



from the August 01, 2006 edition - <http://www.csmonitor.com/2006/0801/p01s04-wome.html>

Limits of Israel's high-tech power

Civilian deaths and suprisingly high troop casualties expose the drawbacks of Israel's technological advantage.

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PALMACHIM AIR BASE, ISRAEL

When Israel started its offensive against Hizbullah militants in Lebanon more than two weeks ago, it hoped its high-tech military hardware would quickly decimate the Iranian-backed militiamen with their low-tech arms.

But what began as a bid to swiftly rout the guerrillas with sophisticated air strikes has become bogged down in the hamlets of southern Lebanon, where Israeli ground troops are suffering a surprising number of casualties and where the air force killed some 60 civilians Sunday. Recent infantry losses and mounting civilian deaths are a reminder of the limits of Israel's technological advantage.

More decisive results from Israel's battle technology "would have been considered a major success. It seems that it wasn't nearly as successful as hoped," says Gerald Steinberg, a political scientist at Bar Ilan University, outside Tel Aviv. "When you have an asymmetric war and when you have a terrorist group that uses human shields extensively, no technology is going to tell you that there are dozens of children in a basement of a building that is either used to store arms or next to missile launchers."

How drones work

Outfitted with gadgets ranging from smart bombs to GPS equipment, Israel's army relies on no technology more heavily than the unmanned aerial vehicles in the Air Force's 200th Squadron.

Flown from a seaside air base just a few miles south of Tel Aviv, the drones scour the ravines and villages in southern Lebanon to take out rocket launchers before Hizbullah militants can launch Katyusha missiles into northern Israel.

Amid idyllic sunsets, three-man drone crews sit in windowless metal sheds outfitted with flat-screen computer panels, and a joystick that controls the camera.

The 19-foot-long Israeli-made Searcher II drone can stay airborne for more than 15 hours, and has a range of about 120 miles. Communicating over radio frequencies, the camera that gives Israeli soldiers a close-up of their targets transfers images back to a flight crew at the base, which relays the data to command centers in the field.

Perched as high as 20,000 feet, the drones give a real-time bird's-eye view of a combat zone to field commanders, and mission specialists say there is no ground encounter without a UAV flying overhead.

"These are the terrorists," says drone pilot Lt. E, whose name cannot be used due Israeli military policy, as he points to three blips on a video of the battle at Bint Jbail last week, a village where at least eight Israeli soldiers were killed last week. "They're lying here on a stakeout, and our forces are just around here. We tried to target them from the air, and they ran and hid inside a mosque."

That is one the drawbacks of the drones' surveillance equipment, say operators. Once targets go behind a wall, they become invisible. And in a region where Hizbullah is believed to be concealing thousands of rockets in houses and in sheds, that makes for a dangerous and slow-going game of cat and mouse between the Israeli army and guerrillas.

"There's no secret weapon that you can use a push a button and it will show you where everything is," says Lt. E. "If we wanted to map all the bunkers along the border, we could, but we don't have the time."

Collateral damage

An Israeli drone fired a rocket at a Lebanese military jeep yesterday killing a soldier it says it thought was a Hizbullah member. The attack came hours after Israel's Air Force announced the suspension of most of its bombing runs in a 48-hour gesture meant to allow southern Lebanese villagers to flee the war zone.

The missed target highlights how difficult it is for the Israeli Air Force to remain aggressive in pursuing Hizbullah while at the same time avoiding collateral damage from its hunt for Hizbullah targets.

Though the systems have been deployed for years in the skies over the Gaza Strip, they haven't avoided dozens of bystander deaths in attempted assassinations on Palestinian militant leaders.

In addition to the images provided by the drones, target identification often relies on the credibility of other forms of intelligence such as satellite pictures and data from field agents.

"Connecting at the right moment between the target and the munition is very, very difficult. You don't always succeed. You miss it more often," said Yiftach Shapir, an analyst at Tel Aviv University's Jaffee Center for Strategic Studies. "You need very good command control systems to do that, and you need well-trained people to do it. And this is what is so difficult."

Reducing casualties

At the 200th Squadron's base, the drone pilots argue that their images provide enough information to abort as many as two-thirds of the attacks ordered by the Air Force.

Showing footage of an attack on an apartment block in southern Beirut that left neighboring buildings standing, they say they are convinced that the technology reduces collateral damage from the war on both sides.

Former Israeli military intelligence officer Yakov Armidror says that the drone technology has helped reduce the missile launches on Israel in the past few days. But he acknowledges that to clean Lebanon out of rockets, it requires low-tech ground fighting.

"Those who think that by technology everything can be resolved will be disappointed," he

says. "The real answer is a combination of good old infantry on the ground, and close support of long-range capability technology."

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