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# Preliminary Lessons of the Israeli-Hezbollah War

Der Autor ist seit vielen Jahren bekannt für seine umfassenden und hervorragenden Analysen militärischer Konflikte. Einige unserer Leser mögen sich z. B. an seine Publikationen mit den Lehren zu den israelisch-arabischen Konflikten (1973–1989), zu den Konflikten in Afghanistan (nach der sowjetischen Besetzung) und den Falkland Inseln (1982) oder zum ersten Iran-Irak-Krieg (1980–1989) erinnern. Anthony Cordesman hat in verdankenswerter Weise unserem Wunsch entsprochen, seine ersten Lehren zum jüngsten Nahost-Konflikt 2006 in der *Military Power Revue* publizieren zu dürfen. Die zwar primär aus US-Sicht gezogenen Lehren dürften dennoch als Beispiel eines asymmetrischen Konfliktes auch für Dritte wertvoll sein.

Anthony H. Cordesman\*

## Introduction

Instant military history is always dangerous and inaccurate. This is particularly true when one goes from an effort to describe the fighting to trying to draw lessons from uncertain and contradictory information.

The following analysis is based largely on media reporting, data provided by Israeli and Arab think tanks, and a visit to Israel sponsored by Project Interchange of the American Jewish Committee. This visit made it possible to visit the front and talk with a number of senior Israeli officers and experts, but Israeli officers and experts were among the first to note that the facts were unclear and that it might take weeks or months to establish what had happened.

This analysis is, however, limited by the fact that no matching visit was made to Lebanon and to the Hezbollah. Such a visit was not practical at this time, but it does mean the lessons advanced analysis cannot be based on a close view of what Liddle Hart called the “other side of the hill.”

It is also limited by the fact that a great deal of the data and “facts” issued regarding the fighting since the ceasefire owe far more to speculation, politics, and ideological alignment than credible sources. The reader should be reminded that it normally takes 12–18 months to confirm the data emerging from a war, and that even official reports on lessons – such as the “Conduct of the War” study issued by the Department of Defense after the Gulf War in 1991 – can be extremely politicized and notoriously inaccurate.

One key lesson is a familiar one: limited wars tend to have far more limited results and uncertain consequences than their planners realize at the time that they initiate and conduct them. It is difficult to know how many goals Israel achieved by the fighting to date or can keep in the future, but both Israel and Hezbollah face major uncertainties in claiming any form of meaningful victory.

Israeli decision makers have not provided a consistent picture of what the goals for the war were, or what they expected to accomplish within a given amount of time. A top Israeli official did, however, seem to sum up the views of these decision makers when he stated that Israel had five objectives in going to war:

- Destroy the “Iranian Western Command” before Iran could go nuclear.
- Restore the credibility of Israeli deterrence after the unilateral withdrawal from Lebanon in 2000 and Gaza in 2005, and countering the image that Israel was weak and forced to leave.
- Force Lebanon to become and act as an accountable state, and end the status of Hezbollah as a state within a state.
- Damage or cripple Hezbollah, with the understanding that it could not be destroyed as a military force and would continue to be a major political actor in Lebanon.
- Bring the two soldiers the Hezbollah had captured back alive without major trades in prisoners held by Israel – not the thousands demanded by Nasrallah and the Hezbollah.

<sup>1</sup> Israeli Defense Force sources as quoted by Alon Ben-David, “Israel Introspective After Lebanon Offensive,” *Jane’s Defense Weekly*, August 22, 2006, pp. 18–19.



A large part of the Israeli Air Force is equipped with different versions of the F-16 (A, B, C, D and I versions) fighter/bomber. It normally carries the bulk of air operations. Here an F-16I aircraft is preparing for take-off.

Photo: Israeli Air Force

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A major debate has emerged over what strategy the IDF ground force commanders recommended before and during the war, and the extent to which General Adam, the ground force commander on the scene did or did not agree with the initial ground strategy and this led to the appointment of Major General Moshe Kaplinski as a "parallel" commander by the Israeli Chief of Staff, Lt. General Dan Halutz on August 8, 2006.

A similar debate exists over the degree to which General Halutz, an Air Force officer, did or did not exaggerate the capabilities of air power, and both Israeli military officers and Israel's political leadership place severe restraints on ground action because of the fear of repeating the Israeli occupation of Southern Lebanon and war of attrition that followed Israel's invasion of Israel in 1982.

Similar debates are emerging over the quality of Israeli intelligence before the war. Specifically, the extent to which it did or did not know the range of weapons transferred to the Hezbollah, Hezbollah readiness and capability, Hezbollah strength and organization, and the nature of Hezbollah defenses in the border area. So far, it seems likely that Israeli intelligence did severely underestimate the scale and nature of Syrian arms transfers, the number of Hezbollah fighters, and their level of training and readiness. The facts do, however, remain unclear, and many contradictory accounts are emerging of the nature of such weapons transfers and the size of Hezbollah forces.

If one examines each of these goals in turn, however, the war seems to have produced the following results.

#### Destroy the "Iranian Western Command" before Iran could go nuclear

Israel did not destroy the Hezbollah, but it may have created the conditions that ensure the combination of an international peacekeeping force and the Lebanese Army prevent the reemergence of a major missile and rocket threat Iran could use to launch CBRN weapons.

#### Medium- and Long-Range Rockets and Missiles (45–220 kilometer range)

The Israeli Air Force (IAF) probably did destroy most Iranian medium- and long-range rocket and missile launchers during the first two days of the war, and it seems to have systematically destroyed most remaining Iranian and Syrian medium-and long-range missile launchers that fired missiles during the weeks that followed.

Israeli experts feel few medium- and long-range launchers remain. However, the size of Syrian deliveries of medium-range 220 mm and 302 mm rocket deliveries came as a major surprise, and it is unclear that there is an accurate count of launchers

or that their count of rockets and missiles is as good. The Israeli Defense Force (IDF) seems to have destroyed the rocket and missile command and control center Iran helped set up for the Hezbollah, but this seems easy to replace with laptop and commercial communications technology.

Israeli experts provided different estimates of the longest-range Iranian systems, the Zelzal 1, 2, and 3. These experts noted that other more modern systems like the Fatah 110, with ranges up to 220 kilometers might be deployed. They described the longest range versions of such systems as able to hit Tel Aviv and "any target in Israel." They estimated that some 18 out of 19–21 launchers had been hit during the first wave of IAF attacks, but noted that Hezbollah might have more systems and held them back under Iranian pressure or to ride out this wave of Israeli attacks.

The Zelzal 1 and 2 were described as artillery rockets, and the Zelzal 3 as a ballistic missile with considerable accuracy. Maximum ranges were uncertain and payload dependent, but put at 115–220 kilometers. The Zelzal 2 can reach targets south of Ashkelon. The Zelzal 3 can reach targets south of Tel Aviv.

More seriously, senior Israeli officers and officials admitted that Iran might well be able to infiltrate in small numbers of much longer-range ballistic missiles with precision guidance systems. Such systems could be deployed north of the area of Lebanese Army and international peacekeeping force operations, and could be potentially

armed with CBRN weapons. Alternatively, Iran or Syria could wait out the present crisis and try to infiltrate such weapons into Lebanon in the years to come. One key limit of any war is that it can only deal with present threats. It cannot control the future.

#### Short-Range Rockets (up to 40 kilometer range)

There is no agreement as to the number of short-range rockets the Hezbollah had when the war began, or how many survived. Israeli officials offered pre-conflict estimates of more than 10,000 to 16,000 regular and extended range Katyushas, with a nominal total of 13,000. Errors of 5,000 rockets are easily possible, compounded by the ongoing supply just before the war and the discovery that Syria had supplied more such rockets than Israel initially estimated.

According to senior Israeli intelligence officers, the IDF estimated that Hezbollah had fired 3,000 Katyushas as of Saturday, August 11, destroyed some 1,600, and the Hezbollah had some 7,000 left. Both Israeli intelligence and the IAF admitted, however, that it was almost impossible to estimate such numbers, target such small systems, or do meaningful battle damage estimates. They also felt that they had prevented most Iranian and Syrian resupply of such rockets and other weapons, in spite of major Iranian and Syrian efforts during the war, but noted that they could not be certain. In any case, Israel does not claim any significant victory in directly reducing this threat.



The powerful F-15 (in the U.S. Air Force called *Eagle*) is a most important asset to the Israeli Air Force. This Air Force has received the first aircraft of the U.S. F-15E Strike Eagle version recently. This photo shows the flight line of F-15s at an Israeli Air Force Base.

Photo: Israeli Air Force



Israeli soldiers on the move into southern Lebanon. A substantial portion of the intervening ground forces were mobilized reservists.

Photo: IDF

of which were later shown to be civilian or legitimate relief efforts.

The practical problem with such efforts, however, is that while there are only nine major crossings and fewer road nets Syria can use to ship arms, this at most affects very heavy weapons mounted on vehicles, and these routes have heavy traffic of civilian shipping.<sup>3</sup> The IDF may have achieved temporary interdiction along these routes, but it was possible to rapidly rig emergency crossing facilities, and once traffic was allowed, IDF surveillance could at best detect open movement of major missiles and rockets on dedicated military vehicles. It could not look inside large trucks and containers.

As for resupply of smaller systems, smuggling and movement is endemic across many points on the border. Some 40–60 crossing points exist, depending on the size of the weapon to be moved. It may be possible to monitor bulk movement, but detection, interdiction, and prevention of movement across the border or through Lebanon was not possible during the fighting, and is virtually impossible for the Lebanese forces, UN, or Israeli to monitor in a ceasefire.

The fact Israel ended its air, sea, and land blockage on September 6, 2006 virtually ensures the Hezbollah's ability to rearm with at least its smaller weapons – although it almost certainly had such capability throughout the war and the Israeli blockade that followed.<sup>4</sup> The resumption of large-scale shipping and commercial port and land traffic allows it to smuggle in most medium sized missiles and rockets with limited chance of detection in commercial vehicles and containers. The ships committed to the international force will do what they can, but small one-time shipments from less suspect ports are almost impossible to police, and land vehicle transfers at any volume make effective vehicle by

vehicle searches almost impossible even when those doing the search are not sympathizers or corrupt.

#### **Hezbollah Forces, Facilities, and Forward Defenses**

As for Hezbollah forces, Israel has claimed up to 500–600 killed versus less than 100 admitted by various Hezbollah sources (the “official” Hezbollah figure seems to be 71), but Israeli officers made it clear that Israel sharply underestimated the number of trained and combat capable cadres that existed when the war started, the quality of their forward defenses, and their ability to take shelter, hide, and disperse. Israeli officials also admit that there is no way to really estimate the number of killed and wounded. The IDF does feel a significant part of the key leaders and cadres have been killed or captured but has given no details. Hezbollah deliberately never reports total forces or casualties.

Given the fact that estimates of core Hezbollah forces ranged from 2,000 to 3,000 before the fighting started, and that Hezbollah reserves range from several thousand to more than 10,000, the most that can be said is that substantial numbers of Hezbollah survive, and losses in killed, wounded, and captured probably range from 15–25% of the initial force. These numerical losses may well be offset by wartime recruiting of less experienced personnel.

<sup>3</sup>See Barbara Opall-Rome, “Did Hezbollah Fire US Missiles at Israeli Tanks?” *Defense News*, September 4, 2006, p. 1.

<sup>4</sup>Peter Spiegel and Laura King, “Israel Says Syria, Not Just Iran, Supplied Missiles to the Hezbollah,” *Los Angeles Times*, August 31, 2006, p. 1.

<sup>4</sup>Scott Wilson and Edward Cody, “Israel to End Blockage of Lebanon,” *Washington Post*, September 7, 2006, p. A21.

#### **Hezbollah Weapons**

No one claimed to have any accurate inventory of the pre- and postwar Hezbollah mortars, anti-tank weapons (AT-3 Mk II, Konkurs, Kornet, Metis-M, and RPG-29), or anti-aircraft and short-range surface-to-air missiles (SA-7, SA-14, SA-16, SA-18?, and SA-8?), or any estimate of the number and percentages damaged. IDF intelligence experts said that they could only guess, but felt the Hezbollah kept at least several hundred thousand rifles and automatic weapons and from several to six million rounds of ammunition.

One new debate is the extent to which the Hezbollah did or did not receive US TOW anti-tank guided missiles from Iran, and the models involved. Some reports indicate that the missiles were basic BGM-71As transferred to Iran or built under license. Others than they include a more advanced Iranian version called the Toophan I. The IDF did capture crates labeled as TOWs, but some seemed to have 2001 production dates. There is also the possibility that some missiles could have been transferred to Iran as part of the 500 Israeli and 1,000 US TOWs shipped to Iran as a result of the Iran-Contra arms deal in 1985.<sup>2</sup>

No data were provided on the number of C-802 anti-ship missiles remaining, but one expert said that there were several. They are easy to conceal in trucks and standard shipping containers. The same expert estimated that 24–30 Iranian-supplied unmanned “Ababil” aerial vehicles (UAVs) capable of carrying 40–50 kilograms of explosives, with 450-kilometer ranges, and with GPS guidance, remained in Hezbollah hands. (The Hezbollah call the Ababil the Mirsad-1.)

#### **IDF Interdiction, Destruction of Inventory, and Limits on Resupply**

There are no credible data on the extent to which the IAF and IDF raids destroyed given levels of the Hezbollah inventory of rockets and smaller weapons during the war. Unclassified bombing maps show that this was a major Israeli goal and that large numbers of IAF strikes were conducted to this end. According to one map, Israeli forces bombed some 70 bridges and 94 roads, including Syrian resupply routes into Lebanon from Damascus, roads across the northern border area from Syria into the Bekaa Valley, and roads in northern Lebanon going from Syria to the Lebanese coast and north through the mountains.

A massive interdiction campaign was clearly conducted throughout the southern road net south of Beirut and Zaleh in the north extending south along the coast to Sidon, Tyre, and Nabatiyah; and the roads south from the Bekaa to Marjayoun and Kham. This attack seems to have included numerous strikes on suspect vehicles, many



Israel has an attack helicopter fleet of approx 60 AH-64. Like other important assets of the Air Force, it carried a large proportion of the air war against the Hezbollah in Lebanon.

Photo: Israeli Air Force

The ratio of casualties is also scarcely one that implies a major victory. Israel lost some 118 killed out of some 3,000–15,000 troops deployed into combat areas during various periods of the war. Even a best-case loss ratio of 6:1 is scarcely a victory for Israel, given its acute sensitivity to casualties.

The IDF probably did destroy most fixed Hezbollah facilities both in the rear and forward areas. Unless these held large amounts of munitions, however, this is probably of little value. Hezbollah facilities are not filled with high technology or valuable equipment, and the IAF and artillery strikes that hit such facilities in populated areas created substantial problems in terms of perceived attacks on civilians and collateral damage. Unless the IDF shows that the Hezbollah lost a major amount of weaponry in such attacks, the attacks may have done Israel as much harm in terms of future hostility as good in terms of immediate tactical benefits.

The IDF estimates that the Hezbollah had only one major line of fixed defenses and that these were in the areas near the border where the ground war was active after the first few days of the conflict. These defenses included shelters, storage areas, command posts, etc. Many were probably damaged or destroyed.

It is not clear, however, that this will really have any lasting effect. Instead, the air-land battle may well have shown the Hezbollah that it really does not need such facilities and that simply taking advantage of normal civilian buildings and built up areas provides the same cover and facility capability, is much harder to target and predict, provides more ride out capability for concealed troops, and allows the Hezbollah to disperse, maneuver, and adopt a defense in depth tactic.

Once again a combination of the international force and Lebanese Army may be able to control the Hezbollah and disarm it in these areas, but the IDF did not achieve its goals. One key lesson here is much the same as the lesson the US should have learned from Vietnam and Iraq. The only way to actually defeat such an enemy is to clear the area and hold it indefinitely, sealing off possible exit and dispersal routes, and conducting a constant rear area security effort. "Clear, hold, and build," however, tends to be a remarkably vacuous tactic in practice. It simply requires too many men for too long at too much cost with too much vulnerability, plus a scale of civic action and civil-military efforts that are easy to call for, but almost impossible to implement.

#### Restore the credibility of Israeli deterrence after the unilateral withdrawals from Lebanon in 2000 and Gaza in 2005, and counter the image that Israel was weak and forced to leave

Deterrence is a matter of perceptions, not reality. Israel retains its conventional superiority or edge against the regular military forces of its Arab neighbors, and particularly against the only meaningful threat on its borders: Syria. It has made massive improvements in its forces since 1982, adapting the most modern technology and tactics available to the US to its own technology and tactics, and retaining a nuclear monopoly.

For all of its problems in the Israeli-Hezbollah War, its casualties were probably around  $\frac{1}{6}$ th those of the Hezbollah, it was inhibited more by its own strategic and tactical decisions than the quality of Hezbollah fighters, and it may still prove to have won if the international force and Lebanese Army do actually carry out all of the terms of the ceasefire.

The problem, however, is Hezbollah, regional, and global perceptions. Some serving Israeli officials and officers claim Israel succeeded in this goal, and that the deterrent impact would grow as Arab states and peoples saw the true scale of damage and refused to allow the Hezbollah and other non-state actors to operate on their soil because of the cost and risk. In contrast, Israeli experts outside government felt that the fighting did weaken deterrence and did show Israel was vulnerable.

In general, both serving and non-serving Israelis seemed to underestimate the anger Israel's strikes might generate, and the fact that the level of damage inflicted might create many more volunteers, make Arab populations far more actively hostile to Israel, strengthen the Iranian and Syrian regimes, and weaken moderate and pro-peace regimes like Egypt, Jordan, and Saudi Arabia.

As discussed later, official Israeli reactions regarding the Lebanese government seemed to assume the end result of the war would be to create a Lebanese political structure that would be so afraid of future damage that it would rein in the Hezbollah. This is possible, but Israeli estimates tended to minimize the risks that Lebanon would become more actively hostile to Israel.

The Israelis interviewed tended to discount the potential impact in terms of the war's effect in stimulating new attacks from Gaza, the West Bank, and the sea – although experts in the Gaza area felt that Hamas and the PIJ had already acquired more advanced rockets than the crude, home-made Qassams used to date, and Israeli naval experts recognized that more advanced rockets and missiles might be sea-based.

The other side of the coin was the deep Israeli concern with security barriers and unilateral withdrawals. Israelis felt that defense in depth and an active IDF presence was needed in front of security barriers; that major new security efforts and barriers would be required to deal with longer-range Palestinian weapons; that even more separation of the two peoples would be needed; and that Israeli Arabs might become more of a threat. This is scarcely a sign of improved deterrence.

Finally, Israel will scarcely reinforce deterrence when it conducts a detailed examination of its real and potential mistakes during the war, and/or its government falls over its weaknesses or failures.

The "backlash" effect the fighting will have on Hezbollah, Iran, and Syria does, however, remain uncertain. Few Lebanese could express their concerns and anger towards Hezbollah during the war. The same civilian casualties and losses that had led to so much anger against Israel may fuel such "backlash." Lebanon reported some 1,110

civilian dead, 3,700 civilians wounded, and 980,400 displaced at the peak of the fighting. It has also made claims that the war cost it some \$2.4 to \$6 billion worth of damage, some \$398 million worth of damage to electric facilities and key infrastructure equipment, and over 150,000 residences destroyed.

Such claims often seem to be highly exaggerated, but many Lebanese perceive them as real. The question is whether they see them as attributable to the Hezbollah. This may vary inside Lebanon by sect and confession, with Christians, Druze, and Sunnis more willing to blame the Hezbollah, Iran, and Syria than Shi'ites. The preliminary polling data, however, are anything but unbiased and conclusive, and Hezbollah has helped defuse any backlash by rush aid into damaged areas. Moreover, Arabs outside Lebanon may be far more willing to blame Israel alone for all of the casualties and damage.

Israel may well, however, have had some new deterrent impact on the Hezbollah, Lebanese government, Iran, and Syria in spite of all of these factors. Israel's willingness to escalate, the damage it inflicted, and the relative impunity with which the IAF could act are not factors leaders can ignore regardless of popular perceptions. Moreover, the fact that Nasrallah publicly admitted after the war that he and Hezbollah never expected the level of Israeli response to the Hezbollah's action in northern Israel may be a sign of both concern over "backlash" and his concern over Israel's capabilities in the future.

**Force Lebanon to become and act as an accountable state, and end the status of Hezbollah as a state within a state.**

This goal is uncertain. The UN resolution only charges the international force to act within the limits of its capabilities. Hezbollah retains a great deal of capability and may remain an active military. Iranian and Syrian willingness to intervene has probably been increased.

Much will depend on whether the Hezbollah can capitalize on its claims of victory and on fighting the Arab fight or whether the Lebanese people – including the Shi'ites – ultimately do react by blaming the Hezbollah for the damage, casualties, and humanitarian crisis during the war. Lebanese politics will be critical, and it is at least possible that the end result will be to further polarize the country on confessional lines, raising Shi'ite power and consciousness, but leaving a weak and divided state.

The actions of the Lebanese government to date indicate that it is acutely sensitive to Hezbollah's concerns and priorities. It has not sought to disarm the Hezbollah, has taken a very uncertain attitude toward interdicting or preventing resupply, and seems to have concluded that regardless of the government's political majority, the Hezbollah and Shi'ites have emerged as the dominant political faction and force in Lebanon and that any risk of civil conflict is unacceptable.

One key question is how this situation will change with time, and whether the deployment of the Lebanese Army and a UN peacekeeping force will truly erode Hezbollah power, and Iranian and Syrian influence over time. This now seems doubtful. Hezbollah remains on the ground

both militarily and politically, and in a struggle of political attrition, the other Lebanese factions seem more likely to do anything to avoid open clashes and conflict than act decisively or in ways that dramatically reduce the Hezbollah's power.

**Damage or cripple Hezbollah, with the understanding that it could not be destroyed as a military force and would continue to be a major political actor in Lebanon.**

For all of the reasons discussed earlier, the IDF has not provided convincing evidence to date that it did enough damage to the Hezbollah to achieve this end, or has created an environment where it will not be able to get better weapons, including long-range missiles, in the future.

Israel seems to have employed the wrong battle plan. It seems to have sharply exaggerated what airpower could do early in the war and sharply underestimated Hezbollah ability to survive and fight a ground battle. The IDF then fought a long and protracted battle for the Hezbollah's forward defenses to deny them a line of sight into Israel where the Hezbollah repeatedly attacked towns and small cities that they could lose and then reinfiltre.

By the time the IDF drove towards the Litani on August 11<sup>th</sup>, it was too late to win a meaningful victory against a dispersed Hezbollah force, and the IDF had to advance along predictable lines of advance for terrain reasons that allowed the Hezbollah to score significant "victories" of its own.

Many Hezbollah fighters – almost certainly 70% or more – survived the fighting, and new recruits that acquired immediate combat experience almost certainly more than offset such losses. Much of the Hezbollah force and inventory survives, probably including some medium- and long-range missiles. IAF claims to have destroyed most such systems have never been validated or described in detail. Some 40% or more of shorrange weapons, most small arms, most squad-sized weapons, and large amounts of ammunition survived. Hezbollah holdings of medium-range, Syrian-supplied systems clearly surprised Israeli intelligence, and later IAF claims that, "... 90 percent of longrange rockets which fired were destroyed immediately (after firing)," may or may not be valid, but do not explain the inventory that remained after the ceasefire.<sup>5</sup>



After tiring fights against Hezbollah forces in southern Lebanon, an Israeli soldier is taking a break.

Photo: IDF

If the Hezbollah is crippled as a military force, it will be because of US and French diplomacy in creating an international peacekeeping force, the actions of this force, and efforts to help the Lebanese Army move south with some effectiveness. It will not be because of IDF military action. Quite frankly, such international action seems likely to leave serious gaps, resupply seems likely to occur for at least small to medium-sized weapons, new types of more advanced ATGMs and SHORADs seem likely to be smuggled in, and there is always the prospect that Syria may stockpile longer-range ballistic missiles and train the Hezbollah to use them on a short-notice basis – allowing rapid insertion into Lebanon with little warning.

**Bring the two soldiers the Hezbollah had captured back alive without major trades in prisoners held by Israel – not the thousands demanded by Nasrallah and the Hezbollah.**

This is a key feature of the UN resolution and the ceasefire. However, what actually happens is yet to be seen weeks after the ceasefire. The Israeli emphasis on such kidnappings and casualties also communicates a dangerous sense of Israeli weakness at a military and diplomatic level. It reinforces the message since Oslo that any extremist movement can halt negotiations and peace efforts by triggering a new round of terrorist attacks.

The message seems to be that any extremist movement can lever Israel into action by a token attack. Furthermore, there has been so much discussion in Israel of the Israeli leadership and IDF's reluctance to carry out a major land offensive in Lebanon because of the casualties it took from 1982–2000, and would face in doing so now, that the end result further highlights the image of Israeli vulnerability.

**The “Ongoing?” Impact of the Fighting**

It is far from clear that the Israeli-Hezbollah War is over, and all sides may adapt their goals, strategy, and tactics as time goes by. The present UN resolution depends on extraordinary cooperation from the Hezbollah, Israel, and the Lebanese government and army. It assumes that clashes between Israel and Hezbollah will not escalate to new major rounds of fighting; that Iran and Syria will not succeed in major resupply of new and provocative weapons; and that an international peacemaking force can be truly effective.

The present ceasefire efforts assume that what began as a pause can be turned into a real and lasting set of security arrangements. Both Israel and the Hezbollah are likely to see the ceasefire and security arrangements as presenting both a risk and



A column of Israeli Merkava combat tanks is moving from northern Israel into southern Lebanon. Photo: AP

opportunity – as a peace process that may turn into a war process at any time and which each must be ready to defend against and try to exploit.

The UN Interim Force in Lebanon (UNIFIL) begins with a long history of serious tension and conflict with Israel, and 1982 showed how hard it is for even the best-intentioned peace making forces to operate and be seen as friendly or neutral. The end result is that this may only be another round in the Israel-Lebanon War that began in 1948, and that began to take on its current form in 1982.

The rules of engagement that will apply to the new UN force remain unclear, but it does not seem committed to either using force to disarm the Hezbollah in the area it occupies or preventing new Hezbollah military action in other areas. It so far has made little commitment to preventing resupply. The US military advisory effort that is supposed to strengthen the Lebanese Army so far has only token funding, will take months to take hold, has no clear mission statement, and seems more likely to focus on correcting critical problems in readiness and operational capability in the existing force than creating new capabilities.

There is a very real prospect that even if the Israeli-Hezbollah War does not rekindle, it has generated forces in the Arab world that will thrust Israel into a broader, four-cornered struggle with radical Arab elements as well as pose growing political problems for moderate Arab states. The Hezbollah's performance may well lead its hard-liners and the growing neo-Salafi Sunni extremist elements in Lebanon to keep up a steady pace of terrorist attacks. The Hamas and PIJ forces in Gaza will learn and adapt, and Israel may face a new level of conflict, or “front,” on the West Bank as the same anti-Israeli forces step up their activity there. The Israeli-Hezbollah War has shown all forms of hostile state and non-state actors that Israel and Israelis are vulnerable. Syria and Iran have strong in-

centives to keep up covert pressure. Both Sunni and Shi'ite transnational movements have a new incentive to attack Israeli targets inside and outside of Israel.

That said, reality does not wait for history, and the US needs to draw what lessons it can as quickly as it can. There is also a clear need for as many perspectives as possible. A rush to judgment is inevitable. A rush to judgments may at least show that there is no single view of events and what the world should learn from them.

**Major Lessons Regarding Strategy and the Conduct of the War**

There are several major lessons regarding strategy and the conduct of the war that the US may need to learn from both the fighting and the broader strategic context in which it has taken place.

**Strategy and the Conduct of War: The Lesson of Accountability and Responsibility**

One key lesson that the US badly needs to learn from Israel is the Israeli rush towards accountability. Israeli experts inside and outside of government did not agree on the extent to which the government and the IDF mismanaged the war, but none claimed that it had gone smoothly or well. Most experts outside of government felt that the problems were serious enough to force a new commission or set of commissions to examine what had gone wrong and to establish the facts.

The main disagreements over who should be held responsible for Israel's conduct of the war focused on the following issues:<sup>6</sup>

- Whether the Israeli government's lack of military and foreign policy experience crippled its ability to plan and to criticize the weaknesses in the plans presented by the IDF, and whether these failures were compounded by political opportunism and a focus on domestic politics reinforced by a false impression that Israel was simply too strong to face a major challenge and that the Lebanese government could easily be coerced into acting as a state and using the Army to take control of a rapidly defeated Hezbollah.
- Whether the IDF's top leadership had too many Air Force officers that promised airpower could achieve rapid and decisive results, and which ignored the need to prepare for a ground war because a major land offensive was so unpopular after Israel's withdrawal in 2000.

<sup>6</sup>For a good overview of early views, see “The Blame Game,” *Economist*, August 19, 2006, p. 42; Ilene R. Prusher, “Israeli Unease Grows Over Conduct of the War,” *Christian Science Monitor*, September 1, 2006, p. 1; “Soldiers Unhappy with War Handling,” *Jerusalem Post, On-Line Edition*, August 18, 2006.

- Serious questions also arose over the lack of IDF preparation of the army for an offensive as a major contingency, the lack of training of the active forces to deal with the insurgency they were certain to face at least on the forward line, and the lack of preparation and training of the reserves.

- Whether both the political leadership and IDF failed to develop an effective concept for securing enough of southern Lebanon from the Litani to the border that could suppress Hezbollah Kavtusha attacks, avoid being bogged down by fighting the Hezbollah on its strong line of border defenses and fortified villages, and ensure security in depth.

- Whether Israeli intelligence failed to characterize the threat in terms of Hezbollah reaction and willingness to fight, the numbers and capabilities of Hezbollah forces, the quality of preparation of its forward defensive line, and its holdings of missiles, rockets, and advanced lighter arms like anti-tank weapons and surface-to-air missiles. Whether Israeli intelligence failed to assess how Hezbollah would react when the IDF launched a major air attack and struck at its border positions.

- More broadly, whether Israeli intelligence misjudged how the Lebanese government and army would react when they were attacked in an effort to coerce them to move south, and how the Arab and Muslim world would react when IDF forces were seen to be vulnerable.

- Whether the political leadership and the military and intelligence services failed to see that attacks on the Hezbollah and Lebanon could weaken, not reinforce, Israel's overall deterrence of the Iranian, Arab, and non-state threat; weaken support for Israel in Europe and elsewhere; and stimulate a new wave of Arab and Muslim support for fighting Israel. Key issues arise over the ability to predict the impact of attacking Lebanese versus the Hezbollah, control of collateral damage and attacks on civilians, and the overall handling of the political, perceptual, and media sides of the war – which all Israelis outside of government characterized as bad to dismal.

- The lack of effective emergency planning in the north to deal with evacuations resulting from the rocket attacks, key issues like firefighting, and other key defensive and civil defense measures.

It should be stressed that serving Israeli officials and officers rejected such criticisms or provided a different picture of events. As the following analysis shows, Israel also had many areas of clear success.

What is interesting about the Israeli approach, however, is the assumption by so many Israeli experts that that major problems and reverses need immediate official examination and that criticism begins from the top down. Patriotism and the pressures of war call for every effort to be made to win, not for support of the political leadership and military command until the war is over.

The US, in contrast, is usually slow to criticize and then tends to focus on the President on a partisan basis. It does not have a tradition of independent commissions and total transparency (all of the relevant cabinet and command meetings in Israel are videotaped). Worse, the US military tends to investigate and punish from the bottom up. At least since Pearl Harbor (where the search for scapegoats was as much a motive as the search for truth), the US has not acted on the principle that top-level and senior officers and civilian officials must be held accountable for all failures, and that the key lessons of war include a ruthless and unbiased examination of grand strategy and policymaking.

### Fighting in Civilian Areas and the Problem of Collateral Damage

The Hezbollah did more than use more advanced technology. It used Lebanon's people and civilian areas as both defensive and offensive weapons. Israel certainly saw this risk from the start. While the IDF did

attack Lebanese civilian targets early in the war, these were generally limited. It did establish procedures for screening strike requirements and intelligence review of possible civilian casualties and collateral damage.

The problem for Israel – as for the US and its allies in Kosovo, Iraq, and Afghanistan – is that good intentions and careful procedures and rules of engagement are not enough. This is especially true when the IDF Chief of Staff makes a political mistake as serious as threatening to “set Lebanon back twenty years.”<sup>7</sup> A non-state actor is virtually forced to use human shields as a means of countering its conventional weakness, and Islamist extremist movements do so as an ideological goal, seeking to push populations into the war on their side.

### Civilians as the First Line of Defense

Hezbollah built its facilities in towns and populated areas, used civilian facilities and homes to store weapons and carry out its activities, and embedded its defenses and weapons in built-up areas. It learned to move and ship in ways that mirrored normal civilian life. We were shown extensive imagery showing how the Hezbollah deployed its rockets and mortars into towns and homes, rushing into private houses to fire rockets and rushing out.

Civilians are the natural equivalent of armor in asymmetric warfare, and the US must get used to the fact that opponents will steadily improve their ability to use them to hide, to deter attack, exploit the political impact of strikes, and exaggerate damage and killings. The very laws of war become a weapon when they are misinterpreted to go from making every effort to minimize civilian casualties to totally avoiding them. Civilians become cultural, religious, and ideological weapons when the US is attacking different cultures. The gap between the attacker and attacked is so great that no amount of explanation and reparations can compensate.

### The Unavoidable Limits of Intelligence, Targeting, and Battle Damage Assessment

The Israeli experience in Lebanese towns and small cities had many similarities with the problems the US faces in Iraq. The US is forced to fight an enemy that is often impossible to distinguish from civilians or is so embedded in their midst that there is no way to separate them in terms of air strikes or land attacks. This is particularly true of the fighting in populated areas and street by street combat.

<sup>7</sup> Alon Ben-David, “Israel Introspective After Lebanon Offensive,” *Jane’s Defense Weekly*, August 22, 2006, p. 18.



During its move northwards into Lebanon an Israeli soldier is greeting the local population.  
Photo: IDF

UAVs and modern sensors can help. So can advanced training, use of armor, and focused tactical intelligence, particularly when supported by HUMINT. The truth, however, is that modern technology does not provide the kind of sensors, protection, and weapons that can prevent a skilled urban force from forcing Israel or the US to fight it largely on its own terms and to exploit civilians and collateral damage at the same time.

The Israeli imagery used in air strikes and in preparing for and conducting the land battle only needs to cover a very small front by American standards and is close to, or superior, to that available to US forces. This imagery technology is a tremendous advancement over the past. But it falls far short of the ability to provide the kind of real time tactical advantage to avoid having to react immediately and often in ways that kill civilians or damage civil facilities.

The problem in close combat in urban areas is also only one of the issues involved. As in Vietnam, there is no easy route to interdicting supply. Stopping resupply and reinforcement means attacks on infrastructure, ranging from local to national. When medium and long-range missiles are involved, "proportionality" also means limited or no restraint.

In the case of artillery and air strikes, it is sometimes possible to achieve a 10-meter accuracy against a GPS coordinate. Like the US, Israel has found, however, that significant numbers of weapons go astray, that modern sensors cannot tell the difference between many types and uses of military and civilian vehicles in asymmetric war, and that a civilian often looks exactly like an insurgent/terrorist.

Mapping all potential target areas for important political and religious points is difficult to impossible, and real-time location of civilians is absolutely impossible. High intensity operations cannot be designed to support humanitarian needs in many cases. Moreover, battle damage technology methods and technology against anything other than military weapons and vehicles, or active military facilities, remains too crude to clearly distinguish how much collateral damage was done or how many civilians were hurt.

#### Rethinking Force Transformation

The key issues for the US are what can be done to change this situation to reduce civilian casualties and collateral damage, and how can the US learn from the IDF's experience as well as its own. In all but existential conflicts, understanding these issues involves learning how to fight in built-up and populated areas in ways that deprive the enemy as much as possible of being able to force the US and its allies to fight at their level and on their own terms.



**M-109 self-propelled howitzers at a northern Israeli fire base are providing artillery fire support to ground units in southern Lebanon.**

*The goal is also to learn what cannot be done, and to avoid setting goals for netcentric warfare, intelligence, targeting, and battle damage assessments that are impossible, or simply too costly and uncertain to deploy. No country does better in making use of military technology than the US, but nor is any country also so incredibly wasteful, unable to bring many projects to cost-effective deployment, and so prone to assume that technology can solve every problem.*

The US needs to approach these problems with ruthless realism at the political, tactical, and technical level. It needs to change its whole set of priorities affecting tactics, technology, targeting, and battle damage to give avoiding unnecessary civilian casualties and collateral damage the same priority as directly destroying the enemy. This means working with local allies and improving HUMINT to reduce damage and political impacts. It also means developing real time capabilities to measure and communicate what damage has actually been done. The US must use the information to defeat hostile lies and exaggeration but also to improve performance in the future.

#### Rethinking Deterrence, Intimidation, and the Political, Perceptual, Ideological, and Media Dimension of War

Like the US in Iraq, Israel went to war focused on its own values and perceptions, and not those of its Hezbollah enemy, the Lebanese state it was seeking to influence, the Arab states around it, or the broader perceptions of Europe and the outside world. Israel saw its war as just, but made little effort to justify it to the outside world as a key element of strategy, tactics, and the practical execution of battle.

The Israeli government and IDF – like their American counterparts – have always

tended to see this aspect of war more in terms of internal politics and perceptions than those of other states, cultures, and religions. In Israel's case, Israel also seems to have felt it could deal with Hezbollah relatively simply, intimidate or persuade Lebanon with limited leverage, and assume that its defeat of the Hezbollah would counter Arab and Islamic anger and lead to only limited problems with outside states.

One of Israel's stated goals was also to restore the credibility of Israeli deterrence after its perceived erosion following the unilateral withdrawals from Lebanon and Gaza and years of tolerating low-level attacks and harassment with limited response. The plan seems to have been to show how well it could both defeat the Hezbollah and threaten an Arab government that tolerated the presence of a non-state threat.

Israel, however, was dealing with both a non-state and a state actor that were not Western and which operated with different values and goals. It immediately found that Hezbollah could offset any immediate Israeli successes in striking against Hezbollah's medium and long-range missiles with determined attacks by shorter range missiles, and could and would force the IDF to fight it on the ground. Israel found that the Lebanese government did not respond by trying to control the Hezbollah but rather turned to the international community and used efforts to intimidate it to launch political attacks on Israel. Israel found that its unwillingness or inability to attack or intimidate Iran and Syria – the Hezbollah's main suppliers – encouraged them to support Hezbollah and provide resupply.

Israel also quickly found that it wasted its initial ability to get Egyptian, Jordanian, and Saudi government support against the

Hezbollah by over-escalating and being unable to convince the world it was controlling collateral damage and civilian suffering. Israel alienated the peoples of those governments that had reason to fear Hezbollah and Iran and the governments as well. At the same time, the Israeli government's and the IDF's tactical failures and indecisiveness sent a message of weakness and vulnerability to a mix of nations more focused on revenge, anger, and religion than the cost-benefits of war fighting.

Israel does face prejudice and media bias in the political dimension of war, but – to put it bluntly – this is as irrelevant to the conduct of war as similar perceptions of the US as a crusader and occupier. It is as irrelevant as complaints that the enemy fights in civilian areas, uses terror tactics, does not wear uniforms and engages in direct combat. Nations fight in the real world, not in ones where they can set the rules for war or perceptual standards.

Israel's failure to understand this is just as serious and dangerous as America's. So is Israel's focus on domestic politics and perceptions. Modern nations must learn to fight regional, cultural, and global battles to shape the political, perceptual, ideological, and media dimensions of war within the terms that other nations and cultures can understand, or they risk losing every advantage their military victories gain.

### Examining and Defining "Proportionality"

The US had not yet faced the same level of challenge regarding its military actions as Israel. It is clear, however, that the scale of military action, the level of collateral damage, and the nature of the *casus belli* are becoming critical issues for war planning and management.

In general, Israel seems to have made a consistent effort to keep its military actions proportionate to the threat in legal terms if one looks beyond the narrow incident in the northern border area that triggered the fighting and considers six years of Hezbollah military build up as a major threat that could target all of Israel with major Iranian and Syrian support. Weakness and division is not a defense in international law and the laws of war, and Lebanon's failure to act as a state, implement resolution 1559, and disarm the Hezbollah deprives it of any right as a non-belligerent.

The problem is, however, that the laws of war do not shape perceptions and current international value judgments. Israel also pushed proportionality to its limits by attacking civilian targets that were not related to the Hezbollah in an effort to force the Lebanese government to act, and failed to explain the scale of the Hezbollah threat in defending its actions.

Public opinion polls showed a major shift in European public opinion polls against Israel, and some 63% of Britons and 75% of Germans polled found Israel's actions to be "disproportionate."<sup>8</sup> These problems were compounded by debates over the issue of Israeli use of weapons like cluster bombs, where unexploded rounds have been notorious sources of after-action civilian casualties ever since the Vietnam War.<sup>9</sup> Israel was attacked by groups like Amnesty International, which issued a report that to put it military went over the top in exaggerating what were very real problems.<sup>10</sup>

The US must not repeat this mistake. It must develop clear plans and doctrine regarding proportionality and be just as ready to explain and justify them as to show how it is acting to limit civilian casualties and collateral damage. Above all, it must not fall into the trap of trying either to avoid the laws of war or of being so bound by a strict interpretation that it cannot fight.

### Pursue a Decisive Strategy within the Planned Limits of the War

It was never clear from discussions with Israeli officials exactly what the real original battle plan was, how much the IAF did or did not exaggerate its capabilities, and how much the IDF pressed for a decisive land campaign. It does seem clear that Israel always planned for a limited war, but it also seems likely that it failed to pursue a decisive strategy and battle plan within the limits it sought.

The initial air campaign against the medium and long-range missiles makes clear sense. These were a serious threat, and the attack upon them seems to have been relatively well executed – subject to the fact the IDF did not fully understand the threat because it did not detect the scale of Syrian missile deliveries.

The ground campaign, however, makes far less sense. Fighting to take a narrow perimeter in Lebanon of 2–5 kilometers overlooking Israel could never be a decisive campaign or hope to halt even the Katusha threat. Unclassified wall maps in the Israeli MOD clearly showed that many launch sites were to the rear of this perimeter, allowing the Hezbollah to retreat with ease, and there was no prospect of holding the perimeter without constant Hezbollah reinfestation and attack. This essentially forced the IDF to fight the Hezbollah on the Hezbollah's terms in urban warfare.

Either the Israeli political leadership, the IDF top command, or both seem to have chosen the worst of all possible worlds. They escalated beyond the air campaign in ways that could not have a decisive strategic effect and dithered for weeks in a land battle that seems to have been designed

largely to minimize casualties and avoid creating a lasting IDF presence in Lebanon. In the process, the IDF had to fight and refight for the same villages and largely meaningless military objectives, given the Hezbollah's ample time to reorganize and prepare.

When the IDF finally did decide to go for the Litani, it signaled its advance for at least two days, and had to advance along predictable routes of advance because of the terrain. It did not conduct operations from the north to seal off the Hezbollah line of retreat and had to fight in a rushed operation with no time to deploy enough forces to search out stay beholds or securely occupy enough space to be sure of what levels of Hezbollah strength did or did not remain.

At the same time, the air campaign continued to escalate against targets that often were completely valid but that sometimes involved high levels of collateral damage and very uncertain tactical and military effect. The end result was to give the impression Israel was not providing a proportionate response – an impression compounded by ineffective (and often unintelligible) efforts to explain IAF actions to the media. At times, it seemed the strategy was one of escalating until the international community had to act on Israel's terms, rather than fighting the enemy. Such a strategy at best ignored the serious limits to Israel's ability to force any international force and the Lebanese government's ability to meet all its goals once a ceasefire was signed.

### Prepare for Conflict Escalation, Alternative Outcomes, and "Plan B"

Israeli officials differed significantly over how much they had planned and trained for conflict escalation. Outside experts did not. They felt that the Israeli government rushed into a major attack on the Hezbollah and Lebanon with little preparation and detailed planning, that the battle plan put far too much faith in airpower, and that the government was averse to examining another major land advance into Lebanon or broadening the conflict to put pressure on Syria.

<sup>8</sup> "To Israel with hate – and guilt," *Economist*, August 19, 2006, pp. 45–46.

<sup>9</sup> At least 172 cluster bomb strikes occurred in 89 sites in populated areas in Southern Lebanon. David Enders, "Cluster Bombs Continue to Kill," *Washington Times*, August 23, 2006, p. 9. John Kifner, "Human Rights Group Accuses Israel of War Crimes," *New York Times*, August 24, p. 10.

<sup>10</sup> For media impact and summary quotes, see John Kifner, "Human Rights Group Accuses Israel of War Crimes," *New York Times*, August 24, p. 10.



Israeli bombs are hitting targets in Beirut, Lebanon.

Only access to the historical record can determine the facts. There was, however, broad criticism that the government and IDF did not properly prepare the active forces and reserves for a major land attack or for the possibility of a major escalation that required such an attack. The government and IDF were criticized for never examining "Plan B" – what would happen if things went wrong or if a major escalation was required.

It also does seem increasingly clear that the IDF did not properly prepare to support a major ground operation in Lebanon at any point during the war, was forced to rush training of the reserve units it called up, did not properly supply them, and was not capable of providing proper logistic and service support once it did decide to drive towards the Litani in the last days of the war.

A debate has already emerged in Israeli over the potential deterioration of the IDF as a fighting force after years of acting as a garrison force dealing with low-level threats in Gaza and the West Bank. Serious question have emerged over how effective the IDF has been in reorganizing the reserves, training them, and funding equipment.

What is not clear is how many of these problems really affected the situation in Lebanon, and how many were simply the result of indecisive planning, a lack of any clear commitment to even fully prepare for large-scale warfighting, and a failure to decide on a clear operational concept that left many active and reserve units simply in road position without either a clear offensive contingency mission or proper instructions to provide for rear area security, regrouping, and support of the forces in place. Ground forces are designed to attack or defend; they are not designed to "dither."

### Prepare for Conflict Termination

A number of Israeli experts felt the Israeli government was too inexperienced to fully address the impact of various scenarios on conflict termination. They felt the government and senior leadership of the IDF had hopes for conflict termination but no clear plan.

Depending on the official, officer, or outside expert briefing on these issues, these hopes seem to have been a mixture of hope that the Hezbollah would be easily defeated, that the Lebanese government or army would act, that the Lebanese people and Arab world would blame the Hezbollah, and/or that they could get UN resolutions and a UN sponsored international peacemaking force that would support Israel's efforts. As for Israel's broader image in the world, it seems to have hoped that victory would be its own justification, to the extent that it focused on the issue at all.

By the time of our trip, some officials claimed that the war was always supposed to take eight weeks and weaken the Hezbollah, not destroy it. Yet several Israeli experts claimed that some of the same officials estimated at the start of the war that it would last no more than two weeks and that Hezbollah would be destroyed as a military force.

Israel is notoriously better at defeating the enemy than at translating such defeats into lasting strategic gains. But the same criticism can often be applied to the US. As a result, the lesson the Israeli-Hezbollah War teaches about conflict termination is the same lesson as the one the US should have learned from its victory in the Gulf War in 1991 and from its defeat of Saddam Hussein in 2003. A war plan without a clear and credible plan for conflict termination can easily become a dangerous prelude to a failed peace.

### Iran, Syria, and the Hezbollah

One key point that should be mentioned more in passing than as a lesson, although it may be a warning about conspiracy theories, is that no serving Israeli official, intelligence officer, or other military officer felt that the Hezbollah acted under the direction or command of Iran or Syria.

It was clear that Iran and Syria had conducted a massive build-up of the Hezbollah's arms over a period of more than half a decade, that Iranian 747s routinely offloaded arms in Syrian airports, and that Syria provided trucks and shipped in arms and armed vehicles through the north and across the Bekaa. Iran did have advisors – evidently from the Al Quds force present with the Hezbollah – and some of their documents were captured, although Syrian advisors evidently were not present.

The issue of who was using whom, however, was answered by saying all sides – the Hezbollah, Iran, and Syria – were perfectly happy to use each other. Israelis felt Nasrallah had initiated the attack on the Israeli patrol that took two prisoners on his own and that Iran and Syria were forced to support him once Israel massively escalated. Israeli officials did not endorse the theory that Iran forced the Hezbollah to act to distract attention from its nuclear efforts.

This does not mean that Iran and Syria had no influence or control. Syria could certainly have halted supply at any time. Iran set up a rocket and missile targeting and control center for the Hezbollah and may well have retained control over the Zelzal in any effort to preserve an eventual nuclear option or limited Israeli retaliation. The nature of meetings between commanders and officials from all three sides was described as uncertain, as was the exact role of the Hezbollah-Iranian-Syrian intelligence center that began to operate in Damascus during the war.

### Lessons and Insights into Various Tactical, Technological, and Other Military Aspects of the War

Once again, it is important to stress that many key details of the tactics, technology, and other aspects of the fighting are not yet clear. There are, however, several additional lessons that do seem to emerge from the conflict.

### High Technology Asymmetric Warfare

There is virtually no controversy over whether the fighting with the Hezbollah shows just how well a non-State actor can do when it achieves advanced arms, and has strong outside support from state actors like Iran and Syria. Top-level Israeli intelligence personnel and officers stated that most aspects of the Hezbollah build-up did not

surprise them in the six years following Israel's withdrawal in Lebanon.

Mosad officials stated that they had tracked the deployment of some 13,000 Katyushas, far more sophisticated Iranian medium and long-range artillery rockets and guided missiles (Zelzal 3), better surface-to-air missiles like the SA-14, SA-16, and possibly SA-8 and SA-18, the CS-801 anti-ship missile, and several more capable anti-tank weapons like the AT-3 Sagger Two and Kornet. They also identified the armed UAV the Hezbollah used to try to attack Israel on August 8, 2006, as the Iranian Ababil-3 Swallow (Hezbollah Mirsad-1).<sup>11</sup>

Israeli intelligence officials also stated that they knew some 100 Iranian advisors were working with the Hezbollah, and that they knew Iran not only maintained high volumes of deliveries, but also had created a Hezbollah command center for targeting and controlling missile fire with advanced C2 assets and links to UAVs. They noted that they had warnings of better sniper rifles, night vision devices, and communications as well as of technical improvements to the IEDs, bombs, and booby traps that the Hezbollah had used before the Israeli withdrawal.

Israeli officials and officers were not consistent about the scale or nature of the technology transfer to the Hezbollah or of how many weapons they had. In broad terms, however, they agreed on several points.

#### Hezbollah Rocket and Missile Forces

In practice, Israel found it faced a serious local threat from some 10,000–16,000 shortrange regular and extended range

versions of the 122 mm Grad-series Katusha. These are small artillery rockets with individual manportable launchers. All have relatively small warheads. Some are improved versions with a range of 30–40 kilometers, but many have ranges of 19–28 kilometers (12–18 miles) that can only strike about 11–19 kilometers (7–12 miles) into Israel unless launched right at the border.<sup>12</sup>

Such systems can easily be fired in large numbers from virtually any position or building, and the Hezbollah had a limited capacity for ripple fire that partly made up for the fact that such weapons were so inaccurate that they hit at random, could only be aimed at town-sized targets, and had very small warheads. They were, however, more than adequate to force substantial evacuations, paralyze local economic activity, and drive the Israelis that remained to shelters.

It can be argued that they have little individual lethality, and this is true. Israel did, however, lose some 43 civilians, and suffered serious economic damage in the north. A town like Qiryat Shemona took some 370 hits (about one-tenth of all rockets fired) and much of the north was evacuated, sheltered, or came to an economic halt. A total of 2,000 apartments were damaged, some 10–15% of the businesses in the north could not meet their August payroll, the overall economic cost quickly rose to billions of dollars, and early postwar predictions put the national cost as a drop in Israel's GDP growth from 6% to 4.5%.<sup>13</sup>

Israeli officers and officials made it clear that Israel's real reason for going to war, however, was the steady deployment of

medium and longer range systems, and the potential creation of a major Iranian and Syrian proxy missile force that could hit targets throughout Israel.

This force included Syrian Ra'ad rockets with a maximum range of 45 kilometers and systems like the Fajr 3 and Fajr 5, with ranges of 45–75 kilometers, capable of striking targets as far south as Haifa and Naharia. The IAF was able to destroy most of the Iranian Fajr 3 launchers the first night of the war, but the IDF did not know the Syrian rockets were present.<sup>14</sup>

The Fajr 3, or Ra'ad, has a range of 45 kilometers, a 45–50 kilogram warhead, a 220 to 240-mm diameter, a 5.2-meter length, and a weight of 408 kilograms.<sup>15</sup> A total of some 24–30 launchers and launch vehicles, carrying up to 14 rockets each, seem to have been present. The IAF feels it destroyed virtually all launchers that fired after the first few days, but Israeli officers did not provide an estimate of how many actually survived.

They also included the Syrian 302-mm Khaibar-I or M302 artillery rockets with a range of up to 100 kilometers and a 100-kilogram warhead, and the Fajr 5, which is a 333 mm rocket with ranges of 70–75 kilometers. The IAF again feels that it was able to destroy most of the Iranian Fajr 5 launchers the first night of the war, but the IDF again did not know the Syrian 302-mm rockets were present.

The Fajr 5 is launched from a mobile platform with up to four rockets per launcher, and has a maximum range of 75 kilometers, a 45-kilogram warhead, a 333-mm diameter, a 6.48-meter length, and a weight of 915 kilograms.<sup>16</sup> A total of some 24–30 launchers and launch vehicles seem to have been present. Again, the IAF feels it destroyed virtually all launchers that fired after the first few days, but Israeli officers did not provide an estimate of how many actually survived.

The level of Hezbollah capabilities with the Zelzal 1, 2, and 3 and other possible systems has been described earlier. These missiles have ranges of 115–220 kilometers. The Zelzal 2 is known to be in



Combat cargo crews aboard the amphibious assault carrier USS *Iwo Jima* (LHD-7) load bottled water into CH-46 Sea Knight helicopters during missions to assist citizen in their departure from Lebanon on 23 July 2006.

Photo: Official U.S. Navy

<sup>11</sup> See David A. Fulghum and Douglas Barrie, "The Iranian Connection," *Aviation Week and Space Technology*, August 14, 2006, p. 20.

<sup>12</sup> Many of these data are based on interviews. Also see Peter Spiegel and Laura King, "Israel Says Syria, Not Just Iran, Supplied Missiles to the Hezbollah," *Los Angeles Times*, August 31, 2006, p. 1.

<sup>13</sup> "Rockets Fell on Tuscany," *Economist*, August 19, 2006, p. 44.

<sup>14</sup> Various sources report significantly different technical data on these systems.

<sup>15</sup> <http://www.globalsecurity.org/military/world/iran/mrl-iran-specs.htm>.

<sup>16</sup> <http://www.globalsecurity.org/military/world/iran/mrl-iran-specs.htm>.

Hezbollah hands and illustrates the level of technology involved. It is a derivative of the Russian FROG 7, and has a range in excess of 115 kilometers and which some sources put as high as 220 kilometers. It has a 610-mm diameter, a 8.46-meter length, and a weight of 3,545 kilograms.<sup>17</sup> It requires a large TEL vehicle with a large target signature.

#### Anti-Ship Missiles

The Hezbollah C-802 missile that damaged an Israeli Sa'ar 5, one of Israel's latest and most capable ships, struck the ship when it was not using active countermeasures. It may or may not have had support from the coastal radar operated by Lebanese military destroyed by IAF forces the following day.

According to Global Security, the Yingji YJ-2 (C-802) is powered by a turbojet with paraffin-based fuel. It is subsonic (0.9 Mach), weighs 715 kilograms, has a range 120 kilometers, and a 165 kilogram (363 lb.). It has a small radar cross section and skims about five to seven meters above the sea surface when it attacks the target. It has good anti-jamming capability.

#### Anti-Armor Systems

The IDF faced both older anti-tank guided missile (ATGM) threats like the AT-3 Sagger, AT-4 Spigot (Fagot 9K111), and AT-5 Spandrel (Konkurs 9K113) – each of which is a wire-guided system but which become progressively more effective and easier to operate as the model number increases.<sup>18</sup> The IDF also faced far more advanced weapons like the TOW, Toophan, Russian AT-13 Metis-M 9M131 which only requires the operator to track the target, and the AT-14 Kornet-E 9P133, a third generation system, that can be used to attack tanks fitted with explosive reactive armor, and bunkers, buildings, and entrenched troops.<sup>19</sup> Many of these systems bore serial numbers that showed they came directly from Syria, but others may have come from Iran.

The AT-14 is a particularly good example of the kind of high technology weapon the US may face in future asymmetric wars. It can be fitted to vehicles or used as a crew-portable system.<sup>20</sup> It has thermal sights for night warfare and tracking heat signatures, and the missile has semi-automatic command-to-line-of-sight laser beam-riding guidance. It flies along the line of sight to engage the target head-on in a direct attack profile. It has a nominal maximum range of 5 kilometers. It can be fitted with tandem shaped charge HEAT warheads to defeat tanks fitted with reactive armor, or with high explosive/incendiary warheads, for use against bunkers and fortifications. Maximum penetration is claimed to be up to 1,200 mm.

Other systems include a greatly improved version of the 105.2-mm rocket-propelled grenade called the RPG-29 or Vampire. This is a much heavier system than most previous designs, with a tandem warhead. It is a two-man crew weapon with a 450-meter range, and with an advanced 4.5-kilogram grenade that can be used to attack both armor and bunkers and buildings. Some versions are equipped with night sights.<sup>21</sup>

The IDF saw such weapons used with great tactical skill, and few technical errors, reflecting the ease with which third generation ATGMs can be operated. They did serious damage to buildings as well as armor. The Hezbollah also showed that it could use the same "swarm" techniques to fire multiple rounds at the same target at the same time often used in similar ambushes in Iraq.

IDF sources estimate that at least 500 ATGMs were fired during the fighting. They reported that a total of 60 armored vehicles of all types (reports these were all tanks are wrong) had been hit as of August 11<sup>th</sup>. Most continued to operate or were rapidly repaired in the field and restored to service. Only 5–6 of all types represented a lasting vehicle kill.

Later reporting produced very different numbers. According to work by Alon Ben-David, the IDF concluded after the ceasefire that some 45% of the IDF main battle tanks that had been hit by ATGMs during the war had some form of penetration. A total of some 500 Merkava were committed to battle. Roughly five were destroyed by underbelly mines and tactics. Some 50 Merkava 2,3, and 4s were hit, and 21(22?) were penetrated. A total to 11 did not result in fatalities, but 10 other penetrations caused 23 crew casualties. ATGMs also produced major infantry casualties, particularly when IDF reservists bunched inside a building hit by an ATGM.<sup>22</sup>

One of Israel's leading defense analysts described the impact of the Hezbollah ATGMs and other anti-tank weapons as follows:<sup>23</sup>

... We knew the organization had advanced anti-tank rockets; the IDF's Military Intelligence even acquired one. We also understood that Hezbollah was positioning anti-tank units; however, we failed to understand the significance of the mass deployment of these weapons.

The result: Anti-tank weapons caused most of the IDF casualties in the war – nearly all the Armored Corps' casualties and many from the infantry units. More infantry soldiers were killed by anti-tank weapons than in hand-to-hand combat. Many of the infantry soldiers who lost their lives because of anti-tank weapons entered houses in the villages; the rockets penetrated the walls, killing them.

... Hezbollah used seven different types of rockets in the war – four of them the most advanced available and all produced by Russia and sold to Syria. The most advanced rockets can penetrate steel armor of 70-centimeter to 1.2-meter thickness. After the armor has

been pierced, a second warhead explodes inside the tank. MI acquired one of these rockets and understood that Hezbollah was positioning anti-tank units. However, the IDF was inadequately prepared for this development.

Four Israeli tanks hit large landmines. Three of the tanks, which lacked underbelly protective armor, lost all 12 crewmembers. The fourth had underbelly protective armor; of its six crew members, only one died.

Anti-tank missiles hit 46 tanks and 14 other armored vehicles. In all these attacks, the tanks sustained only 15 armor penetrations while the other armored vehicles sustained five, with 20 soldiers killed, 15 of them tank crew members. Another two Armored Corps soldiers, whose bodies were exposed, were killed. In another location, Wadi Salouki, Hezbollah carried out a successful anti-tank ambush, hitting 11 tanks. Missiles penetrated the armor of three tanks; in two of them, seven Armored Corps soldiers were killed. Two of the other tanks were immobilized.

There are important uncertainties in these numbers and in the conclusions that should be drawn from them. Another problem in assessing the impact of such weapons is that the IDF moved slowly and erratically along easily predictable lines of approach where the Hezbollah literally had weeks to prepare ambushes, there are no data on how many missiles of what type failed, and no data on how much fighting took place in urban areas or strong points. Every armored system is vulnerable, and much depends on the quality of maneuver and support. Moreover, the issues arises as to what IDF casualties would have been without armored support. At this point, it is far easier to draw lessons than support them with facts.

<sup>17</sup> <http://www.globalsecurity.org/military/world/iran/mrl-iran-specs.htm>.

<sup>18</sup> The mix of such systems is unclear and Israeli officers did not identify type or provided somewhat conflicting information. For the details of the Sagger, see <http://www.fas.org/man/dod-101/sys/land/row/at3sagger.htm>. For the Spigot, see <http://www.fas.org/man/dod-101/sys/land/row/at3spigot.htm>. For the Spandrel, see <http://www.fas.org/man/dod-101/sys/land/row/at5spandrel.htm>.

<sup>19</sup> For further details, see Alon Ben-David, "Limited Israeli Achievements Made in Lebanon," *Jane's Defense Weekly*, August 16, 2006, p. 4; and "ATGM Threat Poses a Quandary for IDF Armor," *Jane's Defense Weekly*, August 16, 2006, p. 5.

<sup>20</sup> For more details, see <http://www.army-technology.com/projects/kornet/>.

<sup>21</sup> For more details, see <http://www.enemyforces.com/firearms/rpg29.htm>.

<sup>22</sup> Alon Ben-David, "Israeli Armor Fails to Protect MBTs from ATGMS," *Jane's Defense Weekly*, August 30, 2006, p. 16; and "ATGM Threat Poses a Quandary for IDF Armor," *Jane's Defense Weekly*, August 16, 2006, p. 5. Also see Barbara Opall Rome, "New Life for Merkava Line? Tough Tanks Have Israel Rethinking Plans to End Production," *Defense News*, August 28, 2006.

<sup>23</sup> Ze'ev Schiff, "The War's Surprises," *Haaretz*, August 18, 2006.



Sympathizing crowds in Damascus, Syria, support the Hezbollah fights in Lebanon against the Israelis.

### Anti-Aircraft

The IAF only lost one aircraft to hostile fire in some 15,500 sorties, although it lost four aircraft to accidents. Israeli intelligence estimated, however, that the Hezbollah at least had the SA-7 (Strela 2/2M or Grail) and SA-14 Gremlin manportable surface-to-air missile system, probably had the SA-16 Gimlet, and might have the SA-18 and a token number of SA-8s.<sup>24</sup>

The SA-14 and SA-16 are much more advanced than the SA-7, but still possible to counter with considerable success. The SA-18 Grouse (Igla 9K38) is more problematic. According to the Federation of American Scientists, it is an improved variant of the SA-14 that uses a similar thermal battery/gas bottle, and the same 2 kilogram high-explosive warhead fitted with a contact and grazing fuse. The missile, however, is a totally new design and has much greater operational range and speed. It has a maximum range of 5200 meters and a maximum altitude of 3500 meters, and uses an IR guidance system with proportional convergence logic, and much better protection against electro-optical jammers.<sup>25</sup>

It is possible that it may have been given a few SA-8 Gecko (Russian 9K33 Osa) SAM systems that are vehicle mounted, radar-guided systems with up to a 10-kilometer range, and six missiles per vehicle.<sup>26</sup>

The IDF was concerned that these systems would allow the Hezbollah to set up "ambushes" of a few IAF aircraft without clear warning – a tactic where only a few

SA-8s could achieve a major propaganda victory. This concern, coupled to the risk of SA-16 and SA-18 attacks, forced the IAF to actively use countermeasures to an unprecedented degree during the fighting.

There are also reports that Iranian experts and members of the Al Quds force, and Hezbollah representatives, met repeatedly in Damascus during the war to discuss providing better surface-to-air defenses.<sup>27</sup> These conversations covered the potential transfer of the Chinese QW-1 manportable SAM as well as more C-802s. They may have covered the training and transfer of substantially more advanced air defenses once the fighting was over. These might include the Mithaq-1, a low/very-low altitude manportable SAM system that Iran has just begun to mass produce.

### Low Signature; Asymmetric Stealth

One key aspect of the above list is that all of the systems that are not vehicle-mounted are low signature weapons very difficult to characterize and target and easy to bury or conceal in civilian facilities. Israel was surprised, for example, that the Hezbollah had acquired more than 200 night vision sets from Iran, which seem to have been part of a 250 set shipment of military units Britain had sold Iran to monitor its border for the war on drugs.<sup>28</sup>

Stealth is normally thought of as high technology. It is not. Conventional forces still have sensors geared largely to major military platforms and operating in en-

vironments when any possible target becomes a real target. None of these conditions applied to most Hezbollah weapons, and the problem was compounded by the fact that a light weapon is often easier to move and place without detection in a built-up area than a heavy one.

This signature issue applies to small rockets like the Qassam and Katyusha that require only a vestigial launcher that can be placed in a house or covert area in seconds, and fired with a timer. Israeli video showed numerous examples of Hezbollah rushing into a home, setting up a system, and firing or leaving in a time in less than a minute.

It also applies to UAVs. Israel's normal surveillance radars could not detect the Iranian UAVs, and the IDF was forced to rush experiments to find one that could detect such a small, low-flying platform. (This may be an artillery counterbattery radar but Israeli sources would not confirm this.)

It is not clear how much this contributed to the ability of two IAF F-16C to shoot down an armed Ababil with an air-to-air missile on August 8<sup>th</sup>. The Ababil did penetrate within 15 kilometers of Haifa, flying south. It can fly up to 300 kilometers per hour and carry up to a 45-kilogram payload. Its height at the time it was shot down is unclear, but it does not seem to have low-altitude terrain avoidance features.<sup>29</sup> The system has a maximum range of 150 to 450-kilometers, depending on mission profile and payload, and a ceiling of 4,300 meters. If it had not been intercepted, it could have hit a target virtually anywhere in Israel, although its GPS guidance gives it at best a 10 meter accuracy and its payload is limited.

### Technological Surprise

Israeli officers and experts did indicate that the IDF faced technological surprise and uncertainty in some areas.

Syria evidently supplied nearly as many medium range artillery rockets – 220 mm and 302 mm – as Iran, and a major portion of the Katyushas. The RPG-29 anti-tank weapon and possible deployment of more

<sup>24</sup> Robin Hughes, "Iran Answers Hezbollah Call for SAM Systems," *Jane's Defense Weekly*, August 22, 2006, p. 6.

<sup>25</sup> See <http://www.fas.org/man/dod-101/sys/misile/row/sa-18.htm>.

<sup>26</sup> For more details, see <http://www.enemyforces.com/missiles/osa.htm>.

<sup>27</sup> Robin Hughes, "Iran Answers Hezbollah Call for SAM Systems," *Jane's Defense Weekly*, August 22, 2006, p. 6.

<sup>28</sup> Bob Graham and Michael Evans, "How War Against Drugs May Have Helped Hezbollah," *London Times*, August 21, 2006.

<sup>29</sup> See "Israel Shoots Down Hezbollah UAV," *Jane's Defense Weekly*, August 16, 2006, p. 6.

advanced anti-tank guided weapons was not anticipated. It was not possible to determine how advanced the surface-to-air missiles going to Hezbollah forces were. It was not possible to determine the exact types and level of capability for Iran's long-range missile transfers because the three types of Zelzal are so different in performance, and other Iranian systems (including ones with much better guidance) are similar to what Israel calls the Zelzal 2 and 3.

The fact Israel faced some degree of technological surprise should not, however, be a source of criticism unless there is evidence of negligence. If there is a lesson to be drawn from such surprise, it is that it is almost unavoidable when deliveries are high and many weapons are small and/or are delivered in trucks or containers and never been used in practice.

It is even more unavoidable when rapid transfer can occur in wartime, or new facilities are created, such as the joint Iranian-Syrian-Hezbollah intelligence (and advisory?) center set up during the fighting in Damascus to give the Hezbollah technical and tactical intelligence support. *The lesson is rather that the war demonstrates a new level of capability for non-state actors to use such weapons.*

#### Cost

The US and Israel quote figures for the cost of these arms transfers that can reach the billions, and talk about \$100-\$250 million in Iranian aid per year. The fact is that some six years of build-up and arms transfers may have cost closer to \$50-\$100 million in all. The bulk of the weapons involved were cheap, disposable or surplus, and transfers put no strain of any kind on either Syria or Iran.

This is a critical point, not a quibble. Playing the spoiler role in arming non-state actors even with relatively advanced weapons is cheap by comparison with other military options. The US must be prepared for a sharp increase in such efforts as its enemies realize just how cheap and easy this option can be.

#### Reevaluating the Level of Tactical and Technological Risk in the Forces of asymmetric and Non-State Actors

Experts like Sir Rupert Smith have already highlighted the risk posed to modern military forces and states by opponents that fight below the threshold in which conventional armies are most effective. Iraq has shown that even comparatively small transfers of technology like motion sensors, crude shaped charges, and better triggering devices can have a major impact in increasing the ability of insurgents and terrorists.

The Hezbollah have raised this to a whole new level, operating with effective sanctuary in a state and with major outside

suppliers – which Al Qa'ida has largely lacked. It is also only the tip of the iceberg. It does not seem to have used the advanced SAMs listed above, but the very threat forces IAF fighters and helicopters to constantly use countermeasures. The use of ATGMs and RPG-29 not only inhibits the use of armor, but sharply reduces the ability to enter buildings and requires dispersal and shelter.

The simple risk of long-range rocket attacks requires constant air and sensor coverage in detail over the entire Hezbollah launch front to be sure of hitting launchers immediately. The IDF's task also could grow sharply if Iran/Syria sent the Hezbollah longer-range rockets or missiles with precision guidance – allowing one missile to do serious damage to a power plant, desalination plant, refinery/fuel storage facility with little or no warning.

The lesson here is not simply Hezbollah tactics to date. It is the need to survey all of the weapons systems and technology that insurgents and terrorists could use in future strikes and wars with the thesis that technology constraints are sharply weakening, and the US and its allies face proliferation of a very different kind. It is to explore potential areas of vulnerability in US forces and tactics non-state or asymmetric attackers can exploit, carefully examine the holdings of state sponsors of such movements, and reexamine web sites, training manuals, etc, to track the sharing or exploration of such technology.

Like Israel, the US and its other allies face long wars against enemies that have already shown they are highly adaptive, and will constantly seek out weaknesses and the ability to exploit the limits to conventional warfighting capabilities. The US must anticipate and preempt when it can, and share countermeasure tactics and technologies with its allies.

#### Informal Networks and Asymmetric "Netcentric Warfare"

Like insurgent and terrorist groups in Iraq and Afghanistan – and in Arab states like Algeria, Egypt, Saudi Arabia, and other states threatened by such groups – the Hezbollah showed the ability of non-state actors to fight their own form of netcentric warfare. The Hezbollah acted as a "distributed network" of small cells and units acting with considerable independence, and capable of rapidly adapting to local conditions using media reports on the verbal communication, etc.

Rather than have to react faster than the IDF's decision cycle, they could largely ignore it, waiting out Israeli attacks, staying in positions, reinfiltrating or reemerging from cover, and choosing the time to attack or ambush. Forward fighters could be left behind or sacrificed, and "self-attrition"

became a tactic substituting for speed of maneuver and the ability to anticipated IDF movements.

Skilled cadres and leadership cadres could be hidden, sheltered, or dispersed. Rear areas became partial sanctuaries in spite of the IDF. Aside from Nasrallah – who survived – no given element of the leadership cadre was critical.

A strategy of attrition and slow response substituted for speed and efficiency in command and control. The lack of a formal and hierarchical supply system meant that disperse weapons and supplies – the equivalent of "feed forward logistics" – accumulated over six years ensured the ability to keep operating in spite of IDF attacks on supply facilities and resupply.

The ability to fight on local religious, ideological, and sectarian grounds the IDF could not match provided extensive cover and the equivalent of both depth and protection. As noted earlier, civilians became a defensive weapon, the ability to exploit civilian casualties and collateral damage became a weapon in political warfare, and the ability to exploit virtually any built up area and familiar terrain as fortresses or ambush sites at least partially compensated for IDF armor, air mobility, superior firepower, and sensors.

The value and capability of such asymmetric "netcentric" warfare, and comparatively slow moving wars of attrition, should not be exaggerated. The IDF could win any clash, and might have won decisively with different ground tactics. The kind of Western netcentric warfare that is so effective against conventional forces has met a major challenge and one it must recognize.

#### Keeping the Role of Airpower in Proportion

As has been touched upon earlier a number of Israeli experts criticized the chief of staff of the IDF, the head of intelligence, and head of the air force for being too narrowly airoriented and for presenting unrealistic estimates of what air power can accomplish. It is far from clear that such critics had actual knowledge of the events involved, what the officers involved actually said, their direction from Israel's political leaders, or the other facts necessary to draw such conclusions.

These perceptions have been compounded by the fact that IAF successes in dealing with the Hezbollah long-range missile threat occurred in the first days of the war, and received little public discussion and attention. The IAF then conducted nearly two weeks of air strikes without a clear ground component in which it conspicuously failed to halt Hezbollah rocket attacks while it equally conspicuously hit Lebanese civilian targets and causes exten-

sive civilian casualties, serious collateral damage, and massive Lebanese evacuations.

It was only after two weeks that the IDF committed two brigades into land battles against the Hezbollah's forward lines of defense in places like Bint Jbeil and Marun Al-Ras, and after 29 days of fighting that the Cabinet approved a major land campaign to secure southern Lebanon – a campaign actually executed on August 11<sup>th</sup> at a time a UN ceasefire was already pending. This campaign then had to be halted on August 13<sup>th</sup>, and when the Hezbollah was still actively fighting the IDF and capable of launching nearly 200 rockets.<sup>30</sup>

The IAF flew some 15,500 sorties, including some 10,000 fighter sorties, and attacked a total of around 7,000 targets. Nevertheless, Airpower had not only failed to prevent the delivery of some 3,970 Hezbollah rockets against targets in Northern Israel – the most visible Hezbollah threat and the one of greatest immediate concern to the Israeli people – it failed to exercise the desired coercive effect on the Lebanese government. The Lebanese government predictably turned to the international community for aid. It was unwilling and unable to risk civil war by trying to commit

the Lebanese Army to try to secure the south – particularly one whose maintenance standard meant that many of its trucks, APCs, and helicopters were not on-line and prevented it from using its mobility even for unopposed movement into a severely damaged road net.

Israeli Prime Minister Olmert has since claimed that the IDF never proposed a major ground offensive until the fourth day of the war, while General Halutz has claimed, "I never said an aerial campaign would suffice to prevail. The original plan was to combine an aerial campaign with a ground maneuver."<sup>31</sup>

Any judgments about Israeli planning and execution need to be based on a full examination of the record. This is particularly true because other critics argue the Israeli land forces were deeply divided between advocates of a sweeping envelopment of the Hezbollah from the north and south isolating the area south of the Litani and others who argued the IDF land forces would become bogged down in another occupation and war of attrition.

It should be noted that by August 10<sup>th</sup>, the IAF had flown some 8,000 fighter sorties and 1,600 attack helicopter sorties with no losses to combat. At the end of the war, it had flown over 15,000 sorties, some 10,000 fighter sorties, and lost one aircraft in combat and four in accidents. Its air defense countermeasures may have erred

on the side of caution – and probably did for mission profiles that were more costly to operate and had some impact in limiting combat effectiveness because of altitude and attack profile limits.

Nevertheless, the IAF seems to have flown with considerable effectiveness – at least in missions supporting Israel's land operations. IDF army officers at the front noted that most such sorties were flown with delivery accuracies approaching 10 meters and close air support was extremely responsive. They also noted that in spite of the shallow front, air and artillery operated closely together.

The IDF was also able to deconflict air support and artillery missions, as well as fixed and rotary wing missions, with high levels of effectiveness. It fired well over 40,000 artillery rockets and some estimates go as high as 100,000 or more. These were often targeted interchangeably with air strikes, and precision GPS fire and target location allowed the 10-meter accuracies for many air and artillery strikes. (These data are average accuracies; substantial error can take place in individual cases).

<sup>30</sup> Alon Ben-David, "Israel Introspective After Lebanon Offensive," *Jane's Defense Weekly*, August 22, 2006, p. 18.

<sup>31</sup> Alon Ben-David, "Israel Introspective After Lebanon Offensive," *Jane's Defense Weekly*, August 22, 2006, p. 18.

**A Hezbollah flag is flying over an abandoned position in Lebanon.**



The IAF reacted quickly to the fact that Israel sharply underestimated Syrian deliveries of medium range rockets. It was able to create a 24/7 sensor and attack coverage over much of southern Lebanon and attack and destroy almost all major Hezbollah missile launchers within minutes after they fired. It helped improvise radar coverage to detect low signature Hezbollah UAVs and include them in its air defense activities.

As has been discussed earlier, it is less clear what the IAF accomplished in interdiction missions, and how well it carried out missions like attacking Hezbollah supply routes, facilities, and hard targets. Some preliminary reports indicate that it hit a large number of targets that were suspect but not confirmed, and that Hezbollah dispersal and evacuations turned many into "empty holes." The IAF's ability to attack the Hezbollah leadership seems to have been very limited.

Discussions with IAF personnel also indicate that it has the same continuing problems with making accurate battle damage assessments (BDA) during combat that have characterized since its creation, and which were major problems in the 1967, 1973, and 1983 wars. These are problems, however, which still characterize US and other NATO country air forces. The technical and analytic state of the art for both targeting and BDA still have severe limitations, and air forces almost inevitably make exaggerated claims in the heat of battle. These limitations are particularly clear in the record of postwar examinations of the actual impact of past air attacks on rear area targets, whether they are fixed enemy facilities, enemy supply routes and logistics, or leadership targets.

Like virtually all air forces and air operations before it, the IAF also seems to have grossly exaggerated its ability to use airpower to coerce and intimidate governments and political behavior. Lebanon did not react to IAF efforts to force it to deploy south and shut down the Hezbollah in ways favorable to Israel. There certainly is no evidence to that IAF strikes did more than make Lebanese leaders turn to the international community for support in forcing Israel to accept a ceasefire, provoke Hezbollah leaders to even more intense efforts, and produce a more hostile reaction in the Arab world. The advocates of escalation to intimidate and force changes in behavior at the political level are sometimes right; far more often, they are wrong. More often than not, such attacks provoke more hostility and counterescalation.

If there is a lesson here, it is that it has been clear from Douhet to the present that the advocates of airpower have no better political understanding of this aspect of airpower than any man on the street and probably less. They tend to sharply exag-

gerate its ability to influence or intimidate leaders and politicians, and act as a weapon of political warfare.

All of these issues will need full study by whatever Commission or body the Israeli government appoints. If there is a potential lesson that can be drawn about airpower on the basis of the limited data now available, it is that war planning and execution by all services and branches must be based on the best joint warfare solution possible, and a ruthlessly objective examination of the strengths and limits of each military tool as confirmed by battle damage assessment. This is already US doctrine, but the US too still has single service and single branch "dinosaurs."

### Don't Fight Enemy on Its Own Terms

As has been touched upon earlier, all of the previous problems in asymmetric warfare are compounded by strategic and tactical failures that engage an asymmetric enemy on its own terms. This is often necessary in counterinsurgency warfare and stability operations, but the IDF voluntarily chose a strategy of fighting the Hezbollah in its strongest forward positions in close urban warfare where the IDF's advantages in weapons and technology were least effective. It also fought where it could not inhibit Hezbollah dispersal, infiltration, and resupply by fighting in depth, and could not bypass and envelop Hezbollah positions from the rear. It also gave the Hezbollah ample strategic and tactical warning when it finally did decide to move north.

The Hezbollah probably is better trained and more ready than most guerrilla forces, which may say a great deal about the quality of Iranian training and doctrine in this area. The IDF, however, fought in ways that substantially increased its effectiveness. It also, ironically, fought in ways that almost certainly increased total IDF and Israeli casualties. In seeking to avoid becoming bogged down in Lebanon, it fought a long battle of attrition with minimal maneuver.

There are, however, broader issues involved. Wars against political and ideological enemies are almost impossible to win by attacking their combat forces. Such enemies do more than fight wars of attrition, they carry out ideological, political, and media battles of attrition. There almost always are more leaders and more volunteers. They can disperse, pause, outwait, and adapt. A senior US officer and a government expert commenting on the war drew the following lessons about the ways in which Israel's behavior played into Hezbollah strengths, and the similarity of the lessons Israel should learn to the lessons the US should draw from Iraq and Afghanistan.



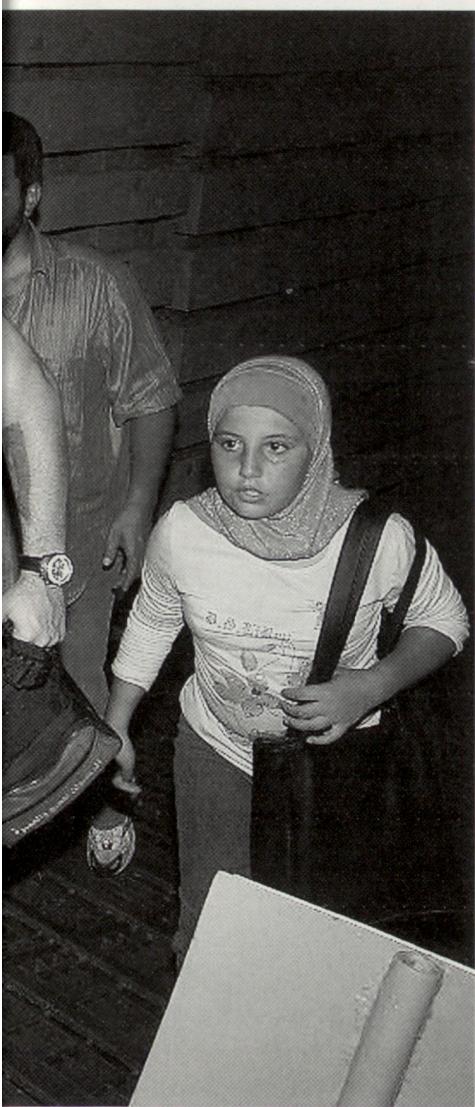
A sailor assists a family up the ramp from the well deck aboard the amphibious transport dock ship *USS Trenton* (LPD 14) off the coast of Beirut, Lebanon, during an evacuation operation on 23 July 2006.

Photo: Official U.S. Navy

The expert commented that,

I believe in the ultimate goal here, but I do not believe we are realistically assessing our enemy. First of all, I disagree that Hizb'Allah are fanatics. The party is relatively moderate when compared to Al Qaeda, and has differing aims. We demonized Shaikh Fadlallah in the 70s and 80s, when we should have brought him into the fold – his message was a tocsin, and we ignored it. This war has only served to radicalize a population that was essentially moderate, in a country that is already democratic, and highly educated. We are also ignoring the fact that a percentage of the Shia'a population have US passports – the Lebanese have a long history of US emigration, going back to the 19th century. This is a potential OpSec nightmare.

The Iranian Revolution, and the kidnapping and subsequent murder of Imam Moussa Sadr, were the first indications of the Shia'a battle/desire for regional influence. The Shia'a have long been marginalized within Islam, and they see this as their time in history. Hizb'Allah is the manifestation of this, and the seeds were sowed by the Israelis during the occupation in the 1980s. Nasrallah has aspirations to lead Lebanon and make it a Muslim state. He also knows that leading Lebanon can give him regional influence. He has no real goal to destroy the US, per se. But he now perceives – and I think in the case of this war, rightly so – that the US is solidly urging Israel to prosecute this



wars – and that's without considering Sabra & Shatila. This war was a blatant attempt to destroy as much of the south as possible, and as much of the Shia'a areas as possible. They have rationalized this by warning all residents to flee, knowing full well many of them can't. They intended to empty and isolate the south in order to prosecute a ground war against Hizb'Allah combatants; but the first casualty of war are the old and the sick and the poor. Nasrallah knows this, he used it, he exploited it, and Israel walked right into it. Did he mobilize Hizb'Allah to get these people to safety? Of course not – he used them, and to great effect.

Israel did, in fact, avoid a great number of civilian casualties. Less than 1,000 people died in a month of serious fighting. Also, all Hizb'Allah militia are listed as "civilian" deaths. But the number is immaterial; dead babies, no matter how many, feed into the collective memory of the Lebanese. During the Israeli bombing raids on Saida and west Beirut in the 1980s, it was not uncommon for 125–150 people (civilians) to be killed at one time when urban areas were indiscriminately bombed. This is a country that went through 15 years of civil war, and then occupation by Israel AND Syria. Even one dead baby evokes those collective memories and fears. That is why the south truly emptied out when the Israelis invaded – almost 1 million people displaced. All those memories and fear were made real, and people fled. Even as it reduced civilian casualties, Israel evoked and entrenched fears as strong as those of the Holocaust.

Leaflets were dropped by Israel telling people to flee north, when the Israelis had already bombed every main bridge leading out. They warned the residents of Maryjoun to flee, then bombed the convoy leaving. Were there bad guys in the convoy? Undoubtedly. But whether they like it or not, what they are doing smacks of ethnic cleansing to the people here on the ground, and by prosecuting the war as they have, they have exacerbated the problem. Al Jazeera and Al Manar are acting as a TSU for every insurgent and resistance group in the Arab world – we know this. We know how popular they are, even among moderate Arabs. The Israelis knew the public perception was being manipulated by Nasrallah in order to enlarge his power base and increase his national influence – and they played right into it.

It is pointless for us, with our Western sensibilities, to point out that Hafiz al Assad's brutal massacre at Hama was far worse than what the Israelis did here. That is brutality within the greater umma; this is war against the common enemy.

It is far too simplistic, and just plain wrong, to blame ... a "hostile global media." Many of them are ill-informed. Some of them have agendas. Fox News is as biased as Al Jazeera. There is also good, solid reporting. Don't kill the messenger, and don't lump them all together. What the good reporter on the ground sees is what the indigenous population is seeing – listen to the message and use it. Listen to what Al Jazeera says, and learn about your enemy from it.

The Israelis left the village of Rmaish – a Christian village – untouched. It is essentially the only town on the border or parallel to the Litani that was left undamaged. The nuns and the residents took in all the Muslims and Christians from all the surrounding villages and fed and sheltered them. Yet within one day of the ceasefire, the Shia'a in the destroyed villages are asking why Rmaish remained untouched, and implying Israeli collaboration. This is not the fanatical teachings of radical Islam – this is the memory of the Lebanese of the brutality that all sides – including the Christians – exhibited during the civil war. The convent at Rmaish has the emblem of the Lebanese Forces stenciled on the exterior walls.

Now, the Forces are the new, vogue manifestation of Christian nationalism. But if you are Muslim and older than 30, you think of Sabra & Shatila. The Israeli occupation of 1982 and subsequent actions are

having the effect of driving the Christians out of the South. No support from the West is coming to these people. The one solid source of intel and cooperation, and it's systematically being driven out. If Israel wanted to ensure a solid Hizb'Allah population on its border, then it has accomplished its goal.

Israel went in without adequate ground intel to take out Hizb'Allah's missile capability; it did not fail because it didn't wage a serious war. Yes, they could have nuked every square inch of the south and put 200,000 boots on the ground – and that's probably what it would have taken if you consider waging serious war simply the use of massive brute force.

... This was a very serious war, especially if you are Lebanese. The infrastructure of the country is essentially destroyed. Almost 100 bridges and overpasses have been bombed in a country that is only 4,000 square miles. The entire southern section of Beirut has been leveled – home to over 300,000 people. Most of Lebanon south of the Litani is flattened. It looks like Dresden – mile after mile after mile. Every main road is bombed. And you know who is rushing in to help these people? Hizb'Allah. Nasrallah has vowed to rent a home for every displaced Shia'a family, and rebuild their destroyed houses. Hizb'Allah has unlimited funds – unlimited – and they use them in the classic Muslim Brotherhood model of public support and dependence in the absence of strong central government. The Amal militia (Shia'a) was handing out packages of sweets to every person returning through Sur. The day after Nasrullah's "victory" speech, Hizb'Allah flags and banners were flying from every lamppost.

The Israeli bombing has fostered as siege mentality that plays into the "victimization of the Arabs" that is the message of every truly radical group. Waging war in this manner fosters radicalization – it does not eliminate it.

Because of this de facto scorched earth policy, Lebanon's economy is in shambles, except for the money flowing into the south through Hizb'Allah, and the huge amounts of reconstruction money that will be funneled through Hizb'Allah by the UAE, Saudi, and other Arab countries which will send massive aid. The central economy will take the biggest hit, further weakening the ability of the central government to exert control.

Israel waged a serious war, it did not wage a smart one. It is necessary to exploit the enemies' weaknesses, and those are not necessarily all military.

"If you must go to war, go with everything you've got. From Day One. In war, the only bargain at any price is victory."

This war had excellent strategic operations, planning, and theory – but was poorly prosecuted. The last time Israel successfully invaded they had over 100,000 boots on the ground. They started this war with 10,000 boots and figured air support and spec ops would win the war. Spec Ops was badly utilized and the victim of poor recon and ground intel.

IDF soldiers have nowhere near the level of commitment and across the board training the central cadre of Hizb'Allah has. The fighters are well trained, they were prepared, and like the Iranians, they have solid, long-range planning and operational staff in place. Their C4 is very sophisticated. They have an impressive technology set piece (they purchased a lot from the Russians through cutouts) and have excellent satellite capabilities. Their command and control was not – I repeat not – taken out by Israeli commandos. I will explain that further when I see you.

Without going into details on open source, the Spec Ops potential was underutilized and needed better recon and intel support. There were so many ways to support and enhance the chances of victory before putting boots on the ground. As it is, the Israelis strengthened Nasrullah's power base and set themselves up for an ongoing problem – with US encouragement.

war in this manner. Lebanon has been used as an international proxy for years – they know a regional "cluster" when they see it.

Controlling Hizb'Allah is the correct goal – this is not the way to do it. Every time Israel prosecutes a war in this manner – and the Lebanese are calling this "the Sixth War" – they make Hizb'Allah stronger. It's not working. We must first resist the temptation to lump every Islamic-oriented organization into one mold. We cannot fight an enemy we do not understand – or worse, misunderstand. It is not "all one war." That is a fundamental misunderstanding of the dynamics of the Middle East. Is there interaction (training, men, material) between some factions? Yes. Is there exploitation of regional conflicts by groups like Hizb'Allah? Yes. But this is not "one war" any more than the Middle East is one set piece.

The Israelis may well have attempted to avoid civilian casualties, but the fact is, they have a long history of indiscriminate bombing in Lebanon, and their opponents – the PLO and Hizb'Allah – have a long history of placing arms and fighters within urban areas, hospitals, mosques, and apartment buildings. The locals know this – I can give you endless examples of streets which were deserted because everyone knew a certain place or building would be a target.

The fact remains, the Israelis killed thousands of men, women, and children in West Beirut in previous

The officer commented that,

The war has strategic value of great consequence because, whether it is true or not, the Islamic world believes that the lessons of Iraq, Afghanistan, and Lebanon are that the Western world is vulnerable. The Islamic populations – formerly torn by the clash of cultures and chagrined by their powerlessness – now have heroes, and the madrassas are undoubtedly now filled with tall tales designed to inspire the next echelon of fighters, spoiling for the next fight.

As you point out, it is now unmistakable that we need to dramatically shift our thinking to prepare for this form of warfare.

The definition of warfare has to be expanded (more accurately, we have to revert to the wisdom of the ancients) to emphasize the economic, political, diplomatic, and informational. Requirement must dictate mission, and mission must dictate, plan, and organization must follow all. We are mal-positioned and, what's worse, we seem culturally incapable of adapting. Very troubling.

Such views should not be disregarded. The problem of fighting an enemy like Hezbollah is not simply one avoiding fighting it tactically on its own terms, and allowing it to fight – as Sir Rupert Smith has warned – below the level of competence of conventional forces. It is also fighting such an enemy in ways that give it religious, cultural, political, and perceptual advantages; and highlight the alien nature of Israel or the US.

### Readiness and Preparation

The readiness of the IDF for the land battle was much more uncertain than many observers anticipated. In some ways, this should be expected. No amount of training or discipline can substitute for combat experience, and the IDF had only dealt with a poorly armed and disorganized Palestinian resistance since 1982.

There may well, however, be a lesson in the fact that the IDF did not really prepare its active land forces for the specific fighting they encountered in attacking into Lebanon, and found its reserves needed at least a week of maneuver training to get ready for the eventual thrust towards the Litani. Strikingly enough, Brigadier General Yossi Heiman, the departing commander of the IDF's infantry and paratroops stated after the war that he and others had failed to prepare IDF troops for war and that he and other commanders now regretted a "certain sense of failure and missed opportunities. We were guilty ... of the sin of arrogance."<sup>32</sup>

The failure to plan for alternatives to the initial reliance on air power seems to have extended to delays in proper preparation. More seriously, Israel watched the Hezbollah build-up on its northern border for six years, and its overall quality of readiness, training, and preparation for a possible war seems to have been dictated by the fact that it did not want to fight another land war in Lebanon, rather than the fact it might well have to fight such a war.

The IDF's Logistic Corps was unable or unready to meet the IDF's needs in combat – perhaps because senior commanders and politicians never gave the proper guidance to prepare for the ground war that the IDF might have to fight. Major General Avi Mizrahi, the head of the IDF Logistic Directorate, has been quoted as saying, "In some cases, we could not secure a land route for supplies, so we sought other ways, such as airlift supplies." The same article, however, quotes an unnamed Israeli commander as saying, "We have found ourselves operating without a logistic tail."<sup>33</sup>

It is clear from reservist accounts that many went to war without proper equipment, including such vital items as night sights for sniper rifles.<sup>34</sup> Basic supply items were missing. Most reserve units required a week's maneuver refreshing training and many felt that both this training and small unit and squad training was inadequate before the war. Training for rear area security and movement-readiness training was conspicuously weak during visits to the front, and many units complained of poor logistic and service support in areas as elementary as water supply after they cross the Lebanese border – a lack of forward area supply particularly serious when units are in physically demanding combat.

In one typical e-mail, an Israeli summarizes the attitudes of a battalion commander fighting in Lebanon as follows:

I have known Danny (a pseudonym) for many years but never have I seen him as angry as now. He is a commander of a reserve battalion in the armored corps and a moshav farmer in civilian life. His epaulets rank him as major. Tall, muscular, bulky, in his late forties, he cuts a dashing figure speeding in his armored jeep through a curtain of diesel fumes and whirling dust alongside his clanking, snorting column of Merkava tanks returning to base from Lebanon.

Danny is angry at the last three chiefs of staff – Ehud Barak, Shaul Mofaz, and Moshe Ya'alon – for having neglected the land forces in favor of the air force, for sacrificing ground mobility on the altar of high-tech wizardry, and for squandering tank specialists in the nooks and crannies of the Intifada. Danny is angry at them for slashing the army budget by 13 percent, and for downgrading the reserves by a whopping 25 percent. To be in top form, a tank reservist needs a five-day refresher exercise each year. Most hardly got that in the course of three years, others in the space of five, and yet others none at all.

Danny is angry at the rushed fashion his reservists were mobilized, with depleted provisions, outdated equipment, and insufficient supplies. Their transition from family normality to a place of hazard and death was too abrupt to allow for battle conditioning. His reservists, living by a bond that is impossible to describe and impossible to break, had too little time to pound themselves into front-line discipline through tough exercise, ruthless discipline, and absolute obedience. Some were so out-of-shape they caved in under the grueling stress.

Danny is angry at the lack of aptitude of the younger enlisted recruits. Tankists by designation but drafted into the Intifada as foot soldiers by necessity, their stance was not that of tank crews but of crack commandos. Full of drive and guts, they know more

about tracking down terrorists in the labyrinths of the refugee camps in Jenin and Nablus than a tank's maneuverability, technology, and self-protection mechanisms in Lebanon.

Inevitably, the first such crews to cross the blue line had little notion of how to function in the forbidding and grim terrain of the fractured Lebanese battlefields, with their steep hills, dry stream beds, twisting roads, deep ravines, and Hezbollah's formidable anti-tank arsenal.

Danny is angry at the armchair pundits for disparaging the formidability of Israel's main battle tank, the Merkava. Its latest version, the Merkava 4, is perhaps the finest in the world. Born of necessity in the seventies when countries refused to sell Israel their main-line tanks, a brilliant armor tactician named General Israel Tal conceived the Merkava whose latest innovative design combines maximum fire power and maneuverability with paramount crew safety. There is no such thing as an impregnable tank, but the Merkava 4 is the closest thing to one.

Now in its fourth generation, the Merkava 4 proved its mettle in the harshest tank battle of the war, fought in a precipitous gorge west of the crook of the Litani River in the central sector – the battle of Wadi Saluki.

Two of the eight Merkava 4s were knocked out of commission and their commander was mortally wounded, caught in the sights of long-range, Russian-made, Syrian-supplied, laser-beamed, selfpropelled Kornet anti-tank missiles, with their lethal dual warheads that penetrate the armor and then detonate incendiary blasts within. But the reserve commander saved the day, rushing to the rescue of the other six by leading their climb up sheer slopes to the top of the gorge, an ascent few other tanks in the world could navigate. In all, four crewmen died in the battle of Saluki, a battle which was an unqualified triumph of the Merkava 4. Had those tanks been of an earlier generation, not equipped with state-of-the-art technology and active self-protection mechanisms, 50 crewmen might well have perished.

Danny is angry at being caught off-guard by a highly sophisticated, well-armed guerrilla force, shielded by civilians in villages now laying coated with brown dust from the shattered walls of houses and pockmarked with the debris of battles which time and again one of our generals declared to have been won – places where our wounded were slow to be rescued, where the smell of unbathed, dehydrated men lingered long for lack of logistics, mingling with the stench of blood and medicine and dead bodies.

Danny is angry at the initial reports claiming the enemy was decisively beaten and that Hezbollah's retreat was a rout and a flight. He was suspicious at the lack of the signs of disorganized retreat: why so few prisoners? Where were the jettisoned boots, the dumped weapons and ammunition along the roadside? Who in Military Intelligence knew of the fight-

<sup>32</sup> Israeli Reservists Lead Growing Protest movement, August 22, 2006, <http://ebird.afis.mil/ebfiles/e20060822452414.html>; "Soldiers Unhappy with War Handling," *Jerusalem Post, On-Line Edition*, August 18, 2006

<sup>33</sup> Alon Ben-David, "Israel Introspective After Lebanon Offensive," *Jane's Defense Weekly*, August 22, 2006, p. 19.

<sup>34</sup> Peter Waldman, "View on the Ground: Israeli Reservists See Disarray in Lebanon," *Wall Street Journal*, September 1, 2006, p. 1; "The Blame Game," *Economist*, August 19, 2006, p. 42; Ilene R. Prusher, "Israeli Unease Grows Over Conduct of the War," *Christian Science Monitor*, September 1, 2006, p. 1.



Severe damage was done to these buildings in Beirut, Lebanon, after a massive air attack by the Israeli Air Force.

to-the-death doctrine of the fanatical foe, or of the ten-meter deep bunkers and tunnels, impervious to the greasy black puffs of the 130,000 bursting shells which rained down on them through the hot summer sky of this futile campaign?

Danny is angry at the strutting Napoleonic pomposity of Prime Minister Ehud Olmert and Defense Minister Amir Peretz at the war's start, and at their unrealistic war goals, not least the return of our two kidnapped soldiers.

Standing now amid the tumbled shambles of Israel's hopes, they remain magically unperturbed with a marvelous incapacity to admit error. All is laid at the door of the generals: had but the prime minister been told this, retreat would have been an advance; had but the defense minister been told that, defeat a victory.

Danny is angry at a government whose conduct of the war was marked by sluggishness, negligence, divided counsel, and fatal misjudgments. Lax management at home translated into lax management in the field causing contrary and confusing orders. Once divinity of doctrine was questioned by the troops, there could be no return to perfect faith. And thus it was that on the very eve of the cease-fire, the cabinet squirmed uncomfortably through a long summer morning and afternoon, unready and unwilling to grasp the nettle until it was too late, until there was hardly any point any more to what they said and did, until more young men had to die.

Like a fated creature blown by the winds of Homeric gods, they did not change direction. Cutting losses, removing blunder, altering course – these are repugnant to this government, to any government. Admitting error is out of the question. Everyone has an alibi.

Danny is angry most of all at the shirkers of Shenkin Street – a metaphor for the bon ton, chattering, elitist draft dodgers who mock and scoff and sneer and leer at every symbol of Jewish patriotism which he and his fellow reservists cherish.

A wise prince aught always be a good asker, said Machiavelli. What Israel needs now are great askers. Danny and his angry men are the greatest askers of all.

Anger is always biased and unfair, and small unit commanders are denied access to the "big picture." This does not, however, make anger irrelevant or mean that the comments born out of anger can be disregarded. Military forces must prepare for the wars they may have to fight, not for the wars they want to fight. They must also prepare knowing that nothing about the his-

tory of warfare indicates that peacetime planners can count on predicting when a war takes place or how it will unfold.

#### Missile-Rocket-Cruise Missile Defense

Israel has so far only confronted a threat using unguided artillery rockets with conventional warheads, plus a small UAV with GPS guidance, a range of 450 kilometers, and a 30–40 kilogram payload. The impact of such attacks is more psychological than physical.

But there are no guarantees for the future. Iran and Syria can both supply much longer range and more precise guided missiles with larger payloads. Rockets can be equipped with crude to sophisticated chemical, radiological, and biological warheads – having a major political impact even if their military impact is limited. A variety of systems exist which could easily be launched from commercial ships from outside the Israeli Navy's normal patrol zone or smuggled into range in pieces.

Unlike major long-range missile systems, many of the kinds of weapon the Hezbollah used in Lebanon are not high apogee systems suited for anti-missile missiles. Many have very low signatures and little preparation time. Hezbollah made excellent use of shoot and scoot tactics, often using towns and buildings as cover. Its one UAV attack was more token than serious, but it was a warning that low-signature short-range cruise missiles with precision guidance could have a very different effect.

At a crude level, the obvious lesson is that the US and its allies not only need missile defenses, but defenses against cruise missiles, UAVs, artillery rockets, and short-range, low apogee-flight time ballistic missiles. In practice, however, such defenses may simply be impractical or too expensive, and at best seem to be only a partial solution.

This is a key issue that needs close examination when new calls come for immediate ATBM deployments or funding various laser and energy weapons like the Tactical High Energy Laser (THEL). It is remarkably easy to make such concepts work on paper and have them soak up large amounts of development money with little or no practical outcome. Active missile defense is a costly and uncertain option, not a new form of religion.

The reality is that the only effective defense may be a mixture of measures where direct missile/rocket/cruise missile defenses are only part of the effort. Such a broader effort would mean denying state and non-state threats the ability to stockpile such weapons where possible, and develop clear deterrent offensive threats where the enemy is deterred or targetable. It would be to develop the kind of quick-reaction strike capability that the IAF created after the first few days of war by refocusing its sensors and deploying a 24/7 air strike capability to at least hit major-high signature launchers immediately after they first launch. It is also clear that capability is immediately needed to provide the best possible detection and characterization of even the most limited CBRN warhead, and identify exactly what systems have been used in attacks.

There is nothing wrong with creating active missile defenses, provided they can be made cost-effective. This war, however, is another warning that they will never by themselves be an effective method of defense against the full spectrum of possible threats.

#### Active Anti-Armor versus More Armor

A number of Israelis are arguing that the war shows the need for much more advanced approaches to defending armor like the ability to detect and intercept incoming anti-tank weapons and automatic countermeasures and fire. This may well prove true, but like rushing out to find active rocket and missile defenses, everything depends on real world cost-effectiveness.

Some Israeli experts are already arguing that explosive reactive armor (ERA) is no longer adequate and for immediate deployment of the Rafael Trophy armor protection section (APS), that was designed for the Merkava 4, but never deployed.<sup>35</sup>

Regardless of how serious the problem may be, it is never proof of the need for an untested and uncosted solution. This is particularly true because armor is so expensive; many of the Israeli losses were due to

<sup>35</sup> Alon Ben-David, "Israeli Armor Fails to Protect MBTs from ATGMs," *Jane's Defense Weekly*, August 30, 2006, p. 16; and "ATGM Threat Poses a Quandry for IDF Armor," *Jane's Defense Weekly*, August 16, 2006, p. 5.

poor preparation, training, and tactics; and armor spearhead operations which would have cost far more lives if armor had not taken the hits it did.

In a review by Barbara Opall Rome in *Defense News* various advocates of armor were quoted as follows:

"Before the war, they spoke about a new concept in the IDF where there would be no more large wars, whatever that means, and that the Air Force would deal with the bulk of future threats ... The way this war was executed did a disservice to the tanks; they weren't employed correctly. When you send in a small force of tanks into a village where there's no front and no rear – and where terrorist cells are still operating – you're going to take hits. Tanks need to be incorporated as part of a full combined arms force package ... But I expect now, if they analyze this war correctly, they'll understand clearly why things happened the way they did. ... And one of the lessons is that the tank and heavy armor will remain the central element of the ground force structure, with a continued role of primary importance in the future battlefield" (Haim Erez, a retired IDF major general and chairman of Israel's Armored Corps Foundation.)

"Each war proves anew to those who may have had their doubts the primacy of the main battle tank. Between wars, the tank is always a target for cuts. But in wartime, everyone remembers why we need it, in its most advanced, upgraded versions and in militarily significant numbers." (Yehuda Admon, retired IDF brigadier general and former manager of the Merkava tank program)

Other IDF experts reiterated the fact that the war had also shown the need for heavily defended troop transports and fighting vehicles. This is a lesson very similar to the constant US Army effort to up-armor its vehicles in Iraq and deploy heavier systems like the Bradley and Stryker that increasingly calls the feasibility of many of the elements of the Army's Future Combat Systems program that emphasize light armor into question.

If anything, the war may have taught the IDF the same lesson Iraq taught the US. Even today's irregular wars need heavy armor and plenty of it. Israel was considering canceling production of the Merkava before the war.<sup>36</sup> The advocates of armor seemed far more optimistic once it was over.

### Naval Forces and Readiness

The Israeli Navy played a major role in securing the Israeli coast against both Hezbollah and various Palestinian threats during the war, and in enforcing a blockade against naval resupply. It spent some 8,000 ship hours in carrying out these missions during the war. What is still not clear, however, is why Israel's most modern Sa'ar-class flagship, the *Hanit*, could be hit by a C-802 anti-ship missile.

<sup>36</sup> Barbara Opall Rome, "New Life for Merkava Line? Tough Tanks Have Israel Rethinking Plans to End Production," *Defense News*, August 28, 2006.

<sup>37</sup> Ze'ev Schiff, "The Lessons of War/Navy was warned," *Haaretz*, August 30, 2006.

Israel's failure to raise these issues raises significant questions as to whether the real failure existed in some aspect of the Sa'ar 5's warning and/or defensive systems. It also makes it impossible to draw useful lessons on the basis of the data available.

One Israel's top defense analyst, Ze'ev Schiff described what actually happened in *Haaretz* as follows:<sup>37</sup>

Two days into the war, Hezbollah hit the destroyer INS *Hanit* with a surface-to-sea missile that Iran provided the organization. Four members of the crew were killed and others were injured, while the navy's flagship suffered serious damage. The following day, the head of the navy appointed a committee of inquiry. More than six weeks have past and the war has ended but the public has still not heard the findings of this committee of inquiry.

In an inquiry that we held, it turns out that the intelligence branch at the General Staff had issued a warning to the navy, long before the incident, that it should assume the Hezbollah arsenal contained a Chinese-made C-802 missile. The navy concluded otherwise and rejected the warnings. Because the conclusions of the committee of inquiry have not yet been made public, it is not known whether the above-mentioned incident has been included in the report.

The meeting during which the intelligence warning was made took place on April 21, 2003 in the offices of naval intelligence. The navy personnel were given the intelligence that China had sold Iran a C-802 surface-to-sea missile and that the Iranians carried out improvements to one type of the missile. Intelligence assumed that if the missile was in the Iranian arsenal then Hezbollah was also likely to receive it. The conclusion at intelligence was that unless this conclusion could be firmly discounted, then Israel should carry on under the assumption that Hezbollah had such a missile.

A similar sort of warning was issued by intelligence to the air force over the SA-18, a Russian-made surface-to-air missile. The air force acted accordingly and even though the missile was not fired in Lebanon, the pilots were instructed to operate as if the missile was in the Hezbollah arsenal.

This is not what happened in the navy. They concluded that the Chinese missile that had been sold to Iran was not in Hezbollah's hands. This conclusion proved to be false. To this must be added the neglect to operate one of the warship's significant defensive countermeasures: the Barak antimissile system. Even though the destroyer entered a war zone and cruised along the Lebanese shores, the crew forgot to turn on the automatic operation system of the Barak. The result was that no effort was made to intercept the Iranian-Chinese missile, and unobstructed it struck its target. It is believed that an Iranian crew launched the missile from the Lebanese shore, or at least was involved in the attack.

Unlike this failure, the navy was successful in deploying the naval commandos in successful raids on the Lebanese shores. The commandos embarked on a series of raids, destroying rocket launchers and other targets. The navy did not carry out major landings of seaborne forces. An American naval source expressed surprise at this.

The Israeli Navy has publicly claimed that the ships' electronic warning, countermeasures, and missile defenses were not active because no threat was perceived. In broad terms, this explanation would still be gross negligence on the part of the captain in a wartime environment and require his court-martial and dismissal from the service. Israeli intelligence, however, has

claimed that the Navy did have warning that the Hezbollah had the C-802, and any failure to warn the captain would mark further gross negligence at the command level.