent for the Italian newspaper Corriere della Sera determined the number of Palestinian dead at between 500 and 600 with under 5,300 wounded, the majority of both groups being 17–23 year old members of Hamas.

Gaza’s physical infrastructure suffered considerably in addition. Estimates of the extent of damage again varied. Recovery and provision of aid were hindered by Hamas theft. The United Nations Relief and Works Agency (UNRWA) stopped import of aid to the Strip because Hamas police took food and blankets from its distribution point on February 2, 2009 while two days later stealing an additional ten truckloads of foodstuffs.

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IDF ground forces accomplished their objectives within a month of their early January offensive. Hamas’s failure to resist militarily did not reflect a broader inability to address its goals. Some 1,200 Fatah members had been placed under house arrest during the fighting. Those considered most threatening to Hamas were executed, as were other Gazans murdered as militants settled scores under the war’s cover. The youth wing of Hamas, Children of the Mosque, assisted authorities in policing Gaza during fighting by reporting disturbances among civilian members of the population. Policing continued in the immediate aftermath of the ceasefire with a particular focus on demonstrating Hamas control and maintenance of order; for example, authorities cleared both unlicensed sidewalk vendors and teenage truants lingering in parks.

Israeli officials estimated the some three weeks of fighting had purchased Israel two years of relative peace.

**Operation Pillar of Defense**

Operation Pillar of Defense can be described as no more than armed negotiations to amend certain aspects of the status quo. 

Ron Tira

‘Operation Protective Edge: Ends, Ways and Means and the Distinct Context’

Though hardly passing for ‘peace’ in most of the world, it was not until late 2012 that attacks – in the form of both Palestinian indirect fire and cross-border raids on the one hand and Israeli air and artillery strikes on the other – became such that Israeli authorities felt it necessary to again take steps to address the level of violence. The 14th of November saw first steps with the IDF destruction of many Hamas indirect weapons and the killing of the group’s military forces leader, Ahmed Jabari. The following week was one of sharply increased exchanges between the two sides in what Israelis called Operation Pillar of Defense (Gazans labelling it the ‘Second Gaza War’).

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52 Gaza’s Unfinished Business,” International Crisis Group Middle East Report number 85, April 23, 2009, 18–19. Regarding the termination of hostilities, Ben-David Alon states ‘With the inauguration of US President-elect Barack Obama looming on 20 January, US Secretary of State Condoleezza Rice made clear to Israeli diplomats their “unwillingness” to allow the operation to continue into the new administration, according to sources familiar with the talks’. Ben-David, Alon, “Israeli offensive seeks ‘new security reality’ in Gaza,” Jane’s Defence Weekly (January 8, 2009).
Approximately 1,500 indirect fire attacks were directed at Israel of which 10% failed to cross the border, at times landing on Palestinian homes. Israel suffered limited damage as most munitions fell harmlessly in open areas or were destroyed en route by the Iron Dome counter-fire system. Fifty-eight rockets did land in occupied areas, however, killing six Israelis and wounding 232. A further twenty-nine Israelis suffered injury when a hand-placed bomb detonated on a Tel Aviv bus.\(^{55}\)

The IDF response was limited to air strikes against some 1,500 targets that included smuggling tunnels on the border with Egypt, rocket and mortar launch teams, Hamas command facilities, and storage locations.\(^{56}\) Estimated casualties in Gaza (the numbers once again differing depending on source) consisted of roughly 140 killed (up to half of them civilians) and 1,000 wounded.\(^{57}\)

Israel’s prime minister, Benjamin Netanyahu, again declared that his country had no intention of replacing Hamas, the two Operation Pillar of Defense primary objectives instead being ‘to protect Israeli civilians and “cripple the terrorist infrastructure in Gaza”’.\(^{58}\) At the operation’s end, the IDF spokesperson office announced, ‘Following eight days of operations, the IDF has accomplished its goals in Operation Pillar of Defense and has inflicted severe damage to Hamas and its military capabilities’.\(^{59}\) Once again, Israel had done no more than ‘mow the grass’. The question was not whether there would be another conflict but rather only when it would occur.

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\(^{57}\) Ban Ki-moon, “Secretary-General’s remarks to the Security Council [as delivered],” Tel Aviv, Israel, November 21, 2012; and Eado Hecht, “Operation ‘Defensive Pillar’ or the Second Gaza War: A Year Later,” Military Operations 2 (Summer 2014): 4. The UN estimate was ‘139 Palestinians killed, more than 70 of them civilians, and more than 900 injured’. In addition, the brief conflict caused ‘the displacement of 10,000 Gazans who are now in 12 UNRWA schools and 2 run by local authorities’. Hecht estimated ‘Palestinian casualties amounted to approximately 120 combatants killed, 900 combatants wounded, 30 to 50 civilians killed and 320 wounded’.

\(^{58}\) “Q&A: Israel-Gaza violence,” BBC News Middle East, November 22, 2012.

\(^{59}\) Raphael Ahren, “Israel says it ‘fulfilled all its goals,’ while Hamas hails an ‘exceptional victory’,” The Times of Israel, November 22, 2012.
Insights from Recent Conflicts Preceding Operation Protective Edge

The Second Lebanon War, Operation Cast Lead, and Operation Pillar of Defense provide a relevant foundation for a study of Operation Protective Edge both in terms of understanding IDF adaptations in light of previous conflicts and illuminating insights of value regarding the nature of future contests. Eight areas in particular receive attention in this chapter:

- Urban operations
- Subterranean operations
- Information operations and exploitation of social media
- Kinetic targeting
- Command and control/Leadership
- Doctrine and concepts
- Training
- Intelligence.

Urban Operations

While urban operations during the Second Lebanon War were limited to southern Lebanon’s villages or air strikes on cities farther to the north (to include Beirut), densely populated built-up areas were a significant part of both air and ground action during OCL. Effective preliminary planning, use of mine-clearing capabilities, introduction of new technologies, and a willingness to rely on firepower in urban environments meant the IDF
by and large dominated fighting in close terrain. Pre-conflict training stressed avoidance of urban combat when possible and using firepower when other alternatives presented too great a risk to soldier lives. Despite the extensive preparations and care in execution, the complexity of such operations showed itself in multiple fratricide incidents. Three IDF men died and 24 of their comrades were wounded when a Merkava fired into a building containing soldiers from the Golani Brigade in one such instance. The incident bears out the continuing challenges that will be confronted by Israel and other nations when combat takes them into terrain with limited lines of sight; difficulty in maintaining situational awareness; and factors working against combat identification of friendly, non-combatants, and enemy. Psychological aspects of urban combat may also have played a role, e.g., the severe compartmentalization characteristic of ground with multiple buildings, walls, and other barriers can cause soldiers to bunch in efforts to reassure themselves that they are not alone. Frustratingly, Israel’s soldiers had experienced similar difficulties two years before in Lebanon, that despite the lesser exposure to built-up areas. As we will see, fratricide in built-up areas would remain a significant concern in the aftermath of OCL.

Troubling, such incidents were nonetheless the exception. Soldiers had trained in the IDF’s Tze’elim urban facility near Be’er Sheba. Opened in 2005, the nineteen square kilometre US Army Corps of Engineers-constructed site was state of the art and reflected army leaders’ awareness of the necessity to better prepare its soldiers for urban challenges, that whether during intifada operations or those involving conventional conflict. ‘Baladia City’ (baladia means ‘village’ in Arabic) buildings include commercial shops, a kasbah, grand mosque, and cemetery that can be converted to a soccer field depending on the training scenario. Adaption of tactics accompanied the improved training. Rarely used in Lebanon, every infantry unit in Gaza included one or more K9 organizations (known as Oketz or “Sting”) units. Handler and dog were

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60 Two points are notable here. First, the limited size of the Gaza theatre certainly eased IDF transport demands and stockpiling of ammunition challenges (e.g., many Israeli indirect fire systems would have been able to engage targets in much of the Strip without displacing). These are conditions that may not be replicated should the ADF find itself involved in extended urban operations. Second, Israeli domestic popular support for IDF operations tends to be impacted less negatively than might be the case for the ADF. Whether this would be the case were Australian urban operations to see large numbers of friendly force casualties — and whether lessening restrictions on the use of firepower that would inadvertently inflict noncombatant casualties would be considered an acceptable response – are unknowns worthy of pre-operation war-gaming.


frequently the first to enter buildings, generally through a wall breach rather than existing door or window. The animal’s task was early detection of enemy, IEDs, or weapons in the structure. (Other dogs specialized in additional tasks such as search and rescue.) Furthermore, while efforts were made to reduce civilian casualties, leaders did not hesitate to call for supporting air or ground fires when the situation demanded. Helicopter gunfire support was often readily at hand. This was but one consequence of the much-improved relationship between soldier and airman at the tactical level after the problems with joint operations in Lebanon. (Helicopters are air force rather than army assets in the IDF.)

Among the technologies employed in conjunction with these new tactics were UAVs, improved air munitions, and Bull Island 360° camera that could be tossed into a room prior to human entry. UAVs provided detailed imagery both in a supporting role for ground force units and battle damage assessment in the aftermath of air strikes. In addition to the aforementioned 250-pound GBU-39 Small Smart Bomb, those strikes included 500-pound Joint Direct Attack Munitions (JDAM) and PB500A1 bunker busting laser-guided weapons used against both hard targets and deeper tunnels. The Israeli company Rafael modified its Matador anti-tank missile to provide an anti-structure capability. (Significant though these advances were, there remained an inability to neutralize targets in very close proximity to proscribed structures or those beneath urban buildings without the risk of undesirable collateral damage.) In the force protection realm, infantry and other combat support soldiers moved in either the venerable (and vulnerable) M113 armoured personnel carrier (APC), Achzarit APCs based on Warsaw Pact T-55 tank chasses, or Puma combat engineer vehicles constructed using modified British Centurion tanks.

IDF logisticians supporting Operation Cast Lead worked to improve a responsiveness found wanting during the Second Lebanon War. ‘Push logistics’ were the order of the day, with brigade support area leaders

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64 From Abe F. Marrero, “The Tactics of Operation CAST LEAD,” in Back to Basics: A Study of the Second Lebanon War and Operation CAST LEAD, ed. Scott C. Farquhar, Fort Leavenworth, KS: Combat Studies Institute Press, 2009, 97. The Bull Island camera is a ‘gimbal-mounted camera inside a clear plastic sphere about the size of a tennis ball. This can be thrown into any building, room, or stairwell prior to soldiers entering. The camera transmits 360-degree imagery to a terminal with the troops waiting on the outside of the structure (or around a street corner).’ More on the Bull Island camera can be found at http://www.theregister.co.uk/2009/02/23/i_ball_bull_island_industrial_subsidies/ (accessed February 26, 2015).
monitoring operations, then sending supplies forward prior to requests when conditions merited. Battalion support area managers did likewise in efforts to ensure those at the sharp end had what they needed when they needed it. Maintaining momentum during high-tempo operations was the shared objective. Casually evacuation seized on any practical means to move wounded to areas providing medical care.67

Despite improvement in relevant skills, the IDF announced intentions to further emphasize urban warfare training in the aftermath of Operation Cast Lead. Initiatives included increasing the number of urban training facilities to over twenty (from fifteen), two of which would include underground facilities. Some of the streets in the Tze’elim site were to be widened, thus allowing expanded exercise participation by armour units. The IDF’s Ground Forces Command announced that 25% of future infantry training would be in such centres. At the unit level, some units purchased ‘modular combat walls’ from an Israeli defence contractor to facilitate urban training with structures that could be altered to meet the demands of various mission tasks.68

Subterranean Operations during the Second Lebanon War and Operation Cast Lead

Detecting and destroying subterranean features remained an unsolved problem in the aftermath of Operation Cast Lead. As we will see in the following chapter, destruction of complex tunnel systems remains difficult, particularly if the excavator designs them for the structure’s survival as was the point with such systems in Vietnam, southern Lebanon, and Gaza. The challenge is magnified multi-fold should the targeting have to account for proscribed or ‘innocent’ structures in an urban area as was often the case in the Strip. Reports that one of Hamas senior headquarters occupied portions of and excavations beneath the al-Shifa Hospital complex, the largest such medical facility in Gaza, saw the potential target go unaddressed given the information operations and humanitarian consequences of an IDF strike against the facility. The Israeli military lacked a weapon able to destroy

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such targets without unacceptable damage to adjacent structures and non-combatants.69

Information Operations and Exploitation of Social Media

Information operations were an arena in which the IDF did not make notable advances between the end of the Second Lebanon War and the outbreak of Operation Cast Lead four and half years thereafter. Unsurprisingly, Israel was generally on the media defensive during and after both conflicts, this despite both Hezbollah and Hamas blatantly controlling access to areas under their control and otherwise demonstrating manipulative practices with those representing the fourth estate. There was also a disconnect between what the IDF was willing to allow in its relationships with members of the media and what those representatives expected. The Israel Defense Force ceased allowing media personnel into Gaza on November 5, 2008 and reopened access on January 23, 2009, five days after its unilateral declaration of a ceasefire, the exception being those embedded with units for short trips into Gaza’s periphery.

Those embedded with ground forces found such instances:

a total joke. None of us was able to judge and really see what was going on…. If you take journalists on a tank ride for one kilometre inside [Gaza] and stop at the safe base that was out of range of anything and give them binoculars so they can see the same thing they can see from the border, that is not what I see as embedded…. I see embedded as how the Americans did it in Iraq, which is the right thing to do for a democratic state that is going to war…. In Afghanistan… the coalition forces are doing the same thing there. They are very well prepared for media…. I’ve been a couple of times with combat units there with Dutch coalition forces [that went] into areas where they get hit all the time…. Taking us with them is the way to do it.70


70 Conny Mus, interview with Dr. Russell W. Glenn, Jerusalem, Israel, October 12, 2009.
Operational security and concerns for media personnel safety are possible explanations for the strict control on members of the fifth estate. There is the possibility of a third reason: concerns regarding the objectivity of reporting or misinterpretations (deliberate or otherwise) of ground force operations. Regardless, IDF policy proved to be self-defeating. Barring or severely restricting media entry into Gaza did not mean there were not television, radio, and print representatives therein. Arab stations and publications reported events with little or no interface with Israeli force representatives. Variations in objectivity from such reporting can at least in part be attributed to those media representatives’ inability to obtain an Israeli perspective.

Similar restraints on nongovernmental and human rights organizations exacerbated the issue for Israel. While some found the IDF’s willingness to allow humanitarian aid into Gaza more liberal than in the months immediately preceding OCL, others had mixed views regarding that access. Israeli military leaders were not unaware of the need to coordinate responses to the inevitable calls for humanitarian aid during and in the aftermath of the operation. The IDF’s Coordinator of the Government Activities in the Territories (COGAT) had responsibility for granting NGO and IGO permissions to enter Gaza. Obtaining authorisation could take considerable time and patience, one representative describing the process as ‘quite a complex system’. Israel’s refusal to (officially) coordinate with Gazan government authorities went far to explain that complexity. COGAT’s instead coordinating with Palestinian Authority (PA) officials in the West Bank, difficulties inherent in orchestrating NGO movements with IDF ground operations, and combat’s inherently fluid character all acted to slow responsiveness. A post-OCL United Nations fact-finding mission found itself ‘of the view that the presence of international human rights monitors would have been of great assistance in not only investigating and reporting but also in the publicizing of events on the ground’. The IDF might have found that the outsiders could also assist in coordinating humanitarian aid had such individuals been allowed ready access to Gaza.

71 Regarding COGAT’s operations, an anonymous interviewee speaking with the author noted “the IDF set up quite a sophisticated contact point outside Ashkelon with something like 100 officers operating 24/7.”
72 Anonymous interview with Dr. Russell W. Glenn.
Kinetic Targeting

Hizballah organized its fighters into small, self-sufficient teams capable of operating independently and without direction from higher authority for long periods of time. In general—but not exclusively—Hizballah’s fighting units were squad-sized elements of seven to ten men.74

Andrew Exum
‘Hizballah at War: A Military Assessment’

Inadequate cooperation influenced more than tactical operations on the battlefields of southern Lebanon. It also impacted acquisition decisions. The situation in Northern Command provides a telling example. Equipped with over 20 separate command, control, communications, and computer (C4) systems, most were not compatible with each other, and none were compatible with IAF systems.75

Colonel (IDF) Boaz Cohen
‘Northern Command Lessons Learned’

The Israeli Air Force’s (IAF) targeting in the first days of the Second Lebanon War focused on rocket and missile launch sites (especially mid- to long-range systems capable of reaching deeper into Israel), infrastructure thought to interdict resupply of Hizballah units (bridges and other transportation-related facilities), and other infrastructure north of the Litani River. Success was limited. Air force targeteers had location data on only an estimated 30% of Hizballah subterranean launcher, logistics, or headquarters bunkers, and the data was not available in a form conducive to operational targeting.76

Receiving, processing, and acting on what intelligence was available further suffered from the incompatibility of systems within Northern Command (responsible for oversight of combat operations) and with supporting organisations. Inadequate bandwidth exacerbated the difficulties further.77

Problems at the strategic and operational levels complemented those at the tactical. Early expectations that air attacks alone would neutralize Hizballah’s military capabilities proved unsubstantiated. The lack of a coherent campaign plan or political objectives to guide any such plan

76 Lieutenant Colonel Ron Amir, IAF Campaign Planning Department, briefing remarks, Tel Aviv, March 20, 2007.
meant targeting was largely ad hoc. Overly complex and little understood IDF doctrine (on which more below) meant previously proven and well-understood procedures for directing activities were less than well coordinated. The IAF’s unilateral decision to focus its pre-SLW attention on strategic targets beyond Lebanon’s borders meant that synchronization of ground and air operations was poor. Further, what cooperation that did exist was at times based on false assumptions. Commitment or air assets to interdicting Hezbollah supplies proved of little use given the non-state actor’s pre-stocking of logistical materials that made isolated units self-reliant for extended periods. That those units were frequently small in size, granted considerable operational autonomy, practiced excellent operational security, and relied on sophisticated communications tactics and technologies meant their intelligence footprints were small. Strategic targeting in turn suffered from dubious decision making at the highest levels in Israel’s military and government. Attacks against Beirut airport and other targets well north of ground forces activities provided little operational value while undermining Israeli claims regarding appropriate and proportional use of force. Blamed by Prime Minister Ehud Olmert for Hezbollah’s actions from the start, Lebanese government officials legitimately claimed ignorance regarding the initial raid that precipitated hostilities. Those officials likewise had little if any ability to influence the non-state actor’s behaviour.

Operation Cast Lead provides evidence that air targeting – like media operations – was an area that did not particularly benefit from the Second Lebanon War’s potential lessons. Targeting was further complicated by Gaza’s density of non-combatants, a dramatic difference from southern Lebanon’s environment. In the words of Major General Eyal Ben-Reuven, ‘I must tell you that in most of the [Lebanese] areas in which we fought, the

civilians left. In Gaza Strip it is different. I don’t think that we can move Gaza civilians. There is nowhere to go.\(^{81}\) Targets struck at times included those that once again cast doubt on Israeli willingness to exercise appropriate restraint. While bombing in Gaza certainly included legitimate strikes against Hamas military and political facilities, in other cases they seemed to have little effect other than once again undermining IDF public relations efforts. Ministry buildings, homes of Hamas officials, and military positions were targeted, but so too were civic project sites, a community conflict resolution office, and the American School campus.\(^{82}\)

While targeting was an area continued difficulty, air-ground cooperation during Operation Cast Lead notably improved thanks to the assignment of IAF helicopters to manœuvre brigades and posting of air force liaison officers to each of that echelon’s headquarters.

Command and control/Leadership

We found as a society that we didn’t want to go back to Lebanon. Lebanon was a dirty word.\(^{83}\)

MG (IDF, ret) Eyal Ben-Reuven

Several Second Lebanon War command, control, and leadership shortfalls are evident in the above discussion of targeting. Among the most damaging indictments of IDF readiness in 2006 was that condemning the lack of pre-conflict training and cooperation between ground and air forces. One IDF officer thought the country’s air arm ‘operated under a different logic’ than did those in the army.\(^{84}\) IAF leaders demanded more centralized control over their pilots’ operations than ground force leaders found acceptable during combat, a further reflection on a lack of training that could have brought such problems to the fore during peacetime exercises.\(^{85}\) In contrast to improved air-ground relationships two years later, air liaison officers in some instances arrived at their ground unit locations after the initiation of fighting. Both those individuals and the capabilities of the aircraft they could bring to bear were unfamiliar to the soldiers they were to support.

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\(^{81}\) MG (IDF, ret) Eyal Ben-Reuven interview with Dr. Russell W. Glenn, Tel Aviv, Israel, March 25, 2007.
\(^{83}\) MG (IDF, ret) Eyal Ben-Reuven interview with Dr. Russell W. Glenn, Tel Aviv, Israel, March 25, 2007.
\(^{84}\) Colonel Boaz Cohen, “Northern Command Lessons Learned,” Tel Aviv, Israel, March 21, 2007.
Excessive concern with friendly force casualties compounded problems. Requests to attack targets within a kilometre of IDF ground units required personal approval by the Chief of the Israeli Air Force. Responsiveness to tactical calls for support suffered.

Lack of appropriate strategic guidance and an up-to-date campaign plan similarly reflected problems at the strategic level. As noted above, strategic objectives were not in keeping with Israel’s capacity to accomplish them, e.g., securing the return of the two soldiers taken during the initial Hezbollah raid. There was a related excessive faith in military force to the detriment of a more comprehensive approach to attaining desirable strategic ends. Hezbollah’s military arm is arguably not the organization’s primary priority or vulnerability. Hezbollah’s social and political lines of operation are at least as important to the group’s continued viability as its capacity to employ force. The organization relies heavily and spends considerable resources on southern Lebanon’s Shia population, thereby maintaining a firm base of support despite losses in the military realm. Israel, in contrast, competed (and continues to compete) with the non-state actor almost exclusively along the military line of operation. Even with a decisive victory in that realm, Israel is likely to find Hezbollah a Phoenix rising from the ashes under which the fertile soil of the population provides the basis for regrowth.

Responses to IDF Casualties
Perhaps no aspect of IDF leadership showed a greater break with the past than the excessive impact friendly force casualties were allowed to have on tactical operations during the Second Lebanon War. The death of a single tank crew soon after IDF forces entered Lebanon in 2006 caused significant restrictions to be placed on manoeuvre; armoured vehicles were to avoid use of established roads. The result was an inability to develop momentum due to the slow pace of operations in southern Lebanon’s compartmented terrain. Manoeuvre units awaited engineer construction of newly cut passages before moving. Roads estimated to need a few hours of engineer work consumed up to a week. Soldiers in the slow-moving...
units fell to enemy fire advised by the obvious direction of approach. It was tactical manoeuvre of a sort foreign to veterans of Israel’s 1967 and 1973 wars. Only with the tactical failures resultant of such sheepishness did IDF leaders recognize the need to address the operationally crippling over-sensitivity to casualties.

Adaptations of Command, Control, and Leadership after the Second Lebanon War

Operation Cast Lead revealed notable advances on the command, control, and leadership front. Air liaison officers (ALOs) assigned to ground combat brigades were flight-qualified and on active flight status, a change from Lebanon during which being on flight status was not required. ALOs were given the authority to approve close air support at ranges that had required Chief of Air Force approval during the Second Lebanon War.90 Ties between these individuals and their units developed thanks to habitual assignment of the same personnel to ground force units during training. The pilots providing support were likewise familiar to those on the ground in many cases.91 Familiarity meant improved coordination and increased trust. Operations involving these units and their support benefited from what analyst Barbara Opall-Rome called a ‘fully refined’ war plan ‘understood by all’.92 The commander of the IAF’s ‘Magic Touch’ Apache helicopter squadron believed the relationship between his unit and those beneath his aircraft went beyond support to comprise ‘a full partnership’ in Gaza.93

Unlike the hoped-for-but-near-impossible objectives established for IDF forces during the Second Lebanon War, Operation Cast Lead public announcements regarding the ends sought were better grounded in the possible. These included weakening Hamas, reducing smuggling and rocket attacks, and reinforcing deterrence.94

Coordination of groups falling outside the bounds of the Israeli government and its military continued to challenge during Operation Cast Lead, however, this despite the efforts of COGAT that included providing such organizations

90 Asaf Agmon (BG, IAF reserves); Chief Executive Officer, The Fisher Brothers Institute for Air & Space Strategic Studies; interview with Dr. Russell W. Glenn, Herzliya, Israel, October 13, 2009.
91 Asaf Agmon (BG, IAF reserves); Chief Executive Officer, The Fisher Brothers Institute for Air & Space Strategic Studies; interview with Dr. Russell W. Glenn, Herzliya, Israel, October 13, 2009.
maps and location procedures identical to those used by ground units. A member of the NGO/IGO community recalled,

This is where I enter into the most complex issue. We were on the phone with a CA [civil affairs] officer. We had a convoy moving into the Gaza Strip. We said we are moving on Road 2…. We had the same map. ‘Is it okay?’ ‘Yes, it is.’ And we stopped at a point and said ‘We are at this point, can we continue?’ And our CA liaison officer said, ‘Yes, you can continue.’ And we did, and we were engaged by a tank. And we called and the liaison officer said, ‘You must give me time to contact the tank.’ We never had a serious incident, but we had many warning shots. The problem was that the message had to go from the liaison officer to the division, to the brigade, and down to the tank…. We had this problem with liaison because we did not have direct coordination with units.95

Liaising with such groups’ representatives based outside the Strip was complicated by the understandable reticence of individuals from similar organizations based within Gaza to move without escort of those supposed to have cleared their activities with the IDF. Palestinian groups lacked a means of effectively synchronizing their actions with the Israeli military and thus justly feared engagement, a danger compounded by Hamas’s reported use of ambulances to move personnel and supplies.96 This hesitation meant that external groups were asked to take on tasks for which internal organizations were frequently a better choice given their location at the time, familiarity with the terrain and language, or for other reasons. The problem was mitigated somewhat after two weeks of ground operations when Hamas permitted the Palestinian Authority’s Fatah Ministry of Health and Water to assume responsibility for Gaza. (The ministry could coordinate with Israeli authorities whereas those representing Hamas could not due to political restraints.)97 Challenges persisted nonetheless. A representative from one such organization external to Gaza estimated the average response time once a request was forwarded to the IDF at 25 hours.98 As related by one aid representative: “The most problematic issue was not the amount of assistance received. Most problematic was the removal of wounded from neighbourhoods where fighting was occurring. We could not

95 Anonymous interview with Dr. Russell W. Glenn.
96 Lt. Col. Haasz identified this as a particular problem: “You cannot distinguish between Red Crescent ambulances and Hamas ambulances. They are marked the same.” Oren Haasz (Lt. Col., IDF; Deputy Head of Gaza CLA, COGAT) interview with Dr. Russell W. Glenn, Erez Crossing, Israel, January 21, 2015.
97 Anonymous interview with Dr. Russell W. Glenn.
98 Anonymous interview with Dr. Russell W. Glenn.
get clearance, and when we arrived in these neighbourhoods after three of four days, people were dead.”

**Doctrine and concepts**

The institute developed an alternative ‘conceptual framework’ for military thinking, replacing traditional notions of ‘objective’ and ‘subjection’ with new concepts like ‘campaign rationale’ and ‘conscious-burning’ of the enemy. The doctrine’s aim was to recognise the rationale of the opponent system and create an ‘effects-based’ campaign consisting of a series of ‘physical and cognitive appearances’ designed to influence the consciousness of the enemy rather than destroying it…. A virus had infiltrated the IDF’s basic doctrine.

Alon Ben-David

‘Debriefing teams brand IDF doctrine “completely wrong”’

There were those in the IDF who believed that prior to the Second Lebanon War their military had too readily adopted concepts from ‘Systemic Operational Design’, an Israeli-generated doctrine overly complicated for use in the field. They felt their services had also unwisely been willing to incorporate externally generated ideas such as the Americans’ effects based operations or EBO. Reminiscent of Australia’s conversion to a Pentropic force structure in the early 1960s just as the US was purging its army of the Pentomic organization on which the Australian Army based its evolution, General James Mattis at the US Joint Forces Command dictated discontinued use of EBO soon after the Second Lebanon War’s conclusion. As one member of Northern Command observed in the aftermath of fighting in Lebanon, “Old is not necessarily bad.”

Fortunately, pre-SLW missteps regarding adoption of overly complex in-house doctrinal approaches and concepts such as EBO were not without more beneficial company. Interactions with the US military led to mutually valuable exchanges regarding the nature of contemporary conflict. While the operational doctrine adopted by the IDF proved less than appropriate,

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99 Anonymous interview with Dr. Russell W. Glenn.
102 Colonel Boaz Cohen, J3 Northern Command in July-August 2006, presentation given March 21, 2007, Tel Aviv, Israel.
tactical innovation explored the concept of small team swarming on the battlefield, a 2005 idea not yet sufficiently tested to employ in mid-2006.\textsuperscript{103} (Notably, the densely urbanized terrain confronted in 2014 Gaza would see small tactical groups manoeuvring as the IDF sought to neutralize tunnels in eastern portions of the Strip. It is unknown to this author whether this was an adaptation of the 2005 swarming concept or an independent response to terrain conditions.)

The adoption of what in retrospect proved unsuitable doctrine leads one to consider why such a crucial issue did not receive more attention prior to the fighting in southern Lebanon. Focused on intifada-type operations and without the challenge of recent force-on-force combat, the country’s armed services did not encourage debate during development of its newly introduced doctrine. The years leading up to the 2006 conflict in Lebanon were arguably a period of intellectual stasis resulting in a doctrine imposed with too little debate.

The months preceding Operation Cast Lead saw a rejection of the failed ‘Systemic Operational Design’ doctrine and return to familiar intellectual territory. Combined with the aforementioned improvements in training, equipment, command, control, and leadership, the IDF performed well during OCL, albeit against a considerably less able adversary. Conflict’s insistence on constant adaptation and counter-adaptation would ensure that what was good enough in 2008 would not be so in years yet to come, however. Hamas would evolve. Holes in doctrine and capabilities were sure to be exploited. Additional challenges would assert themselves during the opening days of Operation Protective Edge.

\textsuperscript{103} BG Gideon Avidor (IDF, retired) interview with Dr. Russell W. Glenn, Tel Aviv, Israel, March 22, 2007.
Training

Budget cuts and the ground forces’ high operational tempo demanded by internal security missions during the intifada meant the army, once called forward, was less well trained than was desirable for the type of operations it confronted in Southern Lebanon. Brigade commanders had not had the opportunity to train their units as a whole for several years. Others condemned IDF leaders for overly optimistic dependence on sophisticated weapon systems, one writer damning the resulting situation at large as ‘a witches brew of high tech fantasies and basic unpreparedness’. 104

Matt M. Matthews
‘Hard Lessons Learned’

The IDF’s over-focus on intifada operations in the years immediately preceding the Second Lebanon War translated into leader, individual, and unit training involving too little on operations elsewhere along the spectrum of conflict. Years of decentralized, small unit operations perhaps impacted leader development more generally, a possible explanation in addition to overreliance on technology for brigade commanders’ general failure to advance into Lebanon with their units. The same might be said of the excessive concern with casualties and underestimation of enemy capabilities uncharacteristic of leaders during earlier of the nation’s conflicts.

These training failings were directly reflected in tactical missteps during the Second Lebanon War. Tanks were assigned to infantry units in two-vehicle teams. Opportunities to mass armour’s effects – difficult in any case given the compartmented nature of southern Lebanon’s terrain – were thus sacrificed. Effective use of the tank arm further suffered from a lack of combined arms training; infantry leaders receiving the vehicles at times had little idea regarding their proper employment. Some tanks remained stationary for extended periods during village defence operations, making them little more than static pillboxes. These combat systems were particularly vulnerable under such conditions, situations more fraught due to the lack of training in tactical security. Retired IDF armour brigadier general Gideon Avidor noted, ‘sixty-two per cent of our tanks were hit. They were hit from villages that we “controlled”, because we went in and

just held a few houses rather than truly controlling the village’.105 Those that did move frequently did so at the pace of the walking infantrymen they were supporting. That the only successful attacks on Merkava tanks came from strikes on the vehicles’ rear demonstrates that armour tactics taking advantage of speed, movement, and tank-infantry coordination were lacking.106 Vulnerability was compounded yet further due to a lack of night training, meaning some commanders had never moved much less manoeuvred their units under limited visibility conditions. Some junior leaders had never participated in a combat training exercise; those deeper into their careers had in some cases not done so in five years.107 Senior leaders were little better educated. The IDF’s chief of staff in 2002, Moshe Avalon, had set three standards for promotion to more senior responsibilities: (1) successful completion of courses on campaign operations, (2) passing instruction on administration of large organizations, and (3) graduation from the National Defense College (NDC). A late 2006 comptroller report found that 82% of IDF major generals, 68% of brigadier generals, and 76% of colonels had not attended the NDC.108

Essentials such as night movement and combined arms manoeuvre training became priorities after the fighting in Lebanon. Training replicated both conditions in less densely populated terrain such as that found in 2006 and those to be found in the IDF’s other likely scenario: combat in Gaza. Units underwent preparation for missions further to the right along the spectrum of conflict. The ‘IDF Armored Corps’, the The Jerusalem Post reported, ‘has changed its mode of operations and now intends to defeat the enemy using its two major advantages – speed and firepower.’109 Technologies such as the Trophy anti-missile system underwent expedited fielding, the training essential to use accompanying their introduction. Lessons learned in Lebanon or during the revitalised training were disseminated throughout the force.110 Exercises not only incorporated combined arms manoeuvre; fire support, air-ground coordination, and larger unit training were no longer neglected. It was thus a much better trained Israeli military that Hamas found itself confronting come the closing weeks of 2008.

106 MG Chaim Erez (IDF, ret) interview with Dr. Russell W. Glenn, Latrun, Israel, March 22, 2007; and BG Gideon Avidor (IDF, retired) interview with Dr. Russell W. Glenn, Tel Aviv, Israel, March 22, 2007.
107 Comments by Brigadier General Nitzan Nuriel during the IDF-JFCOM seminar conducted March 20-21, 2007, Tel Aviv, Israel; and Colonel Boaz Cohen, J3 Northern Command in July-August 2006, presentation given March 21, 2007, Tel Aviv, Israel.
110 Colonel Meir Finkel (IDF armored brigade commander during the Second Lebanon War) presentation given March 21, 2007, Tel Aviv, Israel.
Intelligence

With ample time to prepare, the IDF was also able to collect an unprecedented amount of highly sensitive information on Hamas, enabling it to gain complete intelligence domination. In fact, Israel had been preparing a ‘mosaic’ of Hamas targets for years. The lull created by the ceasefire [in the six months before Operation Cast Lead] provided an opportunity to combine this information with recently obtained Human Intelligence (HUMINT). This created ‘a remarkably accurate picture of Hamas targets in Gaza that it constantly updated on a near real time basis’. The IDF and Israeli intelligence networks (Shin Bet) completely ‘penetrated’ Hamas’ network at all levels. More than one IDF commander commented that they had been ‘blind in Lebanon, but in Gaza they could see everything . . . The operations in Gaza were 200% better.’

Matt M. Matthews
‘Hard Lessons Learned’

IDF intelligence databases regarding the West Bank and Gaza would challenge any in the world for their coverage and detail, a not unexpected circumstance given proximity and access over so many recent years. Supremely helpful during intifada operations, IDF personnel came to expect such exceptional input regarding the enemy and terrain regardless of where operations took them. That such was not the case during the Second Lebanon War caught staffs, commanders, and subordinate unit leaders alike off balance. Hezbollah’s challenging the IDF so effectively was in part a consequence of this lesser quality of intelligence.

Conditions were doubly more favourable in the intelligence arena during Operation Cast Lead. Better quality inputs were a consequence of Israel’s greater focus on the occupied territories and recent operations in the Strip. Training that emphasized operations when receiving less-than-intifada-quality intelligence provided the second factor in the IDF’s ability to function more effectively. Reports generally praised the information fed to units though those at lower echelons still found it essential to develop their own intelligence due to the passage of time since Israel had left the Strip (that even though IDF occupation of parts of Gaza had ended as recently as 2005). Intelligence collection and analysis proficiency also proved

its worth (as did passage of lessons learned) given adaptations in tactics employed by Palestinian threats and increased use of IEDs, rigging buildings with explosives, firing rockets and mortars from subterranean bunkers, and the above-mentioned covering of narrow thoroughfares in the most densely populated communities with corrugated metal or tarps to deny overhead observation.

Information of another ilk benefited IDF lessons learned in the aftermath of hostilities. Representatives from at least one aid organization provided feedback to Israel’s military regarding IDF performance (with the objective of improving the armed forces’ capabilities to facilitate aid delivery in any future conflicts).  

**Concluding Observations**

Gazans consistently demonstrated their ability to adapt to difficult conditions in the years preceding Operation Protective Edge. Restrictions on cross-border movement and threat of attack from above spurred construction of tunnels between Egypt and the Gaza Strip. Superiority of IDF ground force capabilities resulted in a turn to indirect methods of attack such as IEDs, booby-trapping structures, and indirect fire via rockets and mortars. The benefits of taking prisoners became clear when release of Gilad Shalit resulted in nearly five hundred Palestinians being released for the one IDF member.  

That Hamas and other Gaza-based threats would adapt further in the constant contest of adaptation, counter-adaptation, and counter-counter-adaptation in the aftermath of Operation Cast Lead was a given.

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112 Anonymous interview with Dr. Russell W. Glenn.
Overview of Operation Protective Edge

Most of the operation’s tactical and strategic lessons were quite traditional. For all the attempts to find technological quick fixes or enforce a permanent settlement, Operation Protective Edge has highlighted that a war of attrition, known as a ‘long war’, remains the only viable strategy in the current environment.114

Raphael Cohen and Gabriel Scheinmann
‘The Grim Lessons of “Protective Edge”’

In the last six years there have been four major increases in the tempo of fighting. Operation Hot Winter in February-March 2008, Operation Cast Lead less than eleven months later, Operation Returning Echo in March 2012, and Operation Pillar of Defense roughly nine months after that.115

Jacob Stoll
‘Why a Gaza Ceasefire is so Difficult’

The previously discussed Second Lebanon War and Operation Cast Lead were only the most significant of several spikes in violence in the years leading up to the 2014 Operation Protective Edge. As the quotation immediately above makes clear, two others exceeded the routine simmer between the 2006 SLW and the operation that is our primary focus in these pages. Operation Hot Winter (or Warm Winter, depending on the translation) was a February 27, 2008 response to rocket fire from Gaza that included first use of Grad rockets with sufficient range to reach the city of Ashkelon. The response entailed IAF helicopter and fixed-wing aircraft strikes against


command centres, warehouses in which rockets were reportedly stored, munitions manufacturing facilities, and other targets in addition to a ground attack into the northern portion of the Strip. The operation lasted less than a week with ground forces beginning to pull out of Gaza on March 3rd. Operation Returning Echo was similarly brief, lasting from March 9-14, 2012. An IAF strike against a Gazan official alleged to have been behind attacks on Israel initiated the conflict, triggering rocket attacks from the Strip in return. The Iron Dome anti-missile and rocket defence system reportedly intercepted the majority of the fire from Gaza. Both an Israeli government official and a Palestinian activist tweeted photographs purporting to show individuals under attack or casualties resulting from airstrikes. The material was found to be several years old rather than drawn from Operation Returning Echo.

But it was Operation Protective Edge that first brought post-Operation Cast Lead hostilities to a full boil. The operation would span fifty days, see over 5,000 IAF air strikes, in excess of 4,000 rockets fired at Israeli (735 of which were reportedly intercepted by Iron Dome), and Israeli and Palestinian killed numbering 73 and an estimated 2,200 respectively. There were events and conditions directly impacting the willingness of both sides to go to war. According to the IDF blog website, “a primary objective of Operation Protective Edge was to strike a heavy blow to the military capabilities of Hamas and other terrorist organizations in Gaza and thus eliminate the threats to Israel’s national security.” Across the border, Hamas found itself struggling to maintain funding with the primary source of international support (Iran) being lost when Hamas officials sided with rebels fighting the regime in Damascus during that country’s civil war. (Assad’s government in Syria obviously likewise ceased any support for Gaza’s governors.) The problem was exacerbated by Tehran instead routing funding to Hamas’s primary rival in Gaza, the Palestinian Islamic Jihad (PIJ), which used the influx of money in the service of its goal to become the Strip’s chief disburser.


of aid.\textsuperscript{120} Hamas government coffers further suffered in the aftermath of the Muslim Brotherhood’s replacement in Cairo with Abdel Fattah el-Sisi’s pointedly anti-Brotherhood government, an antipathy magnified by Hamas’s Brotherhood roots and a belief that Hamas was responsible for many of the challenges to Egypt’s internal security. Egypt denied Gazan use of smuggling tunnels by pouring sewage into the subterranean smuggling passageways, thereby denying yet further funds obtained via Hamas taxation of goods imported via the Sinai Peninsula. Egyptian policy made it additionally difficult to use the soiled tunnels or replace them with new by creating an 800-meter security zone on their side of the border, one that country’s authorities later reported would be extended to 1,500 metres.\textsuperscript{121} The tunnel closures combined with the Israeli Navy’s blockage to halt import of raw materials needed to reinforce bunkers or build rockets.\textsuperscript{122} Another of Hamas’s primary funders, Qatar, found it difficult to transfer money as Gazan banks are branches of those in the Fatah-controlled West Bank; the Palestinian Authority’s leader – Abu Abbas – refused to forward funds given Hamas’s refusal to recognize his authority. Unable to pay its officials their wages, Hamas saw unemployment in the Strip hit 45\% during the first quarter of 2014.\textsuperscript{123} (The equivalent value for the West Bank was 26\%.) The dangers posed by such high unemployment were enhanced by Gaza’s demographics. Three-quarters of the population are in the volatile under-29 age group; unemployment amongst those aged 15-29 was 68\%. Living conditions further threatened to undermine Hamas legitimacy; the Strip suffered frequent power outages of seven to eight hours a day.\textsuperscript{124} The diplomatic front offered no respite. Negotiations between the Palestinian Authority (PA) and Israel had broken down in April 2014 after (1) Israel failed to release a number of prisoners as agreed in the 1993 Oslo Accords, and (2) Netanyahu declared he would no longer deal with the Authority due to its having signed a reconciliation agreement with Hamas,
the latter leading to installation of a new PA government endorsed by those governing Gaza. Though the US Department of State blamed Israel for the breakdown in negotiations, the result only served to further isolate the Strip’s Palestinians.  

The more immediate reasons underlying initiation of hostilities included the June 12, 2014 kidnapping of three Israeli teenagers in the West Bank. (They would be found dead near Hebron on June 30th.) Israel responded by arresting or re-arresting some 500 Hamas officials and others supporting the group, to include religious leaders and those managing sympathetic charities, this though the group did not claim responsibility for the crime. Israeli intelligence did, however, have information that Hamas was planning a major attack on Israel via several tunnels transiting the Gaza-Israeli border. Israel shut all checkpoints from the Hebron (West Bank) area. Only Palestinians having medical or humanitarian reasons were permitted to pass. Crossings to and from Gaza were likewise closed. A sharp increase in rocket fire followed. Hamas did not take credit for such attacks until after a July 6, 2014 IAF strike on a Gaza-Israel tunnel that allegedly killed six of the group’s personnel. Hamas thereafter assumed responsibility for continued attacks.

The conflict escalated. On July 17, Israel’s government decided to accompany air attacks with ground operations, though incursions into Gaza were to be limited to an area only one to three kilometres within the Strip from its border with Israeli.

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126 Times of Israel staff, “Israel rounds up senior Hamas men in West Bank sweep,” The Times of Israel, June 15, 2014.


Israeli and Hamas Objectives in Undertaking Operation Protective Edge

The past seven months on the Gaza border have been the quietest in decades.130

Eitan Shamir and Eado Hecht
‘Gaza 2014: Israel’s Attrition vs Hamas’ Exhaustion’

In addition to striking ‘a heavy blow to the military capabilities of Hamas and other terrorist organizations’, other announced Israeli objectives for the campaign included establishment of a stable ceasefire and punishing the group’s capacity to conduct military operations. Destruction of tunnels directly threatening Israel (the so called ‘attack tunnels’) was to be a part of the latter.131 (Despite the continued indirect fire threat – one in part mitigated by Iron Dome – a well-informed observer conclusively stated, ‘the war was absolutely not about rockets. It was about tunnels…. The objective was to take out the offensive tunnel capability’.)132 Once again, Israel declared it had no intention of ousting Hamas as Gaza’s governing authority, analysts believing those in Jerusalem feared the possibility of an even more extreme group stepping in to assume control.133

Hamas, on the other hand, believed itself fighting for survival if various pundits are to be believed. Or, more accurately, the group’s leadership sought to retain its viability as the ruling political authority in Gaza. There is little reason to doubt Israel’s declarations that it had no intention of replacing the in-place government, but a government without funding wields little authority. Hamas therefore sought to cause Israel to allow the building (or restoration) of a seaport and airport while in addition permitting movement of goods between the Strip and both Israel and Egypt (the latter willing).134 The result would be a Hamas once again able to tax, take, or otherwise capitalize on the entry and exit of products in the south.

132 Anonymous interview with Dr. Russell W. Glenn.
The Threat in Mid-2014

Though not of the quality confronted in 2006 southern Lebanon, Hamas and other groups opposing the IDF eight years later were a force significantly improved from that confronted during Operation Cast Lead. The bulk of its rockets remained the Iranian-designed but largely indigenously constructed Qassam with a range of under 16 kilometres. By 2014, however, these systems had complements not only in 122mm Katyushas with three times that reach, but also M-75 and Syrian-made M-302 missiles, the latter capable of hitting targets out to 160 kilometres. Most cities in northern Israel were vulnerable.\(^{135}\)

These newly introduced systems provided greater explosive impact in addition to extended range. While numbers of each type of rocket that Hamas possessed were unavailable, Israeli intelligence reportedly estimated their total number at approximately 10,000.\(^{136}\) Improved operational security and employment tactics accompanied the enhanced technological capabilities. An IDF general noted most of the rocket launchers were fired from subterranean locations and triggered by remote control from concealed locations often hundreds of yards distant from the launch point.\(^{137}\) Hamas also employed unmanned aerial vehicles during this conflict, though apparently in an exclusively reconnaissance rather than attack role.\(^{138}\)

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135 "75” and “302” represent the size in millimetres of the weapon.
Operation Protective Edge: Execution

Israel did all they could to keep a lid on what they call the ‘rocket dialogue.’ There is evidence that a lot of rockets fired were deliberately aimed at nothing. ‘If you don’t do; you don’t exist’ when it comes to leadership in Gaza. Given that there was not serious rocket targeting by Hamas or other groups, Israel’s responses were such that no one was harmed either. [Interviewer: Was this simply an understanding or was there communication to ensure such was the case?] I think there is communication between third parties.139

Anonymous interviewee

More than one of those interviewed expressed a belief that the tit-for-tat Hamas-IDF ‘hostilities’ in the months leading up to Operation Protective Edge were largely for show. Hamas fired rockets in an apparent demonstration of its continued aggressiveness toward Israel while Israel responded with largely harmless aerial bombardment. The attacks may have been deliberately avoiding serious loss to the other side in both cases, thus maintaining the fiction of belligerence or defence for home audiences while ensuring neither side so damaged its adversary as to trigger serious retribution. Brigadier General (IDF, retired) Gideon Avidor, concurring with the speaker quoted just above, believed it was a case of dealing with the devil you know versus having to deal with one potentially more troublesome:

Both sides tried to keep the violence down with a silent agreement, but no formal agreement. Both the IDF and Hamas were firing at empty places. Most of the rockets were going into training areas or open spaces. The public is not aware of that. They know the government is firing, but there was no formal agreement with Hamas because there is no direct contact between Hamas and Israel.... Israel does not want to see Hamas replaced by something more fundamentalist and they are not trying to separate the population from Hamas. They want to keep [the known entity] of Hamas in power.... [But] the IDF had information that Hamas was planning to use tunnels for an attack on the Jewish New Year’s eve. No one knew how many tunnels there were. The assumption was that that it would be

139 Anonymous interview with Dr. Russell W. Glenn.
a problem if they came out of three or four tunnels at the same time. Israel knew about the tunnels but not how to find them."140

Rumours of a large-scale raid via attack tunnels dug from Gaza combined with an increased number of indirect fire instances to trigger an IAF air campaign on the night of July 7-8, 2014.141 Targeting focused on rocket and mortar launch sites; Hamas command, storage, and other facilities; and key enemy leader homes. A Palestinian effort to infiltrate Israeli territory via Zikim Beach just north of the Gaza Strip failed when IDF forces intercepted and killed five frogmen. A UAV fell to a Patriot surface-to-air missile on July 16th. While conclusive information is not available regarding whether this or any subsequently discovered Hamas UAV was armed with explosives, one interviewer noted that given ‘you are talking about a two-pound model airplane-’ type system, any such capability would have more psychological than physical damage potential.142 Another observer believed there was an intention to arm Gaza-launched UAVs, ‘but not in the way a modern UAV would’ be loaded. Rather, designers would ‘simply fill the UAV body with explosive’ and allow the short-range weapons to crash on a target after being directed via a small camera mounted on the aircraft.143

Ceasefires with varying conditions were offered by those on one side or the other or via Egyptian authorities on numerous occasions during the fifty days of conflict. NGOs, the UN, or one of the combatant sides frequently proposed these ‘humanitarian’ or other pauses, including one coinciding with the Muslim Eid al-Fitr holiday (that marking the breaking of the fast at the end of Ramadan). The opposing sides accepted several of these proposals with accusations of violations often coming within hours of their designated initiation. Among the more notable ceasefire offers was that forwarded by Hamas and Palestinian Islamic Jihad on July 16 which put forward the following conditions in conjunction with a ten-year truce. (Israel rejected the proposal.)


142 Anonymous interview A with Dr. Russell W. Glenn.

143 Ron Ben-Yischa (National security commentator) interview with Dr. Russell W. Glenn, Tel Aviv, January 15, 2015.
• ‘Withdrawal of Israeli tanks from the Gaza border
• Freeing all the prisoners that were arrested after the murder of the three Israeli youths
• Lifting the siege and opening the border crossings to commerce and people
• Establishing an international seaport and airport which would be under UN supervision
• Increasing the permitted fishing zone to 10 kilometres
• Internationalizing the Rafah Crossing and placing it under the supervision of the UN and some Arab nations
• Placing international forces on the borders
• Easing conditions for permits to pray at the Al Aqsa Mosque
• Prohibiting Israeli interference in the reconciliation agreement
• Re-establishing an industrial zone and improvements in further economic development in the Gaza Strip.  

A dawn July 17, 2014 attack by thirteen Hamas operatives triggered Israel’s initiation of the OPE ground phase, the Palestinians’ subterranean assault apparently aiming to strike the Sufa kibbutz near the southern end of the Gaza Strip. Israel moved ten brigade combat teams to the border that evening. Movement into Gaza began the following day. Soldiers found ten tunnels with a total of twenty-two exit points within hours of launching the offensive. It was at this point that destruction of Hamas’s subterranean attack corridors was overtly added to the initial Israeli objectives of interdicting Palestinian indirect fire at southern Israel and destroying Palestinian adversaries’ military infrastructure. Striking in its absence is an objective addressing movement toward resolution of longstanding Israel-Gaza antipathies. The eventual OPE end state would constitute little more than return to the status quo ante.

147 “Occupied Palestinian Territory: Gaza Emergency Situation Report (as of 4 September 2014), 08:00 hrs,” United Nations Office for the Coordination of Humanitarian Affairs (OCHA), 5.
Hamas tactical actions during the opening month of the operation included numerous small arms attacks against IDF forces in addition to three suicide assaults and six infiltrations into Israel.\footnote{These small arms incidents included Palestinian use of rocket-propelled grenades, sniper fire, and IEDs. The number of infiltrations over the entire fifty days of OPE that employed attack tunnels numbered four, others coming overland or via the frogmen assault mentioned earlier. A total of 32 tunnels would be found and destroyed by IDF forces.} Engagements within Gaza reportedly included rifle and anti-tank fire from positions in various public buildings.

IDF warnings to Gazan non-combatants in planned attack zones or air force targeted areas included in excess of 100,000 leaflets dropped on July 17, the day before initiation of the ground offensive. Fighting in the Gaza City residential area of Shuja’iyya began the night of July 19-20; it would see vicious urban combat over the next several days as Hamas forces fired on Golani Brigade soldiers from Al Wafa Hospital and other sites.\footnote{For an IDF description of fighting in Shuja’iyya, see “Shuja’iyya: Hamas’ Terror Fortress in Gaza,” Israel Defense Forces, July 20, 2014. http://www.idfblog.com/blog/2014/07/20/shujaia-hamasterror-fortress-gaza/ (accessed March 27, 2015).} Thirteen brigade soldiers were killed in the battle with an estimated sixty Gazans losing their lives, half of whom are thought to have been non-combatants. Seven of the IDF soldiers died when their M113 armoured personnel carrier stalled near Shuja’iyya. In the words of one report,

On 20 July, an Israeli APC driving with the other forces into Shujayia suffered a mechanical malfunction and stopped on the side of the road between two small buildings. As the Israeli soldiers waited for a repair team to come, they were sighted by a Hamas spotter hiding in some buildings down the road. A Hamas team used a tunnel to enter one of the buildings adjacent to the Israeli APC. They then surprised the Israeli soldiers by firing RPG rockets and small-arms fire at the APC and the soldiers around it. 7 Israeli soldiers were killed. The Hamas team attempted to kidnap one of the soldiers, then rushed back into the tunnel to escape a counter-attack by other Israeli soldiers. The tunnel itself was well-hidden under the house and was discovered only on 26 July by an Israeli patrol. The entrance shaft was then destroyed with explosives.\footnote{Eado Hecht, “The Tunnels in Gaza: Testimony before the UN Commission of Inquiry on the 2014 Gaza Conflict,” February 2015.}

Four other Israeli soldiers would be killed on July 21\textsuperscript{st} when Hamas combatants dressed in IDF uniforms emerged from a tunnel and ambushed a jeep near Kibbutz Nir ‘am (at the right bottom of Figure 3.1). A second infiltration effort failed when soldiers called on the IAF to engage a group

\begin{footnotesize}
\begin{enumerate}
\item The small arms incidents included Palestinian use of rocket-propelled grenades, sniper fire, and IEDs. The number of infiltrations over the entire fifty days of OPE that employed attack tunnels numbered four, others coming overland or via the frogmen assault mentioned earlier. A total of 32 tunnels would be found and destroyed by IDF forces.
\item Eado Hecht, “The Tunnels in Gaza: Testimony before the UN Commission of Inquiry on the 2014 Gaza Conflict,” February 2015.
\end{enumerate}
\end{footnotesize}
soon after it left a tunnel entrance near the Israeli town of Erez (right centre of Figure 3.1).

Figure 3.1: Northern Gaza and Israeli communities attacked by Palestinian forces\footnote{151} A rocket landing near the Israeli community of Yehud, just north of Ben Gurion International Airport on July 22, 2014, caused the US Federal Aviation Administration (FAA) and a number of European airlines to cancel flights into that facility. FAA restrictions were removed the following day, but the publicity given the event marked a public relations coup for Hamas.

Fighting continued in Shuja’iyya and other locations as the month of July gave way to August. IDF forces attacked Al Wafa Hospital, killing several enemy fighters, that after a call to a hospital doctor had confirmed the building was no longer in use as a medical facility. The number of Palestinian casualties caused the fighting to draw criticism from US and other sources that accused IDF leaders of excessive reliance on artillery and suboptimal management of violence more generally. IDF statements held Hamas responsible for many of the civilian dead, blaming the group’s repeated use of non-combatants as human shields.\footnote{152}{Mark Perry, "Why Israel’s bombardment of Gaza neighborhood left US officers ‘stunned’.", Aljazeera America (August 27, 2014), \url{http://america.aljazeera.com/articles/2014/8/26/israel-bombing-stunsusofficers.html} (accessed March 27, 2015).}
IDF soldiers found Hamas combat readiness improved since Operation Cast Lead. Few were seen parading in the open. Those detected after having infiltrated through attack tunnels demonstrated tactics expected of a trained military force. They had equipment and organizations to match. ‘They manoeuvred like IDF soldiers’ in the words of one Israeli brigadier genera.\textsuperscript{153} Observers noted much the same when commenting on the performance of the previously mentioned Palestinian frogmen who attempted to infiltrate Israel, that despite the mission’s failure.\textsuperscript{154}

Those improved tactics included a number of techniques familiar to Western military professionals with experience in Iraq or Afghanistan. IEDs, general avoidance of head-to-head confrontation with larger and better-equipped forces, and use of low-technology solutions to defeat more sophisticated capabilities (e.g., employment of thermal blankets to mitigate sensor detection) were the norm.\textsuperscript{155} Accusations of Palestinian fighters positioning rocket and mortar firing points adjacent to civilian facilities were frequent and substantiated, as were those reporting a refusal to allow non-combatants to leave buildings even after Israeli warnings of pending bombings.

While most attacks made via the subterranean passages into Israel were interdicted, some were notable Hamas successes. Altogether, enemy emerging from tunnels would kill eleven IDF soldiers on the Israeli side of the border.\textsuperscript{156} Underground facilities within Gaza were also used to ambush IDF ground forces and kidnap soldiers. Two bodies of Israeli soldiers were in Hamas possession at the end of Operation Protective Edge. The army chief of staff declared he would not bargain for them as had been done in the past. The corpses of Palestinians killed during the conflict might be exchanged, but not prisoners.\textsuperscript{157}

It was a subterranean attack against an IDF patrol in the southern community of Rafah that led to the incident causing the greatest single loss of Palestinian life during the war. August 1, 2014 brought the loss of Lieutenant Hadar Goldin and two members of his patrol. As described by Eado Hecht during testimony before a United Nations commission of inquiry,

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\item \textsuperscript{153} Meir Finkel (BG, Head of the IDF Dado Center for Interdisciplinary Thinking) interview with Dr. Russell W. Glenn, Tel Aviv, January 18, 2015.
\item \textsuperscript{154} William Booth, “Here’s what really happened in the Gaza war (according to the Israelis),” The Washington Post, September 3, 2014.
\item \textsuperscript{155} Anonymous interview with Dr. Russell W. Glenn.
\item \textsuperscript{156} Eado Hecht, “The Tunnels in Gaza: Testimony before the UN Commission of Inquiry on the 2014 Gaza Conflict,” February 2015.
\item \textsuperscript{157} Gideon Avidor interview with Dr. Russell W. Glenn, Negev Desert, January 17, 2015.
\end{itemize}
On 1 August, three Israeli soldiers were killed and a few more wounded an hour and a half after the beginning of one of the ceasefires agreed upon. When the ceasefire began a group of Israeli soldiers were inside a building suspected of having a tunnel. They searched for it but before they found it, a suicide-bomber came up out of the tunnel and detonated his explosives-vest among the soldiers. Three of the Israeli soldiers were killed by the blast and a number wounded. Immediately after the explosion a Hamas assault-team came out of the tunnel and attacked the dazed Israeli soldiers as they were recovering from the blast, snatched the body of an Israeli officer and then retreated back into the tunnel. Unsure if the abducted soldier was alive or dead, the Israeli forces immediately closed off the entire area and began searching house-to-house looking for other entrances into the tunnel. One group of soldiers entered the tunnel and chased the Hamas team underground, but the latter, having a head start and knowing the tunnels better, escaped. However, they apparently left behind parts of blood-soaked equipment (or perhaps body parts – the exact details have not been released) that enabled the Israelis to conclude the officer was dead.\footnote{Eado Hecht, “The Tunnels in Gaza: Testimony before the UN Commission of Inquiry on the 2014 Gaza Conflict,” February 2015. For a further discussion (and somewhat contrasting recounting of events) regarding this incident, see Ruth Margalit, “Hadar Goldin and the Hannibal Directive,” The New Yorker (August 6, 2014), http://www.newyorker.com/news/news-desk/hadar-goldin-hannibal-directive (accessed April 17, 2015).}

The above description only begins to communicate the confusion inherent in the deaths of the three soldiers. Given the loss of the entire team – due to their either being killed or captured – some twenty minutes passed during which all attempts to communicate with the ill-fated men failed. A second team moved to the area and found two of the original patrol’s three bodies. At that point, leaders initiated the IDF procedure known as the ‘Hannibal Protocol’, (also referred to as the ‘Hannibal Directive’) that provided for the immediate use of air and artillery fires to isolate an area after a member of the IDF was kidnapped and prevent escape of those transporting the individual. Fires would be in conjunction with flooding the area with infantry to recover the soldier(s) or his remains. Employment of these procedures in this instance – in a densely populated urban area and under conditions where time to warn civilians to evacuate was impractical – resulted in an estimated 30 to150 non-combatant dead. Initiation of the protocol in this case was of questionable utility given the passage of twenty minutes and adversary’s obvious access to subterranean escape routes. In the words of
one IDF veteran, ‘the fire was pointless. The response in looking back on the event was “Why didn’t you activate your common sense?”’

The loss of these three IDF soldiers also helps to demonstrate the complexity of challenges posed by subterranean threats during Operation Protective Edge, challenges often inextricably intertwined with urban operations. Commentators estimate that nearly half of the 32 tunnels destroyed by the IDF during OPE had nearly crossed the border into Israel; four or five had already done so. The difficulty of identifying and destroying subterranean features meant the process of doing so was high risk for those assigned the task. Approaching suspected tunnel locations often entailed urban combat, establishment and holding of a defensive perimeter once such a feature was found while engineers cleared the entrance of booby traps or dug a bypass, reconnoitring and mapping the facility (sometimes confronting enemy soldiers in its interior and/or additional IEDs), and bringing sufficient explosives forward to destroy the complex. Once the explosives were emplaced along the length of the main route and in branches, standard procedure included clearing the area above ground of personnel prior to detonation. The process involved risk throughout; an anti-tank rocket struck a M113 personnel carrier transporting a ton of explosives destined for tunnel destruction, killing the passengers and crew.

Such risks were compounded by the IDF policy of warning local civilians before initiation of attacks into urban areas, an effort directed at minimizing non-combatant casualties but one that obviously compromised the location

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159 Gideon Avidor interview with Dr. Russell W. Glenn, Negev Desert, January 17, 2015; and Yohah Jeremy Bob, “IDF to ignore ‘noise’ in deciding on Hannibal Protocol war crimes allegations,” The Jerusalem Post 88 (January 13, 2015): 1. The article further noted, ‘the Hannibal Protocol does not allow the intentional killing of an IDF soldier to prevent his capture (it did not deny the possibility of aggressive fire increasing the likelihood of his death) and does not allow attacks that would violate the principles of military necessity or proportionality.… It is alleged that, in terms of Palestinian civilians in the incident, IDF fire killed anywhere from about 30 to as many as 150. The lower figure would be based on reports of around 70 total dead and IDF estimates that around 50 percent of Palestinian dead in the Gaza war were civilians, though there are also several unofficial reports that the army put the number of dead civilians at 40’.


161 Eado Hecht, “The Tunnels in Gaza: Testimony before the UN Commission of Inquiry on the 2014 Gaza Conflict,” February 2015. Hecht further reports, ‘After clearing and mapping each tunnel, Israeli soldiers had to manually carry several tons of explosives into it with a minimum of mechanical help like a winch for inserting it down the typically 20 to 25 meter long entrance shaft. The exact tonnage depended on the length of the tunnel, but averaged 9 to 11 tons per tunnel. Then the explosives were scattered along the entire length of all the branches of the tunnel and connected to a common detonator. The amount of explosives used was computed to be the minimum necessary to ensure destruction of the tunnel with minimal damage above ground. Since the tunnels were reinforced with concrete, too small a charge would have not caused sufficient damage to destroy the tunnel’.

of pending offensive action.\footnote{Eado Hecht, “The Tunnels in Gaza: Testimony before the UN Commission of Inquiry on the 2014 Gaza Conflict,” February 2015; and Charles Wald, et al., “2014 Gaza War Assessment: The New Face of Conflict,” Report commissioned by the Jewish Institute for National Security Affairs (JINSA), March 2015, 11-12. Australian troops in Vietnam used tear gas to neutralize underground facilities. One digger veteran recalled, ‘by firing a slab of explosive under the bag [of tear gas power], it would impregnate the walls and crevices, making it damned unpleasant to be in for a couple of months’. Jimmy Thomson, A Sapper’s War: How the Legendary Aussie Tunnel Rats Fought the Vietcong, Sydney: Allen & Unwin, 2012, 65. IDF use of gas to denying adversaries use of subterranean facilities (or even smoke more generally) is considered infeasible given the use of gas during the Holocaust. Gideon Avidor (BG, IDF, res) interview with Dr. Russell W. Glenn, Rehovot, Israel, January 12, 2015.} These warnings could take several forms, all of which had been employed during past operations. Residents might receive a phone call from an Arabic-speaking member of the IDF who asked for the individual by name, thereafter informing the listener that he or she had a specified period of time to evacuate the premises prior to a strike. Leaflets might also be used to warn that an attack was eminent. The aforementioned ‘knock on the roof’ would act as a final warning before the structure was hit with greater force. (The value of the ‘knock on the roof’ was questioned by at least one writer who posited that those still in the vicinity of the target might mistake the warning strike for the actual attack. Presumably the IDF’s preliminary warnings made pending attack procedures clear...or will do so in the future.) That the Strip’s telephone and internet systems are routed through Israeli servers facilitates contacting Gazans individually or en mass.\footnote{Adam Taylor, “‘Roof knocking’: The Israeli military’s tactic of phoning Palestinians it is about to bomb,” The Washington Post, July 9, 2014.}

Though a number of ceasefire proposals over the fifty days of OPE were either rejected by one side or the other for various reasons, adversaries in other cases accepted short hiatuses for humanitarian purposes. Both sides continued limited operations during such breaks, Gazan forces continuing to engage or raid, the IDF sustaining its searches for attack tunnels. Egypt acted as third party negotiator throughout, the eventual end of the campaign coming with Hamas accepting a ceasefire with conditions little different than those earlier proposed and rejected by the group as unacceptable.

Eventual acceptance of a cessation to hostilities came after IAF attacks on what in retrospect might be considered as Hamas’s centre of gravity. It is one with potentially disturbing implications for Western powers hesitant to attack civilian targets. In a war in which high-value targets were difficult to identify or when identified hard to find and engage, it was arguably strikes on apartment complexes housing Gazan elites that precipitated the termination of hostilities. Occupants of Al Zafer Tower 4 and similar structures were given the above sequence of warnings after intelligence reflected that the buildings were being used
by Hamas to house a command and control facility (a report later contested by building occupants). Left relatively undisturbed prior to the destruction wrought on August 23, occupants of the buildings reportedly brought pressure on Hamas leaders to end the fighting after destruction of their homes. The destruction of Al Zafer Tower 4 was the first time in the conflict that the IDF entirely destroyed an entire building of such size (previous strikes having focused only on specific apartments or floors). One non-Israeli interviewee believed IAF rules of engagement were stricter than those employed by US forces in Iraq or Afghanistan, concluding that ‘if the gloves were off, if they knew enemy infrastructure was in a building, Americans would level the building. There is no evidence IAF ever took shortcuts when it came to targeting.’ He went on to observe that the bombs used by the IAF in Gaza tended to be smaller, e.g., 500-pound, rather than the 2000-pound variety frequently employed by coalition forces in those two theatres. While apparently influential in bringing Operation Protective Edge to an end, the implications of attacking civilian infrastructure housing non-combatants in the service of strategic objectives are ones not generally confronted by Western decision makers.

Most ground forces had returned to Israeli territory on August 3rd, well before Egypt’s August 26 announcement that both sides had accepted a ceasefire agreement. Some of the tunnels destroyed contained equipment that included motorcycles, IDF uniforms, explosives, and other materials. Additional indirect fire attacks from Gaza and IAF responses filled the days between the withdrawal of ground forces and August 26th. The air attacks reportedly devastated Gaza’s public and commercial infrastructure, The Economist concluding, ‘Israel hopes that the devastation inflicted on Gaza will deter Hamas and other militant groups from testing their strength against Israel again soon. Military planners call this strategy the Dahiyah doctrine, after the suburb of Beirut it thumped in 2006 during its war against Hizbullah’. Restoration of Gaza’s fishing

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167 Anonymous interview with Dr. Russell W. Glenn.

168 Anonymous interview with Dr. Russell W. Glenn.
zone and opening of crossing points to some products were among the few points firmly settled in the ceasefire agreement; it left most major issues to be resolved at a future date meaning the post-war situation was largely a return to the status quo ante.

A broadly accepted value for the number of Palestinians killed during Operation Protective Edge is 2,131. Less definitive is the portion of that number representing non-combatants, though the difference in estimates is less varied than might be expected in that regard. The United Nations Office for the Coordination of Humanitarian Affairs (OCHA) concluded ‘of the initially verified cases, 1,473 are believed to be civilians [69%] including 501 children and 257 women; 279 members of armed groups’ while an additional twenty-five not included in the 2,131 value were executed by armed groups in Gaza for collaborating with Israel.169 Israeli sources estimated the total number killed at 2,127 of which 55% were non-combatants.170 Seventy-one Israelis died, sixty-four of them soldiers.171

For those interested in technical and manpower aspects of the conflict, 4,564 rockets, missiles, or mortar rounds were fired from Gaza, though not all crossed the border. 735 were reportedly shot down by the Iron Dome missile defence system, noting that Iron Dome only engages rockets or missiles thought to threaten specific target areas and is not designed to intercept mortar rounds. 224 projectiles of various types struck Israeli urban areas. The number of reservists called up in support of OPE was 82,201.172 Contemplating on why so large a number of reservists was activated, Brigadier General (IDF, retired) Gideon Avidor concluded, they were readied ‘in case we had to move into Gaza…. If one of the rockets hit Tel Aviv and 100 people were killed, then we would have to move into Gaza’.173

169 "Occupied Palestinian Territory: Gaza Emergency Situation Report (as of 4 September 2014), 08:00 hrs," United Nations Office for the Coordination of Humanitarian Affairs (OCHA), 1-2.
171 "Occupied Palestinian Territory: Gaza Emergency Situation Report (as of 4 September 2014), 08:00 hrs," United Nations Office for the Coordination of Humanitarian Affairs (OCHA), 1; and Ben Hartman, “50 days of Israel’s Gaza operation, Protective Edge – by the numbers,” The Jerusalem Post, August 28, 2014.
Contrasting the outcome of Operation Protective Edge with previous regional conflicts, OCHA concluded,

The scale of damage resulting from the 50-day escalation in hostilities is unprecedented since the beginning of the Israeli occupation in 1967. All governorates in Gaza witnessed extensive aerial bombardment, naval shelling and artillery fire, resulting in the widespread loss of life and livelihoods. Damage to public infrastructure was also unprecedented, leaving hundreds of thousands of people without adequate services, including electricity, clean water and quality healthcare.¹⁷⁴

¹⁷⁴ “Occupied Palestinian Territory: Gaza Emergency Situation Report (as of 4 September 2014), 08:00 hrs,” United Nations Office for the Coordination of Humanitarian Affairs (OCHA), September 4, 2013.
Analysis of Operation Protective Edge

The people in the Gaza Strip have nothing to lose right now, just like Hamas. And this is the problem. As long as Mohammed Morsi of the Muslim Brotherhood was in power in Egypt, things were going great for Hamas. But then the Egyptian army took over and within just a few days, the new regime destroyed the tunnel economy between Gaza and the Sinai Peninsula, which was crucial for Hamas. Since then, Hamas has been under immense pressure; it can’t even pay the salaries of its public officials.¹⁷⁵

Julia Amalia Heyer
‘Ex-Israeli Security Chief Diskin: All the Conditions are There for an Explosion’

We don’t have operational theaters. We are close to home. So strategic decisions are made by the policy makers. An IDF command is more a tactical thing. It is the IDF Chief of Staff who is really the campaign commander because the IAF doesn’t work for the Southern Command Commander. The IAF commander and navy commander work for the Chief of Staff...unless there is more than one front. [So] you don’t need the operational level. The Chief of Staff talks to the policymakers and units in the field. It’s direct command; even the prime minister sometimes goes directly to the field and talks to division commanders.¹⁷⁶

Anonymous interview with an IDF colonel

¹⁷⁶ Colonel from the IDF interview with Dr. Russell W. Glenn.
The remainder of this study focuses on observations thought to be of relevance to the Australian Army and possibly its joint, multinational, whole of government, and even comprehensive approach partners. Those areas receiving attention in chapter 2 first receive attention (though (1) targeting discussions appear as components of the information operations and C2 sections rather than independently while (2) doctrine, concepts, and training implications are evident throughout the chapter and thus likewise do not get a separate investigation). These are followed by two additional major topics not discussed separately in conjunction with the SLW or OCL but thought to merit attention in light of activities during Operation Protection Edge: Technology and Force Protection (the latter to include combat stress reaction and cyber security). Consideration thereafter moves on to differences between the Israeli and Australian security environment and a final look at additional insights judged pertinent to the army as it prepares for future challenges.

Urban Operations

I don’t think they fully appreciated the sophistication of the tunnel network at first. They would go into a building and people would pop up behind them. Though ‘surprise’ is too strong a word, the ground force had to adjust its tactics to deal with that. It’s more than classical urban operations.177

Anonymous interview

I consider this the best performance of the IDF in urban terrain. That was due to the maturation of many processes: doctrine, TTPs [tactics, techniques, and procedures], training, use of the very good urban training facility near Beersheba, incorporating lessons learned from Operation Cast Lead, and changes to or introduction of new equipment. Our tank units employed new tactics that made them better able to handle the 360-degree urban threat environment and infantry support. Namer was excellent and assisted force protection as soldiers rested in the Namer rather than in buildings that were often booby-trapped.178

Brigadier General (IDF) Meir Finkel

177 Anonymous interview with Dr. Russell W. Glenn.
178 Meir Finkel (BG, Head of the IDF Dado Center for Interdisciplinary Thinking) interview with Dr. Russell W. Glenn, Tel Aviv, January 18, 2015.
Urban operations still dominated combat during Operation Protective Edge despite the IDF limiting ground operations to no more than three kilometres into Gaza. They were the primary cause of Israeli, enemy, and non-combatant casualties. Urban operations saw the majority of fratricide incidents (which tended to be at battalion level or below, a notable difference from fighting during the Second Lebanon War when command and control difficulties resulted in losses between higher echelon units). The presence of tunnels and other subterranean features in numbers greater than previously confronted further complicated the difficulties faced during both ground and air operations, reflecting that urban and subterranean operations should be considered as frequently interconnected rather than separate challenges. In the words of one interviewee, ‘tunnels resulted in 360-degree fighting’. They comprised an urban threat compounded by sometimes extraordinarily hard-to-detect exits and entryways.

While lower echelon incidents of fratricide exacerbated other well-established command and control difficulties during urban operations, army-air force C² improvements permitted striking of close air support targets at ranges considerably less than during previous conflicts. Better ground-air familiarity and communications permitted engagements within one hundred metres of ground units...but not until those in the aircraft were assured that such targeting was not putting their comrades below at risk. Former IAF Brigadier General Asaf Agmon described the situation while also noting the small size of the operational area:

If you are talking about smart munitions dropped from 25,000 feet [at a range of] 25 miles without seeing the target, it is very difficult. So we took the fighter pilots and attack helicopter pilots to the headquarters, showed them the sensors involved in this kind of operation, how the technologies were forward with the ground forces, and it worked. But I must add a warning that in a bigger, more complicated area than Gaza – which is a small area, flat, most of the time with good weather, very densely populated – is still not the same level of challenge as Lebanon

179 Meir Finkel (BG, Head of the IDF Dado Center for Interdisciplinary Thinking) interview with Dr. Russell W. Glenn, Tel Aviv, January 18, 2015; and Asaf Agmon (BG, IAF, retired; Chief Executive Officer, The Fisher Brothers Institute for Air & Space Strategic Studies) interview with Dr. Russell W. Glenn, Herzliya, Israel, January 19, 2015.
180 Meir Finkel (BG, Head of the IDF Dado Center for Interdisciplinary Thinking) interview with Dr. Russell W. Glenn, Tel Aviv, January 18, 2015.
181 Anonymous interview with Dr. Russell W. Glenn.
182 Another commenter described the change in IDF policy regarding danger close IAF engagements as being in line with those employed by NATO. Meir Finkel (BG, Head of the IDF Dado Center for Interdisciplinary Thinking) interview with Dr. Russell W. Glenn, Tel Aviv, January 18, 2015.
or Syria. You can do it in a very limited operation: limited in scale, in the amount of forces you have involved. It will be much, much harder [in a larger operation]. You will find your airplanes dropping bombs on our own forces or on non-combatants.\textsuperscript{183}

Other factors certainly familiar to but not explicitly mentioned by Agmon also facilitated such danger close engagements, e.g., the excellent mapping, intelligence, and relative familiarity with the terrain given a history of IDF and other organizations conducting actions in Gaza.

Interestingly, BG Agmon thought the hyper-precision that technologically sophisticated militaries now consider an inherent good can at times provide an enemy with advantages:

Previously we tried to pinpoint a room on the 14\textsuperscript{th} floor on the right hand side of the building because that is where the Hamas commander or the air defence weapon was positioned. And we were very proud of this, destroying the room on the 14\textsuperscript{th} floor without destroying the building. But Hamas understood that they might have lost a single commander [or weapons system], but they could continue. It was much more effective when we gave an early warning and then destroyed the house [thereby denying its future use to the foe]. This was the first time the Hamas leadership in Gaza begged for a ceasefire with [Palestinian leader Khaled] Meshaal located in Syria. When you go into urban operations, our culture is not to destroy or cause collateral damage.\textsuperscript{184}

The implication: minimization of destruction may under some circumstances be counterproductive to accomplishing strategic ends. Notably, it was the felling of the entire Al Zafer Tower 4 that brought local pressure on Hamas to surrender rather than a precision strike that minimally damaged the structure.

Improved air-ground command and control had accompaniment in greater decentralization of ground operations. Leaders at lower tactical echelons were given additional decision-making authority. This meant that officers at platoon and company level were making decisions previously reserved for those at higher levels. Such decisions remained at the officer level,

\textsuperscript{183} Asaf Agmon (BG, IAF, retired; Chief Executive Officer, The Fisher Brothers Institute for Air & Space Strategic Studies) interview with Dr. Russell W. Glenn, Herzliya, Israel, January 19, 2015.

\textsuperscript{184} Asaf Agmon (BG, IAF, retired; Chief Executive Officer, The Fisher Brothers Institute for Air & Space Strategic Studies) interview with Dr. Russell W. Glenn, Herzliya, Israel, January 19, 2015.
however. The IDF does not have a professional non-commissioned officer (NCO) corps in the same sense as Australia, the US, or many other Western militaries. Section (squad) leaders tend to be nineteen-year old three-year draftees. These corporals therefore have approximately two years in service and consequently lack the training, mentorship, and experience found in armies with a professional NCO corps. Junior officers therefore assume responsibilities normally taken on by corporals or sergeants in such militaries (Lieutenant Hadar Goldin leading the small patrol during which his body was seized perhaps being reflective in this regard). Officers at battalion and brigade echelons were also forward to a greater extent than had been seen in the Second Lebanon War, the better to gage tactical conditions and direct subordinates as necessary. A battalion commander was among the soldiers killed during OPE.

Other urban lessons from Operation Cast Lead four and a half years before again held true during OPE. Hamas once again rigged buildings with explosives in hopes of detonating them after IDF soldiers entered the structures. IDF engineer ‘special operations units’ called Yahalom (‘diamond’, consisting of personnel specially trained to handle IEDs rather than special operations in the Australian sense) had the responsibility of neutralizing such threats both in buildings and subterranean features. One source stated the IDF was considering doubling or tripling the number of such organizations in the aftermath of Operation Protective Edge; another considered the limited number of engineer troops the most significant gap in the ground force structure.

As noted in the previous chapter, it was Gaza’s urban environment that contained what might qualify as Hamas’s centre of gravity. The residents of downtown Gaza City luxury apartment complexes bombed on August 23 and 24, 2014 influenced Hamas to accept ceasefire terms previously rejected by the group. It was therefore what one analyst described as a ‘direct strike against…the economic backbone of Gaza City and the

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185 Gideon Avidor (BG, IDF, res.) interview with Dr. Russell W. Glenn, Rehovot, Israel, January 20, 2015; and Anonymous interview with Dr. Russell W. Glenn.


187 This contrasts with Australian Army procedures for dealing with booby traps in Vietnam tunnels. There, engineers attached to infantry units would train and otherwise lend professional expertise, but the actual defusing of munitions was done by infantry personnel. In the words of BG (IDF, ret) Gideon Avidor, ‘In the IDF, the infantry stood aside and the engineers did the job. The infantry was there to protect the engineers during Protective Edge. It was a different approach’. Gideon Avidor (BG, IDF, res.) interview with Dr. Russell W. Glenn, Rehovot, Israel, January 20, 2015.

188 Anonymous interview with Dr. Russell W. Glenn; and Meir Finkel (BG, Head of the IDF Dado Center for Interdisciplinary Thinking) interview with Dr. Russell W. Glenn, Tel Aviv, January 18, 2015.
Gaza Strip in general’ that appears to have precipitated the war’s end.\textsuperscript{189}

Few reported casualties resulted from the attacks thanks to the IDF cell phone, leaflet drop, and ‘knock on the roof’ warnings prior to destruction. Subsequent destruction of civilian and public infrastructure in the closing days of the war seems less justifiable and may have been counterproductive given international accusations of IAF disproportionate use of force.

Subterranean Operations

They deepened the tunnels; they are more complex and tens of kilometres long.\textsuperscript{190}

Yuval Diskin, former head of Shin Bet

The pearl in the crown of Hamas military surprises was the tunnels that they dug into Israel.\textsuperscript{191}

Ron Ben-Yischa

The enemy weren’t [sic] running off into the bush and the waiting guns of the other forces. Instead, they would drop from sight and reappear elsewhere, often at close quarters.\textsuperscript{192}

Jimmy Thomson

\textit{A Sapper’s War: How the Legendary Aussie Tunnel Rats Fought the Vietcong}

As the last of the three above quotes makes clear, subterranean operations are not unfamiliar to the Australian Army. Similar to the case in Vietnam, the use of tunnels in Gaza was a response to effective adversary tactics, training, and technological capabilities. Expanded use of attack tunnels reflected Hamas understanding that Iron Dome had done much to neutralize their rocket and missile capabilities. The group also had limited means to inflict damage on Israel during a conflict should the IDF choose to engage only with air strikes or indirect fire as had been the case during the November 2012 Operation Pillar of Defense. Increased use of tunnels for


\textsuperscript{191} Ron Ben-Yischa (National security commentator) interview with Dr. Russell W. Glenn, Tel Aviv, January 15, 2015.

offensive purposes additionally demonstrated Hamas savvy with respect to the political value of kidnapped Israelis (or, at a minimum, seizure of IDF corpses). We return to the case of Corporal Shalit to demonstrate the disproportionate impact of success in this arena:

The most famous Palestinian success in the use of tunnels to attack Israeli border security forces was the 25 June 2006 attack on Israeli positions protecting the border near the Israeli village of Kerem-Shalom… 2 Israeli soldiers were killed, 3 wounded and one, Gilad Shalit, kidnapped…. Shalit was held captive in Gaza for 5 years…and returned only after 1,027 terrorists were released from Israeli prisons.193

Another commentator called the exchange Hamas’s ‘biggest blow against Israel’. 194 Little wonder that Hamas complemented its smuggling tunnels and those internal to Gaza with others constructed in part for the purpose of kidnapping Israelis. Most attacks using such subterranean features were detected and neutralized before any harm was done; likewise, destruction of those approaching civilian communities means we do not know if kidnapping of civilians was among Hamas’s objectives. Though no Israeli civilians were killed, injured, or kidnapped thanks to early discovery, that precautionary measures included evacuation of border villages provided Hamas some measure of psychological victory.195

Tunnels dug fifteen to twenty-five metres below the surface along nonlinear routes made detection and destruction difficult (the latter also complicating navigation once IDF units entered the chambers).196 Widths and height varied, but 1.5 metres wide by two metres vertical were typical, thus allowing the movement of larger items of equipment. Enclosures were


194 Ron Ben-Yishcha (National security commentator) interview with Dr. Russell W. Glenn, Tel Aviv, January 15, 2015.


concrete lined. Additional infrastructure such as communications wire ran their length with electrical wiring providing power for lights. Storage or living areas were sometimes cut out from the main thoroughfare. So too were branches allowing alternative approaches to destinations or digging of a new passage were the primary one destroyed. Builders installed ventilation shafts every few hundred metres.\(^{197}\) (Despite this, air pressures at tunnel depths could interfere with the effectiveness of explosives used to destroy passageways. Destruction of a single kilometre of tunnel could take sixteen tones of emulsion explosive and sixty mines.)\(^{198}\) Exits on the Israeli side were left unexposed until use; those in Gaza more often than not were below buildings ranging from private homes and apartment buildings to public structures, the latter to include at least one hospital and a mosque. Most were near the Israeli-Gaza border for obvious reasons.\(^{199}\) Entrances on the Gaza side were almost inevitably booby-trapped, some being under observation from nearby buildings to allow triggering at an appropriate time.\(^{200}\) Use of robots as a force protection measure or for intelligence purposes was hindered by frequent loss of communications with the systems once ranges exceeded one hundred metres.\(^{201}\) Hamas created a special force (designated ‘chosen ones’ or the ‘elite force’) to operate from tunnels in teams of between ten and twelve men. Three to four in a team had the responsibility of kidnapping a member of the IDF or transporting a body back while comrades engaged Israeli forces. It was such a team that the Israeli intelligence service Shin Bet determined was readying to attack before the kidnapping of the three Israeli youths in the West Bank. The exact location and timing for the operation were unknown, but as of July 2014 it was expected that such a strike was imminent. Three battalions were moved to the border area and drilling was undertaken to reveal the underground passageway’s location. To no avail. A Gazan entrance to the facility was known, however, and an attack was made to destroy it. (Unbeknownst to Israel, it was but one of multiple entryways.) Six Hamas operatives were

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killed, the action that spurred Hamas’s overt support for rocket and missile attacks and one key in triggering OPE.\textsuperscript{202}

The static nature of the IDF-Gazan standoff suggests the nature of subterranean threats to the Australian Army will likely differ considerably from those confronted by Israel. Nonetheless, the operational security benefits of subterranean features (physical protection, concealment superior even to Palestinians covering urban surface passageways with tarps or thermal blankets, and difficulty of detection even during construction) and their demonstrated successful use implies that the possibility of confronting foes using them should not be cast aside. Suggestions that North Korea, Hezbollah, and Hamas have benefited from exchanges of expertise come from several sources. These organizations may also be helping criminals construct underground passages for moving drugs and other contraband into the US from Mexico. There is also a report of extensive rebel use in Syria that includes digging of a tunnel later packed with explosives and, killing twenty soldiers in the Syrian Air Force Intelligence Directorate. US Congressmen have introduced legislation to develop an American-Israeli counter-tunnel cooperative venture akin to that for developing the Iron Dome system.\textsuperscript{203}

\begin{footnotesize}
\textsuperscript{202} Ron Ben-Yischa [National security commentator] interview with Dr. Russell W. Glenn, Tel Aviv, January 15, 2015.
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Information operations and the exploitation of social media

Both Israel and Hamas will very soon claim victory in Gaza. In both cases the claim will be empty, the victory hollow. Both will be right, and both will be wrong.204

Esra Bulut, ‘Lessons Learned and Strategic Thinking After the Gaza Crisis’

Israel is starting to appear less as a sympathetic victim and more as a cold-hearted power bent on vengeance.205

‘NightWatch for the night of 22 July 2014’

Clausewitz listed the conquest of public opinion among the ‘three main purposes of the conduct of war’.206

Beatrice Heuser, ‘Clausewitz’s Ideas of Strategy and Victory’

Information operations are a particular challenge for nation states… one broader, less concrete, and lacking the experience that lies behind even such proven Gordian knots as urban and subterranean operations. Regardless of the justness of their cause, nation states – as the centrepieces of international affairs and controllers of the world’s legitimate conveyors of force – are generally held to a higher standard than non-state entities. The challenge is exacerbated in that the destruction and human tragedy suffered by non-combatants during a conflict is less likely to be experienced by their own populations when these state actors confront non-state opponents on other than the former’s own soil. In the case of Israel, the extent of loss and damage suffered within its borders was significantly less than that felt in Gaza, a situation that goes far in explaining why accusations of applying disproportionate force and Palestinian claims of unjustified horrors gain credence among distant audiences. It is that breadth of challenge, its somewhat amorphous character, and militaries’ relative lack of experience

with information operations that dictate the seemingly disproportionate extent of coverage it receives in this chapter.

The Second Lebanon War, Operation Cast Lead, and later operations have made the importance of effective public relations clear to Israeli leaders. Those relations are important given the significance of outside parties’ support to Israel, that of the United States government and key segments of the American population in particular being all but essential. It is therefore unsurprising that Israel has one of the most sophisticated state-sponsored information capabilities in the world. Operation Protective Edge saw the same communication of uniform message themes to Israel’s embassies worldwide as occurred at the initiation of OCL. Government organizations’ use of social media expanded dramatically in the interim between those two spikes in conflict. During OPE, the IDF routinely released information operations products in six languages over six platforms. (For comparison purposes, Al-Qassam – the military branch of Hamas – posts to social media sites in Arabic, Hebrew, and English, though its Twitter account was suspended after the posting of graphic images that included dead and injured children.)207 The primary audience targeted by the Israeli government was a constant, however: it was the population at home that held title to information operations’ primary focus. That effort was notably successful if support for the war is considered an effective metric. As was the case during Operation Cast Lead, however, the international impact of Israel’s influence efforts was less impressive. Palestinian suffering and IDF excessive use of force were themes readily adapted and sustained throughout much of the fighting in 2014 across both traditional and social media. Perhaps displeased with previous unfavourable reports, Israel reportedly denied Gaza access to those from Human Rights Watch and Amnesty International despite an earlier history of granting such admission to at least the former group during the Second Lebanon War.208 (Recall that Western media and other groups’ representatives were broadly denied substantive access to Gaza during Operation Cast Lead.)209

The complexity – and irony – inherent in the state versus non-state, Goliath versus David characterization of Israel’s conflicts with Hamas and Hezbollah was evident in the July 22, 2014 Palestinian rocket attack that struck less

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than a mile from Ben Gurion International Airport.\footnote{Yiftah S. Shapir, “Rocket Warfare in Operation Protective Edge,” in The Lessons of Operation Protective Edge, ed. Anat Kurz and Shlomo Brom, Tel Aviv: Institute for National Security Studies, 2014, end note 10, 45, and 50; and Harriet Arkell, “British Airways continues to fly to Israel despite European and US airlines including easyJet cancelling flights after rocket lands near Ben Gurion International Airport,” The Daily Mail, July 23, 2014.} That the attack was one which could potentially have caused a disaster of international consequence received little reprobation. Israel, in contrast, continued to suffer broad-based criticism from around the world, which says much regarding expectations of state behaviour during its application of force. That there were instances of IDF disproportionate use of force seems undeniable (recall the ‘Hannibal Protocol’ casualties in Rafah), but that routine Israeli efforts to reduce non-combatant casualties received so little media notice makes the consequences of applying superior military force – justified or not – only too clear. Given the likelihood of future military operations increasingly involving urban combat, the potential lessons are particularly troubling given the virtually unavoidable collateral casualties that will occur during legitimate and legal targeting. Gaza’s densely populated urban areas – areas deliberately used by Hamas and other groups given the cover and concealment provided – contrasted with the sparsely peopled regions of Israel in the immediate Gazan surrounds that were targeted by the bulk of rocket and mortar fire coming from the Strip. Once again the irony of technological superiority is evident: less accurate Gazan munitions caused relatively few Israeli casualties while state-of-the-art precision and low-yield weapons resulted in far greater losses amongst Palestinian civilians, this despite the evidence that Israel took significant steps to mitigate non-combatant loss of life. Such information operations challenges will continue to task state militaries in the future. It is crucial to remember, however, that dissimilar audiences will react to events and messages differently. Less criticised internationally, Gazan attacks ‘if anything [nonetheless] increased the Israeli populace’s support for the operation, acting as a boost rather than a brake on the government’s response’.\footnote{Raphael Cohen and Gabriel Scheinmann, “The Grim Lessons of ‘Protective Edge,’” The American Interest, August 14, 2014.}

Similarly, NBC recalled reporter Ayman Mohyeldin on July 17, 2014 a day after his report regarding four Palestinian youths killed by an Israeli strike and a subsequent posting of the boys’ family photographs on Instagram and Twitter. (Mohyeldin returned the following day after a flood of social media accused NBC of censoring its coverage.) Former IDF Spokesperson Office member Avital Leibovich posited that ‘social media is a critical tool in the arsenal of tools that any military should use’. Perhaps, but it is a blade that can cut more than one way. Without passing judgment on the impact the above personal social media postings have on impressions of media networks’ objectivity, it is clear that the activities in other than traditional mediums expand the influence of reporters known to public audiences and pose challenges to armed forces considering embedding such individuals. Similarly, armed forces and their governments are sure to find themselves having to deal with their own members whose social media messages are not in keeping with official narratives.

Those conducting state information efforts will find themselves at a disadvantage when competing with individuals or opposing groups on social media. The ubiquitous penetration of smart phones, breadth of coverage (particularly in densely populated urban areas), and lesser literacy demands on recipients forces governments to compete in the social media arena or find themselves grossly outplayed in the influence arena. Historical means of militaries communicating with audiences – leaflet drops, loudspeakers, and newspapers among them – cannot hope to reach but a fraction of a population in comparison with social media sources in many societies. Even radio and television are relatively limited given lesser penetration in many countries and individuals’ accessibility being restricted (e.g., to nonworking hours). The extent of social media impact depends on societal communication patterns in target communities. For example, The Economist noted in late 2014, ‘newspapers have only ever reached a small fraction of the [Latin American] region’s population’ while an estimated 70% of South Americans had cellular phones in 2014. Continent-wide, there were more phones than people as many in urban areas had more than one such

215 This by no means implies IO managers and intelligence personnel supporting them should not continue to determine/verify what means of communication will best reach target audiences. At the beginning of this century, for example, radio was the primary means British forces in Sierra Leone found would get messages to significant portions of the population. They in addition secured the important information that 5pm daily was the time the greatest numbers of this target audience listened to the radio. David Richards, Taking Command, London: Headline, 2014, 147-48.
apparatus. Nielson polling suggests mobile phone use is less widespread but still considerable in the Asia-Pacific region:

Asia Pacific smartphone penetration is highest in Hong Kong and Singapore at 87 percent, followed by Malaysia (80%), Australia (75%) and China (71%). Penetration in developing Asia Pacific markets, while trailing the more developed markets in the region, is gaining traction; Thailand’s smartphone penetration is at 49 percent followed by Indonesia (23%), India (18%) and the Philippines (15%). The amount of time consumers spend on their smartphones is seeing exponential growth. In Southeast Asia alone smartphone owners spent on average more than three hours per day on their smartphones in June 2013, with activities such as chat apps, social networking and entertainment activities like games and multimedia driving the highest levels of engagement. Viewing video via a smartphone is beginning to gain traction in Asia. Up-take of mobile video in developing Asia Pacific markets has been slower to gain traction, however, hovering around one in 10 consumers.

Hamas sought to take advantage of the Strip’s cell phone penetration by both communicating via a number of hash tags and providing instructions to citizens on how to post messages in support of its campaign. #GazaUnderAttack, #PrayFor Gaza, and #StopIsrael were among the former that focused on Palestinian civilian suffering. The British newspaper


218 “The Asian Mobile Consumer Decoded,” Nielson, January 14, 2014, http://www.nielsen.com/ph/en/insights/news/2014/asian-mobile-consumers.html (accessed December 25, 2014). It is unclear whether “penetration” as used in the article refers to percentage of a population with mobile phones or the number of phones in a given population. As in the case of South America, the latter would mean penetration could exceed 100% given that some users have multiple devices. It appears that the former is the case, however, as an early 2012 US Central Intelligence Agency estimate of Philippine mobile phone penetration was 78.98%. “Country Comparison—Telephones—mobile cellular per capita,” Index mundi, data accurate as of January 1, 2012, http://www.indexmundi.com/q/r.aspx?v=4010 (accessed March 20, 2015). Smart phones are not the only way populations are “connected,” of course. Tablets, computers, and more traditional means (to include word of mouth) are all ways that intelligence and information operations managers must identify and exploit as appropriate. It is a monitoring that will require frequent attention. Approximately 45% of Vietnamese have online access, for example; Vietnamese participation in social media exchanges reportedly increased by 40% in 2014 alone. “If a tree falls… The internet in Vietnam,” The Economist 415 (April 18, 2015): 23.

219 Gazan cell phone penetration was estimated at 74% as early as 2009, that despite a per capita gross domestic product of only US$1500. By 2012 penetration was just short of 150% according to the US Central Intelligence Agency. One author posited the high value might in part be explained by Palestinian parents giving their children phones to maintain contact given the frequency of violence due to the ongoing conflict with Israel. Paul C. Adams, Geographies of Media and Communications, Hoboken, NJ: Wiley-Blackwell, 2009, 56; and “Country Comparison—Telephones—mobile cellular per capita,” Index mundi, data accurate as of January 1, 2012, http://www.indexmundi.com/q/r.aspx?v=4010 (accessed March 20, 2015). The World Bank’s International Finance Corporation similarly noted, “In conflict-affected West Bank and Gaza, mobility is impeded and access to reliable mobile services is not a luxury, it is a necessity.” “IFC Investment to Improve Mobile Communications in West Bank and Gaza,” International Finance Corporation, undated, http://www.ifc.org/wps/wcm/connect/region__ext_content/regions/europe-middle+east+and+north+afirica/f0+middle+east+north+africa+and+southern+europe/news/ifc+investment+to+improve+mobile+communications+in+west+bank+and+gaza (accessed March 20, 2015).

Independent, however, reported that images from #GazaUnderAttack were in some cases from previous conflicts, to include those not involving Gaza. ‘Social media’, the paper reported, especially in its treatment of the Middle East, ‘has become a minefield of propaganda and misinformation’ while another publication observed, ‘Churchill’s claim that “a lie gets halfway around the world before the truth has got its boots on” has rarely been more apt’.

Social media audiences include government officials in addition to outsiders; an embassy representative in Israel during OPE recalled, ‘Embassy personnel lived on Twitter during Operation Protective Edge. That’s how we learned things…. That’s how you got your information’. Another source substantiates his observation, noting, ‘Foreign ministries and world leaders have flocked to social networking sites such as Twitter and Facebook in a practice generally referred to as digital diplomacy. By so doing, leaders and governments are able to communicate directly with journalists, other governments and, perhaps most importantly, foreign populations’. Another reflection, this by an Israeli analyst, was equally telling: ‘We did not predict the future, but we knew the present very well’. The implications for governments’ keeping pace with ongoing events in crisis situations and maintaining sufficient control to provide message uniformity are only too obvious: it will be an extraordinarily if not impossible task. Government social media users must be aware that there are dangers in failing to confirm even seemingly legitimate sources. The Jerusalem Post reported,

Last month, Twitter announced that another world leader had joined the world of digital diplomacy – Palestinian Authority President Mahmoud Abbas. Within hours of this statement, Abbas’s Twitter profile had attracted hundreds of Israeli followers, mainly journalists and diplomats. This is not surprising as both these groups have come to regard digital diplomacy channels as important sources of information. However, by


223 Anonymous interview with Dr. Russell W. Glenn.


225 Orit Perlov (Research Fellow, Middle East Social Network and Media Expert, Institute for National Security Studies) interview with Dr. Russell W. Glenn, Tel Aviv, January 22, 2015.
the time Abbas’s account had reached 2,000 followers, it was revealed that the account was fake.\footnote{Ilan Manor, “Why Mahmoud Abbas should join Twitter,” The Jerusalem Post 88 (January 15, 2015): 15, \url{http://www.jpost.com/Opinion/Why-Mahmoud-Abbas-should-join-Twitter-387766} (accessed January 15, 2015.)}

Whatsapp emerged as a significant journalism tool during OPE.\footnote{For more on Whatsapp, see “How it works,” Whatsapp homepage, undated, \url{https://www.whatsapp.com} (accessed March 31, 2015); and “Facebook is building an incredible moat around the future of social with Messenger and WhatsApp,” Quartz, March 30, 2015, \url{http://qz.com/370839/facebook-is-building-an-incredible-moat-around-the-future-of-social-with-messenger-and-whatsapp/} (accessed March 31, 2015). The latter has an interesting graphic showing the penetration of several iPhone applications worldwide.} Israeli national security commentator Ron Ben-Yischa recalled an instance during which he was embedded with IDF forces near Gaza. A rocket landed nearby. He turned to a military reporter and suggested they go to the impact site to inspect the results. The reporter said nothing, instead working his phone to compile various military and other feeds on Whatsapp. ‘After three minutes he had downloaded the material’, Ben-Yischa remembered. ‘After five minutes he had printed the results, and he said, “Why should we go there? I have it all here.”’\footnote{Ron Ben-Yischa (National security commentator) interview with Dr. Russell W. Glenn, Tel Aviv, January 15, 2015.} Valuable for journalism, Whatsapp’s impact is far greater than one example can demonstrate. Facebook (which bought the application for a reported US$20 billion) claims Whatsapp has 700 million active monthly users who generated or received a combined seven trillion messages in 2014, an average of nearly 1,000 per each of the planet’s inhabitants.\footnote{“Facebook is building an incredible moat around the future of social with Messenger and WhatsApp,” Quartz, March 30, 2015, \url{http://qz.com/370839/facebook-is-building-an-incredible-moat-around-the-future-of-social-with-messenger-and-whatsapp/} (accessed March 31, 2015); and “The message is the medium: Mobile services,” The Economist 414 (March 29, 2015): 61.}

Other innovative uses for various social media apps emerged during Operation Protective Edge as well, one of which could have potential force protection implications, particularly for those on static installations. The ‘Yo’ app was thought to be nothing more than a gimmick; all it did was allow an individual to send the one-word greeting of ‘Yo’ to another. It has come to serve a far more valuable service in Israel. The country developed its Red Alert real-time missile notification system following the 2012 introduction of a siren-based emergency warning system. Fearing that some might not hear the audible signal, Red Alert was an app that provided an additional alert to RedAlertIsrael followers on phones whenever a missile or rocket threatened an entire urban area, e.g., Tel Aviv. By partnering with Yo, an expanded number of individuals – those in the vicinity of Gaza in areas not covered by Red Alert, for example – can now get a ‘Yo’ signal that gives between
15 and 90 seconds warning of incoming munitions.\footnote{Alessandra Ram, “An Actually Useful Version of Yo Is Warning Israelis of Rocket Strikes,” Wired (July 16, 2014) http://www.wired.com/2014/07/an-actually-useful-version-of-yo-is-warning-israelis-of-rocket-strikes/ (accessed December 15, 2014).} So short a warning period might seem of little value, but the warning could be the difference between safety and injury in a country in which many residences have ‘safe rooms’ and the population is savvy with respect to reaction drills.\footnote{Ron Ben-Yischa notes, ‘In many cases that five seconds [warning time of incoming indirect fire] is the difference between sitting in an unprotected room or protected. By the way, the hardened rooms proved to be very effective provided you didn’t leave the window open. Also the civil defense. When you hear the sirens when on the road, simply laying down reduces chances of injury by fifty percent as explosives go up [in a cone from point of impact]’. Ron Ben-Yischa (National security commentator) interview with Dr. Russell W. Glenn, Tel Aviv, January 15, 2015. Regarding ‘leaving the window open’, safe rooms in houses and other buildings are rooms that are in daily use for other purposes (e.g., offices, bedrooms). However, they may be located in the part of a structure that maximizes protection, be reinforced to withstand attack, and (inevitably) have a sliding metal door that can be pulled shut over any window(s).} This adaptation of an existing app to security requirements suggests other social media offerings may have unexpected uses valuable to governments. The popularity of ‘Bible App’ in the United States suggests the possibility of a similar Islamic version that interested governments might make available, one providing mainstream interpretations of The Koran to counter fundamentalist corruptions.\footnote{For more on Bible App, see Nir Eyal, Hooked: How to Build Habit-Forming Products, NY: Penguin, 2014, 170-91; and “God’s Word is with you,” YouVersion, undated, https://www.bible.com/app (accessed April 1, 2015).} Such applications would find competition of various forms already awaiting them. The Islamic State of Iraq and Syria (ISIS) ‘Dawn of Glad Tidings’ Arabic language app provides anyone who has installed it with the organization’s tweets, tweets the delivery of which is designed to avoid Twitter’s spam filters. The insurgent group also uses more low-tech approaches such as having its representatives tweet designated hashtags at specified times of day.\footnote{Daveed Gartenstein-Ross, “Isis has conquered the media. It’s not doing as well on the ground: The Islamic State’s real social media skill makes commentators too willing to believe its shaky territorial claims,” The Spectator (January 10, 2015), http://www.spectator.co.uk/features/9410252/the-hype-isis/ (accessed January 25, 2015).} 

IDF difficulties in influencing other than Israeli target audiences must be considered in the broader context of international perceptions regarding Jerusalem’s government policies. The IDF repeatedly provided examples of Hamas deliberately putting civilians at risk via placement of rocket and mortar launchers, headquarters, or other installations in close proximity to civilian complexes. These were in some instances acknowledged by Western media representatives who operated under threat of deportation for violating Hamas guidelines prohibiting the showing of such positioning.\footnote{“Hamas deported journalists, spokesperson reportedly admits,” Haaretz, August 15, 2014; Lee Smith, “Hamas’s Media Strategy,” Hudson Institute, http://www.hudson.org/research/10588/hamas-s-media-strategy (accessed March 2015); and Yitzhak Benhorin, “Foreign reporters condemn Hamas’ censorship policy in Gaza,” Ynet News, August 12, 2014.} Palestinian pronouncements encouraging civilians to serve as human shields accompanied written materials dictating use of tactics likely to
result in non-combatant casualties. That such evidence garners but little international attention must in part be viewed in light of audiences’ perceptions of Israeli government policies beyond those immediately relevant to an ongoing military operation. Tolerance or promotion of settlements in East Jerusalem and the West Bank, aperiodic withholding of tax revenues from Palestinian communities, and others generate international antipathy. Policies completely out of its control thus dramatically impact IDF information operations success. It is a situation potential shared by any military. It follows that the design of information operations campaigns must account for such factors.

Just as national strategy guides military operations, so too should government information campaign plans include pre-, during, and post-operation considerations. The Israeli Institute for National Security Studies’ Hirsh Goodman’s observations regarding influence activities after Operation Cast Lead are worth quoting at length in this regard:

Though the public diplomacy machine ran smoothly before and during [Operation Cast Lead], the shocking post-war situation in Gaza was largely ignored by those responsible for Israel’s public diplomacy. Whereas during the campaign Israel’s relationship with the media was tightly controlled, on the morning after, when reporters from all over the world converged on the Gaza rubble, Israel had no convincing message that could explain the dimensions of the devastation, and no acceptable rationale for what the world perceived to be an excessive use of force and disregard for international convention…. Whereas during the campaign messages to the media were clear-cut, well documented, and prepared in advance, subsequent charges that Israel was guilty of war crimes were not met with a strong, focused, defense…. A country’s public diplomacy is judged by the end result.

The effectiveness of messages; whether before, during, or in the aftermath of an operation; are received differently depending on the viewer, listener, or reader. Jerusalem Capital Studios chief executive officer Hanani Rapoport observed that Hamas’s anti-Israel media effort had ‘no effect on the Israelis.

236 For one author’s observations in this regard, see Oded Eran, “The United States and Israel in Crossfire,” In The Lessons of Operation Protective Edge, ed. Anat Kurz and Shlomo Brom, Tel Aviv: Institute for National Security Studies, 2014, 184.
It has an effect on the rest of the world. Hamas is fighting on a remote front, a third front, that of world opinion. David is coming with a sling and Goliath is coming with tanks and artillery. [Israel is seen as] causing more collateral damage.’

That Palestinians and Israelis would be less influenced by their adversaries’ messaging is a given. The visual display of Palestinian suffering and Gazan destruction – something Israel could (fortunately for its population) not replicate – impacted ‘neutral’ audiences. Often unaware of the often less-than-savoury tactics employed in the influence competition, recipients unsurprisingly sympathized with those portrayed as the war’s victims. It is a competition that often employs ‘armies’ of well-trained yet unemployed information technology (IT)-savvy players in much of the developing world, particularly the Middle East. University-trained IT graduates, unable to find work in populations with double-digit unemployment, present a combination of talent, frustration, and ready access to the tools of their trade that bodes ill for any target of their ire.

Information Operations: Opportunities and Management

The Gaza conflict was one of the first wars to be photographed mainly by amateurs and social media platforms, allowing those images to spread far and wide at the click of a button, helping the people of Gaza win hearts and minds, and subsequently causing unprecedented outrage against Israel. In demonstrations around the world, such photos were enlarged and carried by demonstrators, demanding that their respective governments take action to halt Israel’s onslaught…. A new generation of Palestinians have come to prominence in Gaza. Articulating their message in fluent English through blogs and Twitter…. As the war progressed, it was an online battle of narratives - between heavily funded Israeli state media outlets, represented by Israeli spokespersons of the Israeli government and the army with decades of experience - versus Palestinian citizen journalists who only had their own laptops, smartphones and cameras…. The use of social media also forged connections with international media organizations who contacted Gaza residents and citizen journalists with questions and interview requests…. Social media has definitely weakened the Israeli narrative as Palestinians are able to connect directly with overseas audiences and tell the stories that they feel are important…. In hindsight, it seems that

238 Hanani Rapoport (CEO, Jerusalem Capital Studios) interview with Dr. Russell W. Glenn, Tel Aviv, January 15, 2015.
239 Orit Perlov (Research Fellow, Middle East Social Network and Media Expert, Institute for National Security Studies) interview with Dr. Russell W. Glenn, Tel Aviv, January 22, 2015.
Twitter hosted the most open and democratic discussions compared with other social media venues. People from other countries always believe such reports coming from eyewitnesses, from people who live on the ground.  

Yousef al-Helou

‘Social Media: The weapon of choice in the Gaza-Israel Conflict’

Everyone has a smart phone. The means are there already; we just need to create the platform.

Lt. Col. IDF, (Res) Avital Leibovich

As we will repeatedly see in looking at the various functional areas in this chapter, an overarching approach is essential to addressing their challenges effectively. A serving IDF colonel noted,

You need someone to manage the perception effort. It could be a J3 [operations] guy, a J5 [plans] guy, or someone separate who takes into account a holistic perspective of the issue…. It cannot be handled separately by the spokesman’s office. The current chief of staff, for example, understands he needs a perception effort, but he does not understand that he needs a perception effort assessment. He thinks perception is PR [public relations] with a little bit of PSYOP [psychological operations]. [Fortunately,] the understanding of the perception effort is maturing.

There is a tension between the need for centralized guidance in information operations and the inherently decentralized world of social media. Media representative Maria Ressa observed that governments have trouble competing in the social media arena because ‘they fear losing control – which is partly what social media is about. They succeeded in the past because of their hierarchy and processes, but these are exactly what is making them fail now’.  

Militarys and governments currently have a difficult enough time managing messages internal to their own organizations. Accepting the importance of social media, integrating it as a component of

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242 Colonel from the IDF interview with Dr. Russell W. Glenn.
government IO campaigns, and maintaining some sense of control will make herding cats seem child’s play. Certain aspects should not be questioned; the need for some extent of centralized message management across a government’s (and, ideally, a coalition’s) full scope of components is a given. That organization must also interface with those outside government who desire to support the government’s messaging. This will include many in the social media arena such as Israeli students who banded together to communicate pro-Israeli messages on various social media platforms.244 Others will attempt to maintain neutrality while providing information on competing factions; yet others will be antagonistic. The extent to which these various elements accept guidance from one or more of the competing parties’ information managers will be diverse in proportion to their numbers, but even ‘friendly’ parties can misstep. Avital Leibovich of the IDF Spokesperson Office identified two primary principles that guided her organization: ‘Never lie [and] quantity. In order to be dominant, we believe we need to be able to flood the social media’. Supportive other-than-IDF groups, those Israeli students for example, aided the latter.245 Yet those with positive intentions can also cause problems. Some Israelis leaked the names of IDF soldiers killed in an attack via social media, that along with others who were listed as killed but were in fact only wounded, messages that were passed on by others believing the information valid. Unable to control the harmful behaviour, other users sought to police the misinformation by calling on any receiving the traffic to condemn those posting it while refusing to pass the offending messages on.246 Governments finding themselves working with challenges like these might consider means of encouraging similar ‘crowd policing’ or ‘media crowd control’ procedures to deal with the inevitable instances of outside parties – whether well or ill-intentioned – disseminating false or undesirable material.

While the IDF Spokesperson Office seems to have found a good balance between timeliness of reporting and facts, there are some who concluded that material withheld went beyond the dictates of operational security. Ron Ben-Yischa recalled additional information discovered after initial reporting.

244 Israeli government representatives recruited students in the hundreds to support a hasbara or public diplomacy campaign in which participants supported the country’s operations by promoting national views and attempting to counter Palestinian information operations claims. “Gaza conflict: the social media front line,” The Week (July 18, 2014), http://www.theweek.co.uk/middle-east/59554/gaza-conflict-the-social-media-front-line (accessed December 15, 2014).


246 Anonymous interview with Dr. Russell W. Glenn.
of the highly publicized – but failed – frogmen attack on targets within Israeli territory:

There was a naval raid by Hamas. They were detected and killed. The navy actually killed three out of the five. They almost got to the kibbutz… big story. Only later, an intelligence soldier wanted to show how a nice PowerPoint briefing had been used to describe the operation. And it got to Gaza. We don’t know how; probably someone put it on their Facebook page. And in this presentation we found out that one of these frogmen was able to mount an Israeli tank, put an explosive charge on it, and run away unharmed. The charge was small; the crew almost didn’t notice, but the IDF spokesman didn’t tell us. Perhaps they forgot to tell us.²⁴⁷

The attention generated by social media players favouring an adversary can prove particularly acute for state information operations managers. These might be actual individuals operating on their own, fabricated characters designed to generate sympathy and support, or others along the spectrum of possibilities. Perhaps the best known case in this regard involved Twitter messages sent by sixteen-year old Farah Baker (who tweeted using the name Farah Gazan) during OPE. With a precocious sense of the dramatic (in one of her tweets she wrote ‘I can’t stop crying. I might die tonight.’), Baker’s following reportedly swelled from 800 to in excess of 200,000 over the course of the operation.²⁴⁸ Asked how a state information operations organization might counter such grass roots inputs, Israeli media experts agreed that it was an all but impossible task. Again quoting media executive Hanani Rapoport,

When you have a girl in Gaza reporting, you don’t need CNN. You have ‘user generated content’. [Question: Was she operating independently?] It doesn’t matter. The effect was to make public opinion and it did it…. Even if you found she was the daughter of a Hamas leader sitting in Switzerland and writing the content, it doesn’t matter. The IDF can state that two days later, but it’s too late…. She is the underdog. That is not to say Israel should give up, and it is trying to do better [but ‘reporting’ like Baker’s,] it’s instantaneous. It doesn’t cost a penny. Eventually, if it’s

²⁴⁷ Ron Ben-Yischa (National security commentator) interview with Dr. Russell W. Glenn, Tel Aviv, January 15, 2015.
good, it has the same effect as being on CNN. How many people watch any of the news broadcasts any more?\textsuperscript{249}

As in the realm of combat, the influence sphere is one of continuous action/reaction/counteraction, the major difference between the two environments perhaps being the faster tempo of adaptations in the latter. In many cases reactions or counteractions will have to be asymmetric in character, addressing a challenge indirectly in lieu of confronting it head-on. Even marginally sophisticated opponents will make effective countering difficult, however, whether asymmetric in character or otherwise. Avital Leibovich found Hamas less sophisticated with its public relations efforts than was the IDF. That did not mean they were not effective. She recalled how the group held interviews immediately outside Shiefa Hospital, the sounds of sirens providing an effective backdrop in an effort to communicate victimization and a sense of community panic.\textsuperscript{250}

Also similar to the physical battlefield, social media and information operations provide opportunities for intelligence collection in addition to their use in influencing selected audiences. Leibovich went on to observe,

Palestinians are afraid to say what they think of the Hamas regime…. We have to go online with social media to get the real sense of what Palestinians think. In 2009 during Operation Cast Lead, warehouses were full with whatever food was needed as we allowed trucks to go in during the twenty-two days of fighting. We went on social media and found out that Hamas was taking the sacks of food and selling them on the black market. People were complaining about it. So we took a drone and followed a truck. Within ten minutes, three jeeps with sirens – and only Hamas jeeps have sirens – came up and were taking the food…. This is something that clearly can smell of not being edited…. People are looking for the visual proof.\textsuperscript{251}

Orit Perlov, a young Israeli woman who speaks fluent Arabic, provides observations that encompass both keen insights and pessimism regarding the potential for state-sponsored social media campaigns’ success. Asked how countries can get their messages across on social media, Perlov

\textsuperscript{249} Hanani Rapoport (CEO, Jerusalem Capital Studios) interview with Dr. Russell W. Glenn, Tel Aviv, January 15, 2015.


concludes that government officials’ unwillingness to expose themselves or their organizations to the extent necessary to breed trust is a crippling handicap.\textsuperscript{252} Social media platforms are akin to mud wrestling. Perlov, who sometimes spent eight to fourteen hours a day on various networks with Arabs from various regional nations, echoed Maria Ressa with her observation that social media is toxic. You need to be constructive. Instead of trying to sell something, you need to know what your audience wants. Number one in any relationship is to listen and not to talk. It is something that is very difficult for state actors to accomplish. This is the galaxy for non-state actors, and that is why non-state actors are the kings and queens of social media. You need to take unsystematic people to do this work, and governments like systematic people.\textsuperscript{253}

She went on to state that in her view the types of people who are effective in social media exchanges are those most armed forces recruiters would find the opposite of preferred candidates:

[You need people] who know how to work without certainty or control. There is no right and wrong. They need to be dynamic. You need to look for people who are flexible and don’t need order. Hamas and Hezbollah are not good examples of how to use social media. ISIS is the king of social media. It’s because they took all the people who play video games…. ‘The Dawn of Glad Tidings’ and ‘Call of Islamic Duty’ games put out by ISIS took real images from Syria and put them on video games, and there is nothing more effective in influencing 16-year old boys. States want rules. The anarchist wants to work from coffee shops. They want to work only three hours a day. The system needs to be very much open; it is the end of the one size fits all. Less IQ [intelligence quotient], more EQ [emotional intelligence].\textsuperscript{254} [Question: Isn’t ISIS unhappy with some of what their social media people put out?] Yes, they wish they wouldn’t put so much information out.\textsuperscript{255}

\textsuperscript{252} Orit Perlov (Research Fellow, Middle East Social Network and Media Expert, Institute for National Security Studies) interview with Dr. Russell W. Glenn, Tel Aviv, January 22, 2015.
\textsuperscript{253} Orit Perlov (Research Fellow, Middle East Social Network and Media Expert, Institute for National Security Studies) interview with Dr. Russell W. Glenn, Tel Aviv, January 22, 2015.
\textsuperscript{254} Orit Perlov (Research Fellow, Middle East Social Network and Media Expert, Institute for National Security Studies) interview with Dr. Russell W. Glenn, Tel Aviv, January 22, 2015.
\textsuperscript{255} Orit Perlov (Research Fellow, Middle East Social Network and Media Expert, Institute for National Security Studies) interview with Dr. Russell W. Glenn, Tel Aviv, January 22, 2015.
The significant adolescent and younger male segment of the population is solidly in the profile of users among the some 83 million Arab social media users worldwide. Perlov noted that social media users tend to be middle class (a particularly influential element in some developing nation societies as evident in the effect bombing upper and middle class apartment dwellings had in bringing about Hamas’s acceptance of the final OPE ceasefire), encompassing largely those from 16 to 45 years of age in both genders. Social media is notably important to Arab women who may have no other means of expressing themselves publicly. Religion and cultural differences (other than language) may be less of a barrier to exchanges than one would think. Asked if she revealed her Israeli nationality when conversing with Arabs, Perlov responded, ‘Absolutely. I believe that honesty is critical. Any relationship requires honesty…. Absolute honesty. All the leaders of public opinion are open, put their faces forward. They are always exposed. Even the heads of terror organizations put their faces and names forward. If I cannot Google you and find something about you, there is something suspicious’.256

What of social media’s potential as an operational deception tool, not in the sense of using inaccurate or deliberately false information to sway social opinion (a situation long in progress), but rather to mislead military movements and preparations much as would deception in the traditional sense? None of the several interviewees asked knew of any such cases during Operation Protective Edge.257 That does not rule out any such future use.

**Kinetic targeting and information operations**

Outside central Gaza City, a string of businesses with no obvious links to militant activities lie in ruins after being demolished by missiles or shells. They include a plastics factory, a sponge-making plant and even the headquarters of the territory’s main fruit distribution near the northern town of Beit Hanoun, much of which has been levelled in the Israeli land invasion. A few miles north of the Alawada plant, the headquarters of the El Majd Industrial and Trading Corporation - producing cardboard boxes, cartons and plastic bags - was reduced to a heap of concrete

256 Orit Perlov (Research Fellow, Middle East Social Network and Media Expert, Institute for National Security Studies) interview with Dr. Russell W. Glenn, Tel Aviv, January 22, 2015.

257 For example, IDF Spokesperson Office representative Lt. Col. Peter Lerner did not believe Hamas would use deception in the sense of attempting to influence tactical maneuver by IDF forces. Peter Lerner (Lt. Col., IDF) Skype interview with Dr. Russell W. Glenn, March 3, 2015.
and twisted metal.... On a broader scale, some of Gaza’s biggest public infrastructure projects - left intact in previous conflicts - have been damaged beyond easy repair. The territory’s main power plant - also on Salaheddin Road, not far from the Alawada factory - went up in flames last Tuesday [July 29, 2014] after being struck by Israeli shells.\(^{258}\)

Robert Tait

“‘They want to make us dependent on aid’ – Gaza’s economy ruined by Israeli shelling”

The destruction of the luxury towers in the heart of Gaza City – al-Zafer Tower 4 in Tel al-Hawa, the Italian Compound in the Nasser neighborhood, and al-Basha Tower in western Rimal – was a campaign turning point.... These people were not from the refugee camps; they were less used to this. To see rich people running with their suitcases... not knowing where to go. They were screaming, ‘That’s enough’. It was so visual. And two hours after that they [Hamas] accepted the same terms they had earlier rejected. Hamas didn’t have the legitimacy any more to continue it.\(^{259}\)

Orit Perlov

‘The Final Countdown for Hamas’?

Physical destruction wrought by a military has information operations consequences in addition to any related to supporting combat objectives. Damage such as that described in the first of the above quotations, even if exaggerated, can cause otherwise neutral or potentially sympathetic audiences to question Israeli objectives. That there are concerns regarding such perceptions can be implied from a Jewish Institute for National Security Affairs (JINSA)-sponsored study commissioned in the aftermath of OPE.\(^{260}\)

Featuring a task force of five US general officers advised by a notable American academic, the findings of the group repeatedly emphasized Israeli

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258 Robert Tait, “‘They want to make us dependent on aid’ – Gaza’s economy ruined by Israeli shelling,” The Telegraph, August 2, 2014.


260 “2014 Gaza War Assessment: The New Face of Conflict,” Report by the Jewish Institute for National Security Affairs, March 2015, http://www.jinsa.org/gaza-assessment (accessed April 2, 2014). The study does address damage to Gazan infrastructure in instances where indirect fire systems were in close proximity to structures but fail to address instances in which such was not the case. In addition, those participating in the study too readily accepted statement in Hamas’s 1988 charter (or covenant) at face value. Analysts more familiar with Hamas recognize that the group’s practices and proclamations frequently reflect considerably greater pragmatism than strict adherence to the principles stated in that document would demonstrate. For an effective analysis of Hamas in its roles as governor, movement, and military organization, see Benedetta Berti, “Non-State Actors as Providers of Governance: The Hamas Government in Gaza between Effective Sovereignty, Centralized Authority, and Resistance,” The Middle East Journal 69 (Winter 2015): 9-31.
efforts to avoid non-combatant casualties and adherence to international law, efforts that have been ignored or underrepresented in some reporting. The panel unfortunately also failed to address difficult questions regarding issues such as the implementation of the ‘Hannibal protocol’ in Rafah or accusations of excessive targeting of non-military infrastructure as cited in the first quotation above.

The information operations implications of kinetic targeting merit consideration during target planning, particularly in instances where politically or socially sensitive facilities are involved. Mistakes are likely – the 1999 US bombing of the Chinese embassy in Belgrade being a classic example – implying that information operations campaigns should have defensive as well as offensive components. (Israeli officials stated that Gaza’s power plant, badly damaged during Operation Protective Edge, might similarly have been accidental.)

Information operations are no less complex than combat. Fully analysing the potential consequences of anticipated kinetic strikes will at times be impractical, e.g., when such attacks are in support of operations involving the immediate welfare of friendly forces. Time and circumstances will allow the weighing of those consequences in other cases. Actions that will alienate some audiences (e.g., the deliberate targeting of civilian infrastructure) might be judged necessary if essential to favourably influencing objective accomplishment (the destruction of the cited Gazan residential towers being an example). More widespread targeting of commercial and civil infrastructure might likewise be thought to have the potential to turn Gazan citizens against a governing party that perpetuates armed exchanges. Determining which targets could constitute influence decisive points individually or collectively versus those likely to spur international condemnation, generate accusations of law of war violations, or impede post-combat recovery will constitute challenges during future undertakings, particularly those involving extensive urban operations. Among the options for those planning kinetic attacks: employment of less damaging ways of neutralizing targets such as coalition use of chaff-like metal strips to render

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Iraqi power plants inoperable in lieu of destroying more expensive and difficult to replace generators.

Social media metrics

The Israeli Defence Force, which has been on Twitter since 2009, now has 286,000 followers.263

Ian Burrell

‘Israel-Gaza conflict: Social media becomes the latest battleground in Middle East aggression’

The measure generally used to gauge social media success is the number of followers. Of some value in reflecting the extent of reach, such a metric suffers in that it fails to measure effect. Granted, individuals will stop following if their interest or trust in a site wanes, but without further investigation the entity followed has no idea regarding whether a follower is pro, con, neutral, or interested only for entertainment purposes. The number of followers alone cannot measure the extent to which content influences. It is a situation akin to the US-led coalition using the amount of money distributed as a metric during the years immediately following the 2003 ouster of Saddam Hussein; the measure did not reflect the effects of the millions spent.

Nation state representatives need to develop ways of measuring which platforms, individuals, or groups are having desired information operations effects. Cyber forensics, other forms of intelligence collection and analysis, polling, and additional approaches might be a part of such measurement. Development of metrics should be organic during development of social media campaigns rather than added as an afterthought. Metrics motivate those responsible for the activities being measured, this in addition to their value as gages of effectiveness. Ignoring this can lead to wasteful behaviours or worse (those induced by measures such as dollars spent or body count being two examples). Far better to ensure information operations metrics serve both to measure effectiveness and spur actions supportive of national or coalition objectives.

Final observations regarding information operations

The IDF Spokesman’s Office was savvier in 2014 than during previous campaigns after having learned from its months of constant conflict and 2006, 2008, and 2012 major spikes in violence. Understanding the importance of sustained contact with interested audiences, Israel’s military continues to conduct information operations even during periods of lesser tension. It is worth remembering that the military is only one part of a national government, however, suggesting that there should be an overarching communications management entity responsible for all aspects of a country’s or coalition’s information management. Information operations campaigns – like those of which they are a part – should incorporate intelligence organizations to assist in identifying target audiences, determine the most effective ways to reach them, measure effectiveness, and otherwise aid in enhancing their linkage to tactical, operational, and strategic objectives. The IDF Spokesperson’s Office is responsible for messaging that targets both Israel-internal and external audiences. While it discriminates between these various consumers, there are potential dangers in not dividing responsibility along internal-external lines. Further, the office has assumed a supporting role during recent operations; some argue information should be the government’s main effort during such crises.

A military or government seeking to keep pace in the realm of social media will find itself challenged not only in staying abreast of ongoing events (much less staying ahead of them), but also in keeping up with the evolution of existing and emerging formats. Distinguishing between the next Whatsapp and those on their way to the cyber dustbin will be vital. A December 2014 report noted that Instagram (a format primarily for posting imagery) had increased its user base by 50% during the previous twelve months while the seemingly venerable Twitter experienced little change in that regard. On the other hand, IDF spokesman Lt. Col. Peter Lerner considered the longstanding Facebook “the fundamental platform…. Everything else is secondary, but to be effective you need to be active on other platforms too”. The value of various platforms will differ depending on the audiences targeted, type of material being broadcast, and ends sought (influence versus intelligence collection, for example). Future apps and platforms are

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264 Anonymous comment by IDF colonel during interview with Dr. Russell W. Glenn; and Gideon Avidor interview with Dr. Russell W. Glenn, Negev Desert, January 17, 2015.
sure to complicate operations security and intelligence collection efforts as developers provide greater anonymity to users. ISIS begins its recruiting efforts in the realm of open media, thereafter inviting the interested into less penetrable social media platforms that conceal the identity of users or provide encryption capabilities. Users may discriminate what they post depending on perceptions of anonymity. Hanani Rapoport observed, ‘I would allow myself to be more outspoken on Instagram than on Facebook. It is more private in a way. For example, if you look at my Instagram account, I posted pictures I took of demonstrations. I would put the same picture on Facebook, but I would allow myself to be less politically correct [on Instagram] because I feel less exposed’.267

Though social media is very well established and rapidly evolving in the private sector, governments – and in particular militaries – are relative neophytes when it comes to employing its platforms. That many non-state actors have outmanoeuvred state players in the traditional media sphere over the past few decades is widely accepted. Still, nation states largely manage to hold their own. The same cannot be said in the social media arena. Most countries are flying information operations biplanes in an environment dominated by jet aircraft. Creating and adequately funding national central management organizations to guide military and other government entities’ social media initiatives would seem to be a step in the right direction. (Lacking such creation, armed forces might look to at least developing joint oversight within departments of defence.) Such management bodies might be designed along functional rather than organizational/departmental lines such that information operations for domestic consumption would be handled by one division while educational, propaganda, wartime misinformation, and intelligence collection are managed by another.

267 Hanani Rapoport (CEO, Jerusalem Capital Studios) interview with Dr. Russell W. Glenn, Tel Aviv, January 15, 2015.
Command and control/Leadership

During Operation Protective Edge...the army weekly magazine *Bamachaneh* revealed a full 44 percent of the 64 dead soldiers were killed while in command positions. Additionally, the magazine reported, one out of every five battalion and brigade commanders fighting on the ground in Gaza was wounded during the 18 days of Operation Protective Edge’s ground phase.268

Mitch Ginsburg
‘The perils of Israel’s “Follow Me!” ethos’

The last operation surprised everybody in that it was unprecedented in length, intensity, and the capabilities of the armed groups in Gaza. I think the nature of warfare qualitatively changed in comparison to those operations earlier. We are not speaking about the same levels of risk for our people any longer. We have to rethink what are the risks we are willing to take.269

Anonymous interview with aid provider

The biggest lesson I learned in this job is that it is a lot easier to shoot at people than talk with them.270

Oren Haasz (Lt. Col., IDF)

As noted in the above discussion of urban operations during Operation Protective Edge, those in IDF leadership positions tended to be farther forward than during the Second Lebanon War eight years before. Command and control issues continued to challenge nonetheless, urbanization and subterranean features playing no small part in those difficulties. Coordination with NGO and IGO representatives additionally complicated control; while progress seems to have been made in this arena since Operation Cast Lead, it remains a source of some frustration for all involved. A significant part of the problem involved coordination with Palestinian aid organizations that cooperated with or were effectively subcontractors working with international NGO representatives. Knowing the ground and being known by the local citizenry means indigenous aid groups are often the de facto first

269 Anonymous interview with Dr. Russell W. Glenn.
270 Oren Haasz (Lt. Col., IDF; Deputy Head of Gaza CLA, COGAT) interview with Dr. Russell W. Glenn, Erez Crossing, Israel, January 21, 2015. Must clear through COGAT.
responders during hostilities. Similarly, it is these organizations that can more effectively identify key individuals needed to complete repairs on damaged infrastructure. However, in Gaza such groups frequently lack the means to directly coordinate their activities with the IDF. There representatives therefore turn to international colleagues to reduce the chances of being engaged by Israeli forces (a real risk given Palestinian combatants use of ambulances for military purposes and other violations of international law). Post-OPE meetings between aid groups, COGAT, and the Civil Liaison Administration (CLA, that portion of COGAT responsible for administering checkpoints between Israel and Gaza and otherwise managing the parent organization’s liaison with Palestinians) have been scheduled in the aftermath of Operation Protective Edge in an effort to further improve future synchronization practices.271

Danger of injury or death also applied to members of international aid organizations, some of which have a permanent or semi-permanent presence in the Strip. As noted in the second quote above, the intensity and duration of fighting during Operation Protective Edge was unprecedented, the result being that such groups found it necessary to in part or completely pull their representatives out of Gaza. Such departures were ill received by those staying behind, that notably so amongst groups that had come to depend on the outsiders. Consequences included both a loss of legitimacy and, more troubling, threats of physical retribution against the departing.272

COGAT understood the benefits of working with outside aid organizations, whether components of the United Nations, the International Committee of the Red Cross, or others. While COGAT and its CLA representatives acted as the go-between with NGOs or IGOs and IDF units and facilitated their entry into Gaza, the coordination process continued to be time consuming. It remained cumbersome despite some improvement since Operation Cast Lead. As described by one interviewee, a Gazan family with a member injured or otherwise in need of urgent care would call ‘101’ (equivalent of Australia’s ‘000’ or ‘911’ in the US) to connect them with the Palestinian Red Crescent Society (PRCS). If unable to handle the issue itself, the PRCS could then call the local International Committee of the Red Cross (ICRC) delegate (though at times a call might go directly to the ICRC representative, bypassing the PRCS). The ICRC delegate would in turn contact the CLA,

271 Oren Haasz (Lt. Col., IDF; Deputy Head of Gaza CLA, COGAT) interview with Dr. Russell W. Glenn, Erez Crossing, Israel, January 21, 2015; and anonymous interview with Dr. Russell W. Glenn.
272 Anonymous interview with Dr. Russell W. Glenn.
a liaison officer from which would get in touch with the operations section of the unit controlling the relevant terrain. That headquarters element would then have to coordinate with the appropriate tactical unit(s) on the ground. Altogether, the sometimes took up to twenty-four hours (virtually the same duration as was the case during Operation Cast Lead).\footnote{Anonymous interview with Dr. Russell W. Glenn; and Oren Haasz (Lt. Col., IDF; Deputy Head of Gaza CLA, COGAT) interview with Dr. Russell W. Glenn, Erez Crossing, Israel, January 21, 2015.} While a direct link between a NGO/IGO and IDF unit headquarters would potentially speed the process, the tempo of activities in tactical operations centres is such that the filtering provided by the CLA is likely essential. There are nonetheless calls from the aid community to permit such a direct link given the obvious consequences of so lengthy a process on non-combatant welfare. CLA leadership is aware of the issue. The deputy commander of that organization, Lt. Col. Oren Haasz, noted that during Operation Cast Lead, Red Crescent ‘drivers gave us their phone numbers. This time they did not. I do not know why. Maybe Hamas told them not to’. Haasz went on to observe that the IDF provided UN and ICRC representatives with a joint language map (similar to what was done during OCL) so that all three organizations could coordinate using the same reference.\footnote{Oren Haasz (Lt. Col., IDF; Deputy Head of Gaza CLA, COGAT) interview with Dr. Russell W. Glenn, Erez Crossing, Israel, January 21, 2015.} These challenges are further complicated in that there exists no overarching capability to orchestrate the activities of all aid providers. It is impractical to expect the IDF to provide such a capability; it is also questionable whether some such organizations would agree to such management given their insistence on autonomy (the dangers of operating in a combat zone notwithstanding). An alternative adapted by coalition forces in Iraq was creation of civil-military coordination centres (CMOCs) where military, NGO, IGO, and other relevant representatives came together to identify non-combatant population requirements and more or less formally coordinate their activities.\footnote{The need for better coordination of NGO and IGO organizations and employment of CMOCs in Iraq receives further attention in Glenn, Russell W., Band of Brothers or Dysfunctional Family? A Military Perspective on Coalition and Alliance Challenges During Stability Operations, Santa Monica, CA: RAND, 2011, http://www.rand.org/pubs/monographs/MG903.html (accessed May 7, 2015).} The effectiveness of such centres is enhanced when aid providers take it upon themselves to form ‘coalitions’ with a designated representative for several organizations streamlining activities within member organizations, thereafter coordinating their intentions with the military. While CLA did have a joint coordination room at its headquarters in which ICRC and UNRWA representatives could work with IDF representatives (somewhat
replicating a CMOC-type capability), the aid community has thus far not achieved this macro level oversight for aid management.276

Support provided by aid organizations varied significantly in quality. Lt. Col. Haasz found the long-time Gaza resident United Nations Relief and Works Agency (UNRWA) capable and flexible (particularly notable in light of post-OCL accusations that the organization had failed to address non-refugee segments of the community).277 Though initially focused exclusively on the Strip’s refugee community, organization leaders expanded their support to all needing aid when it became clear this was essential to non-combatant welfare. Observing from CLA headquarters, Haasz concluded that UNRWA representatives were ‘the ones that prevented the streets from collapsing into a real humanitarian crisis’.278 The ICRC’s willingness to take on coordination of infrastructure repair in Gaza was commendable, but in the CLA representative’s view the organisation’s limited numbers and inexperienced representatives meant the undertaking did not go well until the IDF coordinated directly with Palestinians who assumed responsibility.279 Recognizing that synchronizing aid organization objectives and activities with its own remains an unmet challenge, Lt. Col. Haasz plotted the IDF’s way ahead:

We know which organizations were more efficient during Operation Protective Edge and we will make better connections with them so as to be more effective next time around. And we will try to make agreements with individuals in Gaza, like medical personnel. The long cycle of coordination is a very, very big problem. We will try to establish

276 Oren Haasz (Lt. Col., IDF; Deputy Head of Gaza CLA, COGAT) interview with Dr. Russell W. Glenn, Erez Crossing, Israel, January 21, 2015. Lt. Col. Haasz further noted that the CLA “received information on the movement of UN organizations and NGOs inside the strip and coordinated their movements. During Operation Protective Edge, over 500 coordination requests were received [about ten a day]. These included efforts to evacuate wounded safely and repair infrastructure”. He went on to observe that although there was no overarching NGO/IGO coordination mechanism, the head of UNRWA in Gaza – Robert Turner – eased the liaison and synchronization burden to some extent by assuming the role as coordinator for all United Nations organizations.


278 Oren Haasz (Lt. Col., IDF; Deputy Head of Gaza CLA, COGAT) interview with Dr. Russell W. Glenn, Erez Crossing, Israel, January 21, 2015.

279 Oren Haasz (Lt. Col., IDF; Deputy Head of Gaza CLA, COGAT) interview with Dr. Russell W. Glenn, Erez Crossing, Israel, January 21, 2015.
procedures with representative of power and water infrastructure to coordinate with them directly.\textsuperscript{280}

It would be natural to question why Israeli leaders did not take more positive steps to provide services where Hamas or other opponents failed to do so, that in an effort to alter negative perceptions of Israeli intentions. The failure of an IDF clinic is telling in this regard. Foreseeing the likelihood of illness and injuries amongst Palestinian non-combatants, Israel’s military established a clinic at the Erez checkpoint to serve those needing medical care during the war. Military personnel disseminated word of its availability. ‘That clinic was pretty much empty’, an observer noted, believing the cause was either because Hamas leaders directed that civilians not use the facility or due to Palestinian reticence to do so. (Haasz noted, however, ‘Ironically, a lot of high Hamas officials sent their people to hospitals in Israel’.)\textsuperscript{281} As reflected with its immediately re-establishing policing and other capabilities upon cessation of OPE hostilities, Hamas is well aware of the impact provision of vital services can have on a population.

\section*{Command and control at the sharp end}

The IDF will make several adjustments to C\textsuperscript{2} in the aftermath of OPE. Its artillery corps will significantly boost representation in infantry units. Infantry battalions had a single fire control officer during the campaign; in the future, the artillery will field ‘firepower attack and assistance teams’ with every such unit. The teams responsibilities will include calling for and coordinating air (both fixed and rotary wing) and ground fires, the objective in part being an increase in the number of infantry battalion fire support missions that can be run simultaneously.\textsuperscript{282} The latter will potentially include \textit{Tamuz} surface-to-surface guided missile engagements. (One source describes \textit{Tamuz}, or \textit{Tammuz}, as ‘an electro-optical rocket capable of transmitting photos mid-flight, tracking the target and changing the flight accordingly, all with the help of wireless communication’.)\textsuperscript{283}

Targeting was a notably important component of command and control. CLA acted as the conduit for information regarding the locations of UNRWA

\textsuperscript{280} Oren Haasz (Lt. Col., IDF; Deputy Head of Gaza CLA, COGAT) interview with Dr. Russell W. Glenn, Erez Crossing, Israel, January 21, 2015.

\textsuperscript{281} Anonymous interview with Dr. Russell W. Glenn; and Oren Haasz (Lt. Col., IDF; Deputy Head of Gaza CLA, COGAT) interview with Dr. Russell W. Glenn, Erez Crossing, Israel, January 21, 2015.

\textsuperscript{282} Yaakov Lappin, “IDF says artillery assistance crews for infantry battalions will increase effectiveness,” \textit{The Jerusalem Post} 88 (January 22, 2015): 2.

and other aid organizations in the Strip. As CLA’s deputy commander confirmed that problems arose given adversaries locating launch systems in proximity to these sites:

We received information about international organization sites, sensitive sites that we did not want to strike. UNRWA would tell us where people were in their schools or wherever. We gave this to IDF intelligence and they told units where not to hit. But then Hamas sometimes put rocket launchers next to these sites…. It took a lot of time to coordinate how not to hit them. We also did a lot of checking with people in hospitals and clinics. The air force attacked a hospital in Sajaya that was empty but Hamas was using it to fire rockets. We made a call to the hospital manager to make sure it was empty before the strike.284

The IDF ‘Digital Army Program’ (DAP) command and control system

I think it worked exceptionally. Operation Cast Lead was the beginning of introducing this system into the IDF ground forces, but Operation Protective Edge was its first large-scale employment. The system worked very well. Operation Protective Edge was the battle-proofing of the system, a real test. I am sure there are improvements to be made, but that is always the case with any system.285

Brig. Gen (IDF) Meir Finkel

Drawing technology lessons from Israeli experiences has always demanded a bit of care. The Merkava tank is a prime example; the fielding of the Namer armoured personnel carrier provides another. These very heavy, purpose-built systems are an exceptional fit to IDF requirements but would be unsuitable to a force…that must deploy its equipment worldwide.286-

Dr. Russell W. Glenn

Glory Restored?

Elbit’s TORC²H C² system was a primary component of the IDF’s Digital Army Program (DAP, known in the IDF as Masua) during OPE. Manufacturer capabilities touted include a digital map showing the location of friendly

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284 Oren Haasz (Lt. Col., IDF; Deputy Head of Gaza CLA, COGAT) interview with Dr. Russell W. Glenn, Erez Crossing, Israel, January 21, 2015.
285 Meir Finkel (BG, Head of the IDF Dado Center for Interdisciplinary Thinking) interview with Dr. Russell W. Glenn, Tel Aviv, January 18, 2015.
and enemy forces and reduced physical, thermal, and electromagnetic signatures thanks in part to its use of remote-controlled radio transmitters.287 Active duty units reportedly had the system down to company level during Operation Protective Edge with further fielding – to include that to reserve units – planned for the future. Provisioning has been done in a top-down manner with division command posts and select other unit types first receiving DAP, e.g., armour units had it during Operation Cast Lead in late 2008 and early 2009 though the infantry did not at that point (which created some friction when those in the former had better situational awareness than their accompanying foot soldiers).288 Confidence in system performance influenced the previously mentioned willingness to significantly reduce danger close distances for air and artillery engagements in 2014 (from the 1,000 metres once considered acceptable to engagements at 250 metres or less). There were no resultant friendly force casualties.289 (Though DAP is an army program, IAF air liaison officers are equipped with the system.) Fire control was further enhanced by collocating air and artillery liaison personnel in headquarters and the assignment of IAF attack helicopter wings to ground combat brigades, thus providing direct air-ground links as had been done during Operation Cast Lead. However, clearance for IAF danger close strikes reportedly came only after an air liaison officer at brigade or battalion requested support through an air control desk remote from the battlefield, a procedure possible due to the concise nature of the operational theatre.290

Reports from military and civilian representatives regarding DAP performance during Operation Protective Edge were generally favourable. However, one anonymous commenter stated that there were cases in which criticisms or suggestions for improvements were removed from draft OPE after-action reports. Assignment of reservists from commercial sector military equipment providers offered benefits during OPE, the rapid addressing of a system shortfall as mentioned previously being one. The anonymous source expressed concern that some representing the technology sector influenced 287 Yaakov Lappin, “Elbit wins $117 million contract to supply IDF with C4I systems,” The Jerusalem Post 88 (January 16, 2015): 16; and “Zayad/Israel’s Digital Army Program update,” Elbit Systems update provided to Defence Update in September 2005 as presented in issue 3 (2005), http://defense-update.com/products/z/zayad-update.htm (accessed April 2, 2015).
288 Gideon Avidor (BG, IDF, res.) interview with Dr. Russell W. Glenn, Rehovot, Israel, January 20, 2015; and anonymous interview with Dr. Russell W. Glenn.
289 Anonymous interview with Dr. Russell W. Glenn; and Ron Ben-Yischa interview with Dr. Russell W. Glenn, Tel Aviv, January 15, 2015.
290 Gideon Avidor interview with Dr. Russell W. Glenn, Negev Desert, January 17, 2015; and Asaf Agmon (BG, IAF, retired; Chief Executive Officer, The Fisher Brothers Institute for Air & Space Strategic Studies) interview with Dr. Russell W. Glenn, Herzliya, Israel, January 19, 2015.
removal of negative observations regarding select systems’ performance.291 Another observer believed that the IDF implements lessons learned more effectively than any other military in the world in part because of this direct link between industry and armed forces.292 (The IDF also had lessons learned representatives assigned at brigade level during operations in 2014. Engineers were in particular cited for their effectiveness in disseminating lessons to peers in units other than their own.)293

Multi-front or more dispersed operations would present C² challenges of a scope and intensity not recently experienced by the IDF under wartime conditions.294 The observation should be taken into account during any consideration of command and control procedures, training, lessons, or technological capabilities other nations might undertake when considering operations during OPE. Brig. Gen (IAF, ret) Asaf Agmon reiterated that though the operational commander during Operation Protective Edge was the leader of Southern Command, joint operations were controlled from Tel Aviv, a situation rarely comparable to those faced by nations operating at greater distances from their capitals or whose theatres are larger than found during the very concentrated conditions characterising Operation Protective Edge.295 The limited penetration of Gazan territory and corresponding parameters under which command and control was tested in urban areas further suggests that OPE may not have not fully tested C² equipment or procedures that might be encountered during other armed forces’ subterranean operations and those in built-up areas.

### Intelligence

What brings tactics and strategy together much more than before is information. In the IDF, in Hebrew, we call it the perception effort. I think it is much more an intelligence effort than an information effort. Information is the means of influencing perceptions. After you established

291 Anonymous interview with Dr. Russell W. Glenn. The same source cited two possible reasons reservists from defence industry providers might encourage removal of negative comments regarding their companies’ systems: (1) the reservists’ greater familiarity with the systems allowed them to explain that shortfalls were perhaps due less to operational shortfalls than to inadequate operator training or lack of familiarity, or (2) concerns regarding how negative observations might impact their companies’ welfare.

292 Anonymous interview with Dr. Russell W. Glenn.

293 Meir Finkel (BG, Head of the IDF Dado Center for Interdisciplinary Thinking) interview with Dr. Russell W. Glenn, Tel Aviv, January 18, 2015.

294 Asaf Agmon (BG, IAF, retired; Chief Executive Officer, The Fisher Brothers Institute for Air & Space Strategic Studies) interview with Dr. Russell W. Glenn, Herzliya, Israel, January 19, 2015.

295 Asaf Agmon (BG, IAF, retired; Chief Executive Officer, The Fisher Brothers Institute for Air & Space Strategic Studies) interview with Dr. Russell W. Glenn, Herzliya, Israel, January 19, 2015.
the strategic objective, once you have some kind of understanding between strategy and commanders in the field, you have to deal with the perception effort. At this point you can make your operational decisions. Military commanders in the IDF, after they have the strategic aim, they still think that military activities are about operations. They cannot understand that today you cannot act conduct operational activities before considering the perception effort. The IO types are supplementary to the operational activities, and that is a big mistake.\footnote{Colonel from the IDF interview with Dr. Russell W. Glenn.}

An IDF colonel

Hamas adapts. They tried using frogmen, UAVs, other new approaches, but they were neutralized at every turn. ‘Israel’s intelligence capability is unprecedented’, but then ‘they don’t have to go and fight in Afghanistan today and someplace else tomorrow’.\footnote{Anonymous interview with Dr. Russell W. Glenn.}

Anonymous

The same individual speaking the words in the first quotation above provided details regarding what sort of intelligence – and expertise more generally – was believed essential in constructing an effective influence campaign. Knowledge of the military perspective alone is insufficient. Those designing an information operations undertaking – military or otherwise – must ‘know what perceptions exist outside the military. Any strategic consultant to a US presidential candidate knows how to handle perceptions much better than any general’, he observed, going on to make an insightful comparison between armed forces’ use of technologists as described in the previous section and perception managers:

You have to import a civilian professional into the military. One of the reasons our militaries are so proficient technologically is that they have done well in bringing the technology experts into the military realm. Air force reservists came into the attacking cells of the air force during Operation Protective Edge. [A problem with one of the new systems was described to one of them.] He identified the problem and four days later his industry supplied a solution to the problem. This is what we need to accomplish in the perception effort.\footnote{Colonel from the IDF interview with Dr. Russell W. Glenn.}

\footnotesize{296 Colonel from the IDF interview with Dr. Russell W. Glenn.  
297 Anonymous interview with Dr. Russell W. Glenn.  
298 Colonel from the IDF interview with Dr. Russell W. Glenn.}
The IDF Spokesperson’s Office ‘worked very closely with intelligence’, in the words of former office representative Lieutenant Colonel (IDF, Res) Avital Leibovich. Intelligence informed their office’s efforts – efforts running 24-7 even during what Leibovich called ‘normal’ periods (in contrast to ‘emergency’ times). These demands on intelligence sections are unlike those more traditional. In addition to determining key social nodes in target audiences (i.e., those individuals or groups the views of which will impact significant or much wider portions of a population), good intelligence will assist in identifying:

- The most effective means of getting messages out (Television? Newspapers? Radio? Social media? Internet? Email?)
- Which sub-element of the above reaches desired social targets (Twitter? Facebook? AM, FM, or shortwave radio? Comic book, newspaper, or poster format for print media? Video games?)
- What platforms do adversaries have available to them, to include those out of the mainstream (e.g., ISIS created its own social media network after Facebook and Twitter took steps to police the insurgent group’s messages)
- What platforms are proving effective for adversary groups to recruit, inform, or otherwise communicate with audiences of concern to friendly governments? (ISIS uses YouTube, Flickr, and other sites to provide images of its operations and inspire support while Facebook, Instagram, and Twitter are among those used by group members to communicate with those they hope to recruit. As alluded to earlier, potential recruits desiring more information can participate in conversations with ISIS members via apps like Ask.FM on which discussions are anonymous. Beyond Ask.FM, there are other social media networks, Surespot and Kik for example, that provide for encrypted direct communications between users. The extent of the intelligence challenge can in part be understood by a report that ISIS alone uses a minimum of 46,000 Twitter accounts, this representing usage on only one of the platforms employed by the group. Some networks such as Diaspora deliberately do not screen content in the alleged service of information freedom and privacy, complicating interdiction of particularly undesirable information.)


Other apps such as Secret, Whisper, and Yik Yak allow a sender to anonymously pass material via text messages or other means, making validation of the content or determination of the original source difficult if not impossible. Telegram is particularly notable in this regard given its robust encryption. Another, Firechat, avoids cellular service altogether via direct phone-to-phone communications.

- What message content offers the greatest likelihood of success?
- What language(s) is spoken by key influencers? Can those individuals read or must messages be in spoken or picture formats?
- What must the influencer avoid, e.g., what images, words, acronyms, or other aspects of communications are offensive or miscommunicate? An example is U.S. President George W. Bush’s ‘hook ‘em horns’ hand gesture used in 2005 that was found disturbing by some audiences.

Technology observations

Counterfire

All together, in the 14 years since the first rocket attack from Gaza in 2001 till today (February 2015), approximately 23,000 rockets and mortar bombs have been fired into Israel killing approximately 45 Israeli civilians and wounding a couple of thousand.... Then, on 7 July 2014, they escalated dramatically. On that one day they fired 134 rockets and mortar bombs. That night the Israeli government decided to respond with Operation ‘Protective Edge’. Eado Hecht

‘The Tunnels in Gaza’

Short-range rocket and mortar threats dominated indirect fire during Operation Protective Edge. Israelis with twenty kilometres of Gaza suffered sixty per cent of Palestinian attacks; those within forty kilometres were

303 "The message is the medium: Mobile services," The Economist 414 (March 29, 2015): 61.
within range of 92% of the strikes. Of 2,622 munitions (rockets, mortars, or missiles) fired from Gaza during OPE through July 2014, only 181 with a range of up to 89 kilometres and 32 with a greater range reached northern Israel, Tel Aviv, Jerusalem, Hadera, or the Negev. (See Figure 4.1 for the approximate ranges of specific weapons systems and portions of Israel under threat from each.)

**Figure 4.1: Threat Missile and Rocket Ranges for Systems fired from Gaza or Southern Lebanon**

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Israel had six Iron Dome batteries fielded in early July 2014 but expedited fielding of additional systems. By the sixteenth of that month another three were added to the country’s counterfire defences.\textsuperscript{309} The system relies on radar and control systems that together determine where a rocket or missile is going to land, thereby determining whether designated protective areas are at risk. (Iron Dome is not effective against mortars.) If not, Iron Dome does not engage. If so, the control system calculates where to engage so that the threat is destroyed without resultant debris posing undue damage risk. Though the IDF expected Gazan threat organizations would attempt to overwhelm Iron Dome by firing barrages of munitions, efforts in that regard appeared to demonstrate that Hamas and other groups were incapable of synchronizing efforts on that scale.\textsuperscript{310} The system did interdict five weapons fired at Tel Aviv. An additional three reached the periphery of Jerusalem, demonstrating ranges not previously confronted by the IDF.\textsuperscript{311} Whether or not indirect fire was indeed a primary reason for Israel initiating OPE, the risks to population and infrastructure and military commitment to interdiction were considerable.

As was the case in the aftermath of previous Israeli conflicts, there are those sceptical of the performance claims made on behalf of the country’s missile defence systems. While Israeli defence representatives claimed a nearly 90\% success rate for Iron Dome, Massachusetts Institute of Technology professor Theodore A. Postol posited that Iron Dome’s interception success rate might have been five percent or less in 2012. He later concluded ‘that the performance of Iron Dome has not improved’ during Operation Protective Edge though that evaluation was based on intermediate performance data. Another estimate by a Tesla Laboratories engineer in the United States was more favourable when looking at system performance in 2012, though it too cited success rates of only 30-40\%. Regardless of the actual statistics, the fielding of the system seems to have been successful from the political perspective of reassuring the Israeli public regarding the system’s protective capabilities.\textsuperscript{312} The information operations impact of indirect fire attacks against Israel may be another reason the country


\textsuperscript{311} Ban Ki-moon, “Secretary-General’s remarks to the Security Council [as delivered],” Tel Aviv, Israel, November 21, 2012.

is willing to invest so heavily in counterfire capabilities. In the words of one analyst:

The 2006 Israeli-Hezbollah war showed the ability of prolonged rocket fire to shape the optics of the war, public opinion in the Arab world, and morale in Israel. Iron Dome seemingly erodes the ability groups opposed to Israel to inflict attacks that could qualify as successes. It also forces these groups in the Palestinian Territories and Hezbollah in Lebanon to re-evaluate their tactics and strategies in their battle with Israel.313

In addition to Iron Dome – which is a short-range anti-missile system developed by Israeli manufacturer Rafael and financed to a considerable extent by nearly $1 billion in US defence appropriations since 2011,314 the US and Israel are also working together in developing David’s Sling (a medium range capability also known as ‘Magic Wand’) and the Arrow III wide-area theatre missile defence system.315 Given Iron Dome’s inability to defend against mortars (and, by some reports, very short-range rockets), the IDF is additionally looking toward fielding Iron Beam, a system that would use lasers to destroy these limited-reach threats.316 Israel’s interest in the several complementary systems is unsurprising given both the threat from Gaza and that from Hezbollah. The latter’s capabilities reportedly number over 100,000 of all types, are more accurate, carry larger payloads, and have ranges allowing them to reach all parts of Israel.317

Armed forces contemplating purchase or development of systems similar to Iron Dome or others mentioned above would naturally have to consider any missile defence capability’s specific operational profiles. For example, one interviewee noted that Iron Dome is less suitable for forward operating

base defence given its lack of a 360-degree acquisition and engagement profile; it is ‘forward looking’ in design, meaning that multiple systems might be necessary to protect installations under conditions in which a single multi-directional capability could otherwise suffice.\textsuperscript{318}

As we will discuss further in the closing sections of this study, successful counterfire (or perceptions that such counters are effective) also feed perpetuation of the action/reaction/counteraction cycle that has been particularly evident during Israel’s extended period of conflict. Given the apparent success of Iron Dome in the wars immediately preceding OPE, transition to greater Hamas reliance on subterranean methods of attack is unsurprising. Further adaptations by various opponents – and other interested parties such as Hezbollah to the north – are assured. Determining the nature of those adjustments will prove a challenge. Solutions to any such adaptations will logically lie in the realm of layered and complementary defence systems and procedures, e.g., a mix of various counterfire capabilities and evacuation or provision of shelters for the most exposed portions of Israel’s non-combatant population.

**Technology: Manned aircraft or UAVs?**

Aviation experts were asked why the IAF did not rely entirely on unmanned platforms such as Predator when attacking targets in Gaza. A somewhat lengthy quote from the Chief Executive Officer of Israel’s Fisher Institute for Air & Space Strategic Studies addresses the issue effectively:

> There was some criticism of using small bombs, which are more expensive and [of which we have limited stockpiles]. You must calculate your inventory very well in order to keep the smart bombs and use them only for targets on which they are required. We found many people asking why we need manned aircraft when we can do everything with Predator and other UAVs. So far there is no UAV that can take a one-ton bomb and do the type of attacks you need to conduct. Predator is very good for pinpoint operations, but when you want to use larger bombs, you need the fighters. This is one of the conclusions we made here. Why buy the F-35 [manned fighter aircraft] when UAVs can do it in the future? I do not believe these future UAVs will be here very soon and when they are available, I believe they will be as expensive as the F-35.\textsuperscript{319}

\textsuperscript{318} Anonymous interview with Dr. Russell W. Glenn.

\textsuperscript{319} Asaf Agmon (BG, IAF, retired; Chief Executive Officer, The Fisher Institute for Air & Space Strategic Studies) interview with Dr. Russell W. Glenn, Herzliya, Israel, January 19, 2015.
Force Protection

Avoidance of fratricide in built-up areas is as much a command and control, training, intelligence, and leadership challenge as a technological one. The simple truth is that fighting in densely populated, ‘close’ terrain is extraordinarily difficult. Despite the wise policy of avoiding Qassam urban fields of fire and bobby-trapped buildings to the extent possible, the IDF suffered multiple fratricide incidents [during Operation Cast Lead], a testament to the complexity of demands placed on leaders and led alike. Anti-fratricide remains an area calling for improvements.320

Dr. Russell W. Glenn

Glory Restored?

Some of our soldier casualties near the borders were because they did not take the proper force protection actions. Some of the logistics support units were within mortar range when they did not need to be. Others were within range and failed to wear protective vests or helmets, purely a matter of operational failure. It’s silly to lose soldiers in this kind of situation.321

BG (IAF, retired) Asaf Agmon

Force protection in the physical sense presented no particularly new problems in 2014 but rather reinforced the importance of lessons learned and lost only to be relearned at harsh expense. Notably, fratricide during urban operations continued to pose notable difficulties, though the location identification capabilities of the DAP C² system was thought to have helped in reducing such events at battalion level and above. (Recall that the system had not been fielded below company echelon at the time of Operation Protective Edge.) The successful Hamas attack against a strong-point border tower that resulted in five Israeli soldiers killed was reportedly as much attributable to poor security practices as attacker prowess.322 Though additional details were not available to this author at the time of writing, the loss of seven IDF soldiers in conjunction with the attack against an inoperable M113 appears to have at least in part been due to a failure to deploy personnel out of the vehicle in a manner conducive to perimeter

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321 Asaf Agmon (BG, IAF, retired; Chief Executive Officer, The Fisher Institute for Air & Space Strategic Studies) interview with Dr. Russell W. Glenn, Herzliya, Israel, January 19, 2015.
322 Gideon Avidor interview with Dr. Russell W. Glenn, Negev Desert, January 17, 2015.
security. In short, there is evidence that a significant proportion of IDF ground force losses were influenced by training and/or leadership shortfalls in addition to environmental conditions such as urbanization.

IDF soldiers in Gaza confronted threats that would be familiar to Australian Army veterans of combat in Afghanistan or Iraq. These include adversary use of passageways within or beneath buildings to infiltrate behind attackers, anti-vehicular IEDs, booby-trapped buildings, suicide bombers, and concealed hides. Civilians – to include children – were on several occasions sent to lure soldiers into explosives-rigged structures by offering information allegedly regarding weapons cache or tunnel entrance locations. In another instance, three elderly men rigged with suicide vests approached Israeli personnel. An explosives-packing donkey was sent walking toward a unit in a third.323 Similar tactics would likewise be familiar to British personnel who have served Northern Ireland tours and other states’ armed forces, demonstrating the dissemination of such tactics to potential adversaries virtually worldwide.

The loss of seven soldiers during the above-mentioned M113 APC attack serves to validate conclusions that thin-skinned vehicles have no place on or near today’s urban battlefields. Israel’s military leaders have long understood this (thus suggesting use of the M113 reflects either a poor leader decision or shortfall in equipment availability). The fielding of APCs constructed from captured enemy armour in previous conflicts and the use of the 50-ton Namer fielded in 2008, an infantry fighting vehicle (IFV) based on the Merkava main battle tank chassis, are both reflective of this realization.324 [Though promoted as an IFV, BG Gideon Avidor considers the Namer an APC, a likely a more accurate description given the design’s emphasis on survivability and light armament (12.7mm and 7.62mm machine guns complemented by a 60mm mortar)]. IDF confidence in the protective capabilities of the vehicle and its employment on the battlefield are evident in Avidor’s recalling an episode ‘in the Gazan neighbourhood of Sajaya when soldiers could not overcome enemy resistance in close fighting. They were ordered to get into their Namer and call down artillery on themselves to destroy the enemy. The problem is Namer…cannot easily move in cities.

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It was used to bring infantry in close to the fight before dismounting and in evacuating soldiers.325

Not satisfied to rely on armour alone, the IDF fielded the Trophy system to counter anti-tank missile attacks on its Merkava and Namer vehicles. The system was reportedly very successful during Operation Protective Edge. (Manufacturer Rafael is developing a similar capability for lighter vehicles; it was not mounted on the M113 in the episode mentioned above.)326

Other equipment newly introduced during OPE included the Micro Tactical Ground Robot reported to have been used in clearing tunnels (this in addition to the use of dogs to detect explosives in subterranean chambers). The robot is outfitted with five cameras, infrared laser pointers, a microphone, and the ability to collect and transmit encrypted information.327 As mentioned, line-of-sight or other issues reportedly had negative impacts on robot employment during tunnel operations, control or continued monitoring of the systems being problematic beyond ranges of approximately 100 metres.

**Combat stress reaction**

Though not widely reported on, instances of combat stress reaction (CSR) in conjunction with Operation Protective Edge appear to confirm previously recognized findings. Urban operations presented particularly difficult physical conditions for ground troops; units were sometimes densely packed into enclosures lacking plumbing for extended periods, the resultant stench of human waste and sweat permeating rooms. Sleep under these conditions was difficult, adding a further condition of physical deprivation known to add to soldier stress levels. Units withdrawn from combat were sometimes sent into rest areas in Israel where local community members provided food or other support. Such jarring changes in environmental and social conditions have likewise been found to promote disassociation in some military personnel in the past (though, beneficially, keeping soldiers in their units during post-operation or rest periods is thought to mitigate the negative impact of such sudden changes in environment). Despite observations made by interviewed IDF personnel (e.g., ‘The problem is that the transitions

325 Gideon Avidor interview with Dr. Russell W. Glenn, Negev Desert, January 17, 2015.
completely rattle you’, ‘You’d come out of all that filth and suddenly you’re being hosted by the Kibbutzim. It was madness’), convincing soldiers to seek assistance from mental health professionals was very difficult, another validation of past findings, this regarding concerns by military personnel of appearing weak. Despite decades of study by the IDF and other militaries, mitigating or preventing CSR remains a prominent challenge for armed forces in the 21st century.

**Cyber Defence**

The focus of the cyber offensive during Operation Protective Edge was the civilian internet. Iranian elements participated in what the C4I officer described as an attack unprecedented in its proportions and the quality of its targets. The attack targeted IDF websites such as the Home Front Command and the IDF Spokesperson’s Unit as well as civilian internet infrastructures. The attackers had some success when they managed to spread a false message via the IDF’s official Twitter account saying that the Dimona nuclear reactor had been hit by rocket fire and that there was a risk of a radioactive leak. Some of the attacks against Israel were attributed to the Syrian Electronic Army (SEA), a group of Assad-supporting hackers.

Gabi Siboni and Sami Kronenfeld

‘The Iranian Cyber Offensive during Operation Protective Edge’

Cyber attacks on Israel and the IDF were particularly intensive during Operation Protective Edge. The attacks ranged from those by amateurs to the above-mentioned sophisticated, state-sponsored variety. Interestingly, that intensity to some extent paralleled the tempo of combat operations. Assaults on military and civilian websites spiked with the initiation of and during conduct of the ground campaign, dropping off with the withdrawal of IDF forces. Social factors likewise influenced cyber attacks’ intensity and sophistication: July 25, 2014 – the last Friday of Ramadan and ‘Jerusalem Day’ in Iran, set aside for the celebration of resistance to Zionism and Israel

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– saw the peak in these assaults.\textsuperscript{332} Though damage to operations was purportedly of limited consequence, it is recognized that the fragmented character of Israel’s cyber defences constitutes a vulnerability. Currently Mossad, commercial telecommunications providers, the IDF, banking and financial community representatives, various government ministries, police, and other organizations all handle cyber operations in the absence of an overarching coordinating or policymaking authority that would provide cyber defence guidance.\textsuperscript{333}

Attacks varied in type and purpose. One of the more significant sought to overload Israel’s internet providers to precipitate a collapse. The Syrian Electronic Army (SEA) assailed both the IDF Spokesperson’s Office Twitter account and blog. Others targeted individual websites, closing down in excess of 1,000 non-critical websites via domain name service (DNS) and distributed denial of service (DDoS) assaults, exposing citizens’ personal data and login information or simply defacing web pages. Hamas itself coordinated some attacks, to include mass text messages spoofing Israel’s English language \textit{Haaretz} newspaper and the Israeli Security Agency (ISA). Penetration of the communications systems for television channels 2 and 10 allowed a pro-Hamas propaganda message to briefly appear on Israeli screens. Unlike during Operation Pillar of Defense; during which Israel's government experienced over 100 million attacks in eight days, primarily from the United States and Europe; an estimated 70% of OPE cyber assaults came from Muslim countries. Fortunately for Israel, more capable non-state hackers such as Anonymous did not participate.\textsuperscript{334}


\textsuperscript{333} Gabi Siboni and Sami Kronenfeld, “The Iranian Cyber Offensive during Operation Protective Edge,” Institute for National Security Studies Insight no. 598, August 26, 2014, 2.

\textsuperscript{334} Daniel Cohen and Danielle Levin, “Operation Protective Edge: The Cyber Defense,” In The Lessons of Operation Protective Edge, ed. Anat Kurz and Shlomo Brom, Tel Aviv Institute for National Security Studies, 2014, 60-61. The Israeli example further adds to understanding of this threat’s scope and potential use. Some sense of the seriousness with which countries can take even seemingly benign ‘attacks’ on their cyber defences – those designed simply to provide more open access to the internet or social media platforms, for example – is evident in what appears to have been a serious assault by Chinese hackers in March 2015. Allegedly either representing the Chinese government or tolerated by same, attacks targeted both Greatfire.org (an activist group seeking to provide Chinese individuals access to material normally blocked by their government) and GitHub (an American-based website that provides material otherwise blocked, e.g., the Chinese language version of The New York Times). GitHub representatives believe attacks on GitHub sought to crash the website, thereby temporarily denying Chinese access, and pressure the site managers to withdraw offensive content. Perhaps the most interesting component of the Chinese reaction is the perception of its government that such attempts to evade cyber censorship undermine, in the words of The Economist, “national sovereignty online.” Chinese authorities have called on other countries to respect it. Breaches of online sovereignty might well include a foreign website giving Chinese users an alternative route to blocked content. In January the Cyberspace Administration of China (CAC), the regulator, said Greatfire.org was run by “anti-China” foreign forces. Were disagreements regarding sovereign control in the South China Sea not sufficiently disturbing, this assertion of cyber sovereignty – one that the Chinese apparently believe is challenged by even private enterprises – expands the scope of potential arenas for future interstate conflict. “Great walls of fire: The internet,” The Economist 414 (April 4, 2015), http://www.economist.com/news/china/21647056-wave-internet-attacks-points-attempt-hobble-foreign-websites-great-walls-fire (accessed April 9, 2015).
The need to take precautions against cyber attacks on Australian systems is a given. That applies both during wars and more peaceful periods. Not applicable to the Israeli situation, the dangers of cyber attacks are arguably of even greater concern in a coalition environment, a situation that is all but the default for Australia and its close international partners in the 21st century. The inclusion of other military and civilian organizations beyond those Australian (governmental and otherwise) increases the number of nodes potentially vulnerable to attack. The essentiality for trust combined with sometimes sensitivity resultant during coalition operations further complicate the issue. Neutralization of websites, social media platforms, or false messages designed to undermine that trust, confuse relationships, or otherwise hamper effectiveness makes effective cyber defence essential. Preparations for such attacks should also include preparing coalition representatives (to potentially include NGOs, IGOs, and industry representatives in addition to those multinational) for attempts seeking to disrupt coalition relationships, e.g., parties should agree to check with each other prior to believing inflammatory accusations are valid. Sun Tzu’s advice that ‘what is of supreme importance in war is to attack the enemy’s strategy; next best is to disrupt his alliances’ applies despite the passage of over two millennium and application to a method of attack inconceivable by that author.335

Cautions and Observations Regarding the Application of Lessons from Operation Protective Edge

There are obvious and quite significant differences between the Israeli security environment and the challenges Australia might expect to confront in coming years. Gaza shares a land border with Israel. Underlying antipathies, like those with other neighbours Hezbollah and Syria, are decades in age. The means of possible attack; to include tunnels, short-range indirect fire, and small UAVs; are not those the ADF would expect to face in other than greatly modified form, if at all. Yet the above pages make it clear that observations, lessons, and insights drawn from Operation Protective Edge can indeed inform Australia’s defenders, perhaps stir national security debate waters, and otherwise influence preparations for

future contingencies. Similarities between Israel’s urban operations in Gaza and those confronted by coalition forces in Iraq and Afghanistan have already been made evident. That social media and other cyber capabilities pose both opportunities and trials faced is readily evident, meaning Israel’s successes and shortcomings in that regard potentially light as of yet unconsidered paths ahead while posting caution signs along others. Even understanding drawn from threats seemingly little related to Australian concerns, such as cross-border tunnels and limited-range indirect fire, provide observant readers with knowledge of potential value to those responsible for forward operating base security, acquisitions, training, and doctrine. The remainder of this section seeks to highlight how many of the above insights taken from Operation Protective Edge (1) significantly differ in ways that should influence in what way users consider them in light of their own security challenges, and (2) might thereafter be adapted to meet ADF challenges in coming years and decades.

Theatre of operations
To reiterate points made earlier, Israel’s Operation Protective Edge theatre of operations was miniscule in comparison with those Australia would likely confront during any but the most limited of future contingencies. Gaza’s 360 square kilometres is many less than even Canberra’s 814 km² urban area and less than a sixth of the Australian Capital Territory’s 2400. (For further comparison purposes, Solomon Islands’ Guadalcanal is 5,336 square kilometres in size; Timor Leste is nearly three times that, Uruzgan Province in Afghanistan 12,696.) The length of Israel’s boundary with Gaza is a mere 59 kilometres. This compactness merits constant consideration when one views the performance of systems such as Iron Dome, the DAP command and control system, or design of major IDF end items such as the Namer and Merkava armoured vehicles. Further, Gaza and its immediate surrounds offered little in the way of waterways to be crossed, elevated terrain, or covered approaches at any but the lowest tactical levels. Line of sight is excellent in comparison with that confronted in southern Lebanon given the lack of severely compartmented ground. Gaza’s dense urbanization obviously significantly impacts these latter factors. This includes some parts of refugee camps where the use of tarps, corrugated metal, thermal blankets, or other concealment made vertical (overhead) observation as difficult as did the density of buildings horizontal line-of-sight at ground level.
Gaza’s tactical urban operations lessons would therefore seem to have broader application to the Australian condition than material regarding the performance of equipment not tested at the ranges or on terrain akin to what the ADF expects to experience. This is not to outright discount the potential value of the counter-missile, C², fire control, aviation coordination, or other capabilities employed during OPE, but rather to emphasize the considerable difference in operational profiles between what the IDF saw in 2014 and the ADF is likely to come into contact with both regionally and beyond. Those differences will impact the extent to which adaptations will be necessary when incorporating lessons from these several arenas. They should similarly influence any testing of systems under consideration for purchase.

The same cautions apply when contemplating a reliance on heavier armour as represented by Israel’s primary infantry fighting vehicle and main battle tank. The dearth of gap crossings, peer competitor equipment, ability to deploy entirely over land, and limited call for long ground movements or extended manoeuvre suggest that the IDF’s reliance on weight of metal as a primary component of force protection is less suitable for forces that will deploy by air and sea to environments in which tracked vehicles of great size and weight are less operationally suitable. The previous observation regarding Namer’s size impeding movement in Gazan urban areas emphasizes this point.

Regardless of the theatres to which Australian soldiers deploy, they are very likely to find themselves in urban areas for at least a portion of their missions. The ubiquity of RPGs, IEDs, and other anti-vehicle munitions suggests there may be utility in looking toward vehicle and vehicle protection designs or purchases that account for such end items’ vulnerability in built-up areas and other close terrain, that in addition to continuing to train using proven tactics like melding dismounted and mounted forces.

Physical terrain and related threats are of course but two aspects of an operational environment. Whereas the smallness and relative physical uniformity of Gaza’s natural terrain raises warning flags when making comparisons, the Strip’s human terrain offers a rich lode of potential similarities between the OPE experience and those potentially lying ahead for the ADF’s soldiers. That 814 km² of Canberra houses a rather comfortable population density of only 468.5 persons per square kilometre.
We will recall that the comparable value for Gaza is over ten times that (5,045.5), this based on a July 2014 estimated population of a little over 1.8 million. That element of the combat environment is familiar to veterans of Kandahar, Fallujah, or other urban areas in the Middle East or South Asia. Booby-trapped buildings, use of civilians as lures or attackers, IED-strewn approaches, and use of subterranean features as hides, caches, and ways of infiltrating behind friendly force positions are features Australia’s foes are sure to exploit. Members of the ADF may also find themselves confronting the coordination issues the IDF faced in dealing with in-place United Nations organizations and nongovernmental organization representatives like the ICRC, Doctors Without Borders, or others of the literally thousands of international and domestic aid providers that send members to disaster areas worldwide. It is a challenge most countries have faced only to a limited extent in the aftermath of natural calamities or in contested areas where such groups tend to be present in limited numbers. Increasing world urbanization and non-state actor recognition of dense populations as potentially favourable operational terrain imply that the combination of urban suffering and combat operations faced by the Palestinian population and IDF in 2014 are likely to become more familiar to armed forces other than those from Israel alone.

To physical and human terrain we must add their increasingly influential cyber counterpart. The above discussions regarding social media, cyber security, and information operations more generally point to threats unlike those confronted by any military in the past. Not only is the character of these challenges unique in comparison with those historical, similarly unprecedented are the tempo of evolution and rapidity with which new species of platform are introduced. Together these threats recall the introduction of atomic and nuclear weapons to warfare. No military leader had before faced such weapons. Strategy, doctrine, training, acquisition, and organizational structure all started from (excusing the unintentional pun) ground zero. Dramatic as was the impact on national and worldwide security during the Cold War, it was nonetheless a period during which technological advances in these new munitions and their delivery systems took place at a pace in keeping with traditional weapons and accompanying doctrinal development. Such is no longer the case. Acquisition and doctrine development periods measured in years (and sometimes decades) are simply inappropriate when development of new apps and platforms, modifications to those existing, and discovery of exploitable vulnerabilities
occur on timelines measured in weeks or months. The threat to Australia’s Army is further complicated in that while many of its operational systems and units are put at risk by malicious social media, cyber, and related attacks, the means of addressing or preventing such assaults may lie outside the service’s remit. Somewhat different than in the past, intelligence – likely to include if not be primarily reliant on assets outside the army – will be crucial in forecasting and detecting significant developments in the cyber realm. These include (1) identifying new platforms, capabilities, vulnerabilities, and responses; (2) possible ways to interdict threats; and (3) ways to attack enemy resources via cyber means. Similarly, non-DoD intelligence sharing both within the Australian government and with multinational (and, conceivably, commercial) partners will be key to timely and effective action.

Even existing cyber vulnerabilities and offensive capabilities are little known to many soldiers. The first recorded physical destruction of a target occurred nearly a decade ago when the US Department of Energy rendered a 5,000 horsepower generator ‘the size of a small bus’ inoperable via a March 4, 2007 cyber attack on its operating system. Three years later Iran’s nuclear weapons program suffered significant setbacks due to Stuxnet, a cyber ‘worm’ or virus that attacked centrifuges. These professionally engineered attacks are not the only threats against which Western powers need to protect themselves. That civilians will cyber assault one or another combatants during a conflict is obvious from the description of activities in the information operations realm during Operation Protective Edge. Exercises (and in some cases actual attacks) in the United States and Australia have demonstrated the feasibility of outsiders manipulating physical systems’ functions purely through computer-generated assaults involving no physical connections between attacker and victim.

Command and control, Operational objectives

The limited size of the OPE theatre and proximity to Israel’s capital facilitated at times direct control from Jerusalem, allowing officials at the highest civilian and military levels to bypass intermediate headquarters and exercise influence neither feasible nor desirable when greater distances and multiple time zones divide national capitals from an operational theatre. The same observation applies to control of specific assets, e.g., approval of


Colonel from the IDF interview with Dr. Russell W. Glenn.
danger close air support by those in a distant rear area is infeasible when timely responses and intimate knowledge regarding the combat situation is essential.

Additional differences between the Israeli and Australian cases are evident when considering the objectives sought by the IDF during OPE. As with the case of Operations Cast Lead and Pillar of Defense before it, the ultimate goal of Operation Protective Edge was a prophylactic one: punish resisters in Gaza sufficiently to purchase an acceptable period of time before the all-but-inevitable sequel precipitates another spike in violence. Israel's efforts to influence the Gazan population’s attitudes toward its neighbours or dampen their enthusiasm for continued resistance in the long run were minimal. There was little effort made to usurp popular support in the service of a long-term resolution of antipathies as characterized Australian operations in Afghanistan. These seemingly subtle differences in ends sought and means employed will significantly influence deployed force structures, occupational specialties required in the Australian Army, doctrine, and prioritization of objectives during development of information operations offensive and defensive capabilities.

National strategy
Israel’s broader strategic environment – and the strategic objectives related to that environment – provide another notable difference between the IDF and ADF. While on the offensive tactically and at the operational levels in the conduct of Operation Protective Edge, strategically the objectives sought are defensive. This is arguably in contrast with the country’s national security strategy. Continued territorial incursions in the West Bank and East Jerusalem could be seen as supporting arguments that Israel's objectives are expansionist and therefore offensive in character. The physical occupation of Gaza terminated in 2005 and its continued de facto occupation (in terms of denying release of tax revenues, limiting power and other goods access, opposing Fatah-Hamas unity government initiatives, and similar actions on the part of authorities in Jerusalem) further provides an extent of antipathetic context unlikely to be replicated during
Australian deployments. That Israel converted some 1,000 acres of West Bank territory in the vicinity of Bethlehem from privately owned Palestinian property to Israeli state-owned within a week of Operation Protective Edge’s end logically raises the possibility that the government used the war in Gaza as justification for the seizure and/or as further punishment of Palestinians. Australia’s force commitments both regionally and worldwide provide no basis for serious accusations of territorial gain or intentions to impose permanent or semi-permanent conditions of occupation. These differences have notable implications for design of the country’s strategic narrative in support of information operations campaigns. This significant difference in strategic purpose will also tend to influence the nature of social media and, perhaps, cyber attacks the country will experience during future operations. While the methods of assault will share characteristics with those suffered by Israeli commercial and government targets, perceptions regarding Australia’s strategic intentions will influence sources of attacks and nature of Australian response (this in addition to differences related to geographic location).

Future implications of Operation Protective Edge and possible implications for the ADF

Israel’s military strikes on Gaza and Hamas were much more destructive in terms of loss of life and property than those of Hamas on Israel. However, the efficacy of military action is measured not by how much carnage and destruction it wreaks on the enemy, but by the achievement

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340 Isabel Kershner, “Israel Claims Nearly 1,000 Acres of West Bank Land Near Bethlehem,” The New York Times, August 31, 2014, http://www.nytimes.com/2014/09/01/world/middleeast/israel-claims-nearly-1000-acres-of-west-bank-land-near- bethlehem.html?_r=0 (accessed April 9, 2015). Kershner notes, “Israeli officials said the political directive to expedite a survey of the status of the land came after three Israeli teenagers were kidnapped and killed in June while hitchhiking in that area. … The timing of the land appropriation suggested that it was meant as a kind of compensation for the settlers and punishment for the Palestinians.”
of political goals and the cost in terms of resources expended and destruction suffered in return.\footnote{Eitan Shamir and Eado Hecht, “Gaza 2014: Israel’s Attrition vs Hamas’ Exhaustion,” Parameters 44 (Winter 2014-15): 81.}

Eitan Shamir and Eado Hecht
‘Gaza 2014: Israel’s Attrition vs Hamas’ Exhaustion’

The above differences notwithstanding, there are many lessons and insights of fairly direct relevance as Australia ever continues to prepare its ground forces for future operations. The IDF suffered a number of its killed and wounded in assembly areas and other locations that might be considered ‘the rear’ and thus, one would expect, places of lesser risk.\footnote{Ron Ben-Yischa (National security commentator) interview with Dr. Russell W. Glenn, Tel Aviv, January 15, 2015.} Some of those losses were due to complacency, the killing of several soldiers in their border tower after Hamas operatives emerged from a tunnel having already been cited. Others were struck by indirect fire, highlighting the need to require the wearing of protective gear and provision of quick-access shelters at these sites.

Both units in close proximity to the enemy and others more distant may find themselves threatened by concealed intra-urban passageways in buildings (through walls and over rooftops) or via subterranean structures (tunnels; routes between adjoining basements; or through in-place sewer, water, power, or other underground conduits). Several analysts believe Israel will find Hezbollah making greater use of tunnels in light of Hamas’s success farther to the south.\footnote{Ron Ben-Yischa (National security commentator) interview with Dr. Russell W. Glenn, Tel Aviv, January 15, 2015.} They posit these means will be used to send raiding forces into Israel, presumable objectives being to sow terror, kill both military and civilian personnel, and kidnap individuals as bargaining chips. While such dangers will be less for Australian forces in rural areas or where occupation of positions is short-term, more established presence – particularly in built-up areas – will pose similar threats the extent of which will increase with soldiers’ duration of stay. Securing cleared buildings while maintaining sufficient combat power to continue advancing during urban operations will likely challenge the ADF during future undertakings. IDF infantry secured only the immediate surrounds once forces had advanced into Gaza and found a subterranean facility requiring engineer attention. Such safeguarding was accomplished via active patrolling.\footnote{Brigadier General (IDF, reserves) Gideon Avidor email to Dr. Russell W. Glenn, Subject: Two Items, May 27, 2015.} The threat of infiltration when force strength is insufficient to secure all cleared areas is evident in the above-noted loss of personnel due to enemy combatants.
attacking an inoperable M113 (a situation that existed even though the IDF incursion into Gaza was limited to three kilometres or less). Trading momentum against risk of enemy infiltration will likely be required of ADF commanders during any but the most limited of future urban operations.

Validating repeated lessons from other conflicts, while IAF support was widely praised in general, air operations were reportedly of limited value in reducing Gaza foes’ ground forces or in destroying subterranean targets.\footnote{Raphael Cohen and Gabriel Scheinmann, “The Grim Lessons of ‘Protective Edge,’” The American Interest, August 14, 2014.} The dispersed nature of fighters and difficulty of engaging them in urban areas due to both physical constraints and efforts to minimize non-combatant casualties means that air attack alone tends to be inefficient if not ineffective. As for subterranean facilities’ neutralization, proximity to buildings, clever design of tunnels, and difficulty of determining locations other than entrances, exits, or ventilation sites complement munitions limitations in making destruction an as-of-yet unsolved problem.

The scope and magnitude of cyber-related challenges reflects that it will be a military and wider government conundrum for countries for some time to come. It is notable that in addition to the attacks on Israeli websites and platforms directly related to Operation Protective Edge activities, there are reports that China earlier attempted to hack Israeli websites in efforts to steal data relating to the Iron Dome and Arrow III missile defence programs.\footnote{Samuel Gibbs, “Chinese hackers steal Israel’s Iron Dome missile data,” The Guardian (July 29, 2014), http://www.theguardian.com/technology/2014/jul/29/chinese-hackers-steal-israel-iron-dome-missile-data (accessed April 19, 2015).} Though obvious, it is worth noting that the increase in cyber attacks during OPE potentially provided cover for parties wishing to penetrate the country’s information realm for purposes unrelated to ongoing combat. As was Operation Protective Edge a spike of violence in Israel’s longer conflict with Gazan foes, so too was the sharp uptick only an increase in tempo for an ongoing conflict in the cyber arena. It is feasible that future such upticks against country’s elsewhere could be deliberate acts of deception to conceal cyber assaults by state or non-state actors.
Closing observations

On 26 August 2014, Israel and Palestinian resistance groups entered into a long-term ceasefire agreement. The terms of the agreement look almost identical to those established in November 2012, including a lack of implementation mechanisms. Indeed, if the parties fail to make these terms more precise and binding, it will be no more than a holding position before Israel’s next assault on the Gaza Strip.\(^{347}\)

Noura Erakat, Biance Isaias, and Salmah Rizvi

*Operation Protective Edge & Legal Remedies*

The past seven months, from the end of Operation ‘Protective Edge’ till today, have been the quietest since the 1990s (only three rockets fired, three sniping attacks and a few minor attempts to infiltrate through the border).\(^{348}\)

Eado Hecht

‘The Tunnels in Gaza’

‘Operation Protective Edge’ in 2014 showed Israel, its allies and its opponents that the best response to the Iron Dome missile defense system was to find another means of causing Israeli military attrition.\(^{349}\)

Aram Nerguizian

*The Struggle For The Levant: Geopolitical Battle and the Quest for Stability*

The state of constant conflict and short durations between ‘wars’ involving Israel provides not only a ready source of lessons and insights, but also a demonstration of the action->reaction->counter-reaction evident in any extended competition. Ongoing tensions between Israel and its adversaries in Gaza suggest such a dynamic will continue. Figure 4.2 shows select past adaptations and counters relevant to the Israeli-Gazan conflict and suggests possible next steps by the various parties. Other among the latter possibilities include more effective Palestinian massing of indirect fires in an effort to overwhelm Iron Dome and other counter-missile systems;

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synchronized timings for tunnel attacks that likewise seek to overwhelm IDF ground and air defenders; larger raids from tunnels, perhaps in conjunction with surface or aerial assaults across the border for deception purposes; greater reliance on detonation of explosives at tunnel terminal points beneath targets to avoid exposing exits, and employment of mass non-violent tactics that include border crossings.350

Figure 4.2: The Adaptation Cycle (Israel and Hamas)

The IDF is already working to defeat some if not all of these possible next steps in the sequence.

The above pages’ observations point to adaptations of potential value to the Australian Army. The need to recruit – or contract for – a far more robust social media and broader cyber capabilities is evident (though, as noted, it may be that joint, whole of government, and multinational approaches will prove more effective and cost efficient approaches). Both social media and broader information operations demands such as developing overarching public affairs campaigns and principal orchestrating organization may also cause military leaders to look beyond their own ranks or recruit/contract for the expertise. The quick addressing of technical problems thanks to reservists whose civilian

350 The suggestion that massed raids are a potential future Hamas tactic is from Gideon Avidor (BG, IDF, res) interview with Dr. Russell W. Glenn, Rehovot, Israel, January 12, 2015.
employment was with providers of those systems suggests developing similar relationships might be advisable, perhaps as part of acquisition contracts. Interestingly, the US Army is assisting soldiers with relevant skills who are leaving active service and joining the army reserves in finding civilian cyber sector jobs. That army has formed partnerships with other federal agencies, eight universities, and an equal number of corporations in support of its Cyber Private Public Partnership (Cyber-P3) initiative. The objective: ‘not only to make sure bodies are on hand in the event of a critical network emergency, but ensure their brains are attuned to the military’s unique needs’.351 The move will fit well with the Department of Defense’s recent cyber security strategy aimed at ‘defending against the most serious attacks (estimated at about two percent of all attacks), described as “loss of life, significant damage to property, serious adverse U.S. foreign policy consequences or serious economic impact o the united States”’. The strategy includes development of offensive cyber capabilities that will have deterrent or retaliation value.352 Though lacking the intensity of the Second World War, recruiting of highly qualified (and often quite senior) civilians into armed forces perhaps likewise merits consideration as Western nations continue to combat international terrorist and other threats worldwide.

Contemplation of Operation Protective Edge revalidates long-known lessons, providing a reminder of urban operations’ fratricide dangers; difficulty in detecting and neutralizing tunnels; the effectiveness of training and executing as a joint team; vigilance in force protection regardless of location on the battlefield; information operations’ complexity; and many others. It also reveals a multitude of new or evolved challenges that include the burgeoning opportunities and threats poses by social media, disturbing possibility of an enemy’s centre of gravity being a non-combatant-centric rather than military target, and vulnerability of physical war-fighting systems to cyber attack. Differences in scope, terrain, doctrine, equipment, and strategies aside, OPE offers many insights of value as the Australian Army peers forward through the inevitable fog dimming understanding of the future. It remains to take these lessons, understanding of challenges, and insights and mould them to the force’s bidding.


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