

Hezbollah and the Use of Drones as a Weapon of Terrorism

By Milton Hoenig

The international terrorist group Hezbollah, driven by resistance to Israel, now regularly sends low flying drones into Israeli airspace. These drones are launched and remotely manned from the Hezbollah stronghold in Lebanon and presumably supplied by its patron and strategic partner, Iran. On the U.S. State Department's list of terrorist organizations since 1995, Hezbollah has secured its presence in Lebanon through various phases. It established a strong social services network, and in 2008 it became the dominant political party in the Lebanese government and supported the Assad regime in the Syrian Civil War.

Hezbollah's drone flights into Israeli airspace

Hezbollah's first flight of an unmanned aerial vehicle (UAV) or drone, into Israeli airspace for reconnaissance purposes occurred in November 2004, catching Israeli intelligence off guard. A Mirsad-1 drone (an updated version of the early Iranian Mohajer drone used for reconnaissance of Iraqi troops during the 1980s Iran-Iraq War), flew south from Lebanon into Israel, hovered over the Western Galilee town of Nahariya for about 20 minutes and then returned to Lebanon before the Israeli air force could intercept it.

Hezbollah leader Hassan Nasrallah boasted that the Mirsad could reach "anywhere, deep, deep" into Israel with 40 to 50 kilograms of explosives.¹ One report at the time was that Iran had supplied Hezbollah with eight such drones, and over two years some 30 Lebanese operatives had undergone training at Iran Revolutionary Guard Corps bases near Isfahan to fly missions similar to the Mirsad aircraft.²

The second drone flight into Israel was a short 18-mile incursion in April 2005 (again by a Mirsad-1 drone), that eluded Israeli radar and returned to Lebanon before Israeli fighter planes could be scrambled to intercept it.³ A third drone mission in August 2006 during the Lebanon War was intended for attack; Hezbollah launched three small Ababil drones into Israel each carrying a 40-50

¹ "Hezbollah says it has capability to bomb Israel from air," *Haaretz*, Nov 12, 2004.

² Eugene Miasnikov, "Terrorists Develop Unmanned Aerial Vehicles," *Center for Arms Control, Energy and Environment Studies at MIPT*, Dec 2004, <http://www.armscontrol.ru/uav/mirsad1.htm>

³ "Hezbollah Mirsad-1 UAV Penetrates Israeli Air Defenses," *Defense Industry Daily*, April 20, 2005.

kilogram explosive warhead intended for strategic targets. This time Israeli F-16s shot them down, one on the outskirts of Haifa, another in Western Galilee, and the third in Lebanon near Tyre.^{4,5}

Abruptly, the incursion of Hezbollah drones into Israeli airspace stopped – only to be started up again after a six year hiatus. Presumably, drone launches by Hezbollah into Israel are planned and carried out to meet the political agenda of Iran, while shielding Iran's involvement and allowing a measure of deniability. The involvement of Shiite Hezbollah with Iran dates back to financial support and training from the Iran Revolutionary Guard Corps and the suicide attacks in Beirut in October 1983 on the U.S. embassy and the Marine Corps barracks attacks. This was followed by Iranian sponsorship of Hezbollah attacks on the Israeli embassy and the Jewish Community Center in Buenos Aires, Argentina in 1992 and 1994, and the Khobar Towers bombing in Saudi Arabia in 1996.

The drones sent out from Lebanon were small objects moving at slow speed and low elevation and as such they were difficult to detect by radar. The Mirsad-1 and the Ababil were each only about 9.5 feet in length. The low speed (120 miles per hour for the Mirsad-1 and 180 miles per hour for the Ababil) minimized the Doppler shift in the reflected radar beam and made detection difficult. The low ceiling (6,500 feet for the Mirsad-1 and 9,800 feet for the Ababil) would limit detection as it is obscured by ground clutter, glare, and other environmental conditions.⁶ In the past it has been reported that drones could penetrate Israel's radar and air defense systems, even the Iron Dome. But ongoing upgrades in detection capability suggest progress has been made in improving sensitivity and limiting detection failure to areas lacking air defenses, or suppressed defenses, or when the drones are indeed very small.⁷

A daring mission to the nuclear complex at Dimona

The next appearance of a Hezbollah drone on October 6, 2012, was a spectacular foray that took Israel by surprise. An Iranian drone called "Ayub" flew south from Lebanon over the Mediterranean and into Israel via the Gaza Strip, moving westward about 35 miles into the Negev and penetrating to a point near the town of Dimona, the site of Israel's nuclear weapons complex. There it was shot down over a forest by Israeli aircraft. Examining the wreckage, Israeli military said that it was possible the drone could have transmitted imagery of the nuclear research center.

⁴ Ronen Bergman, "Hezbollah Stockpiling Drones In Anticipation of Israeli Strike," *Yediot Ahronot*, Feb 15, 2013.

⁵ Yochi Dreazen, "The Next Arab-Israeli War Will Be Fought With Drones," *New Republic*, March 26, 2014.

⁶ Eugene Miasnikov, "Terrorists Develop Unmanned Aerial Vehicles." *Center for Arms Control, Energy and Environment Studies at MIPT*, Dec 2004, <http://www.armscontrol.ru/uav/mirsad1.htm>

⁷ Chandler P. Atwood, Joshua C. Burgess, Michael Eisenstadt, and Joseph D. Wawro, "Between Not-In and All-In: U.S. Military Options in Syria," Policy Notes 18, *Washington Institute*, May 2014.

Observers immediately interpreted this incursion as a message from Iran that Israel's nuclear facilities were vulnerable to attack should Israel attempt any military action against Iran's nuclear facilities. Apparently the propaganda victory was significant enough for Iran to admit spying on Israel several weeks later: an influential member of the Iranian Parliament announced that Iran had pictures of sensitive Israeli facilities transmitted by the drone.⁸

In a more recent flight in April 2013, an unmanned aircraft attributed to Hezbollah reached the coast near the city of Haifa, where an Israeli warplane brought it down, demonstrating that these drones are still vulnerable to counter-attack.⁹

Each drone flight into Israel is potentially a significant propaganda victory for Hezbollah. As Matthew Levitt of the Washington Institute has noted, "They love being able to say, 'Israel is infiltrating our airspace, so we'll infiltrate theirs, drone for drone.'" ¹⁰

Israeli drones are sophisticated, deadly and widely used in policing and assassinations of Hamas operatives in Gaza, while Hezbollah's drones appear to lag behind. While the 145 mile excursion from Lebanon to Dimona in October 2012 showed substantial gain in Hezbollah's reconnaissance capability, a willingness by Iran to transfer its latest designs to give Hezbollah deadly capabilities is questionable since Iran is unlikely to risk having their advanced drones shot down over Israel. In addition, Hezbollah would surely have second thoughts about using drones in an assassination campaign in Israel since this would be met with a strong military response.

Emerging strategies and possibilities

Primarily sent to cause panic in Israel, Hezbollah's drones that were shot down in 2006 were armed with explosive warheads. As their sophistication grows, Hezbollah's drones will be increasingly valuable for reconnaissance missions to: gather information on troop movements and facilities, in prepare for future infiltrations or rocket attacks, and calibrate the accuracy of rocket targeting in real time. Adding weight to a drone's load reduces its range; but once developed to carry heavier loads, drones become launching platforms for guided missiles or bombs. Drones could potentially carry and launch some weapons of mass destruction -- biological and chemical weapons and even radioactive "dirty" bombs. In the hands of a jihadist group such as Al Qaeda, they could be used to kill civilians as a substitute for on-ground suicide attacks.

All sides in the worldwide drone wars have been working on countermeasures to neutralize each other's attacks. Aside from radar detection and shooting drones down with land based missiles or

⁸ Carlo Munoz, "Iran claims drones gained access to secret Israeli facilities," *The Hill*, October 29, 2012.

⁹ Gil Cohen, Barak Ravid and Jack Khoury, "IDF shoots down drone from Lebanon opposite Haifa coast," April 25, 2013.

¹⁰ Yochi Dreazen, "The Next Arab-Israeli War," *New Republic*, March 26, 2014.

airplanes, one viable countermeasure is jamming the frequencies used for navigation. A further step would be to intercept or "hack" into the signal that the controller transmits via satellite/aircraft and thereby gain control of the drone and its technology.¹¹ Iran claims to have done this in the mysterious landing of a U.S. RQ-170 drone in Iran in 2011.

Important legal, moral and humanitarian challenges are being raised in connection with the use of drones for targeted killings by the United States in Yemen, Pakistan, and Afghanistan and by Israel in Gaza.¹² Drones are a surgical tool that shields the people guiding them from the real horrors of war fighting. Their effectiveness in military attacks has been well demonstrated by the U.S. military in attacks to ferret out suspected terrorists. Drones are cheap, so other countries might be expected to follow suit; whether this is a desirable outcome is open to question.

Limiting drone proliferation

The export of large drones for military purposes raises issues for arms control and nonproliferation; exports are already a major multi-billion dollar business for both Israel and the United States. The sales are currently limited to drones for reconnaissance missions and civilian use, except for the U.S. supplying military attack drones to Britain.¹³ The Missile Technology Control Regime (MTCR) is a voluntary agreement between 34 countries that was initiated some three decades ago to stop the export of ballistic missiles with nuclear payloads greater 500 kilograms and ranges greater than 300 kilometers and was amended in 1992 to cover proliferation of UAV's carrying all weapons of mass destruction. While Israel is not a member, it has agreed to follow the MTCR export rules. Nevertheless, there is increasing pressure on the U.S. government to liberalize and weaken controls, so that U.S. manufacturers of military aircraft are not left out of the burgeoning drone market.¹⁴

The prospects for Hezbollah's future drone force are closely aligned with political decisions made by Iran. Although information about Iran's drone fleet remains hidden, Iran has made great strides in range, speed and lethality. In mid-2010, it unveiled the "Ambassador of Death" drone which can carry four cruise missiles or two large bombs with a range of 250 miles, and in November 2013, it announced the missile-carrying Fotros drone that could fly over 430 miles and remain aloft for 30 hours. In May 2014, Iran unveiled what it says is a reverse-engineered copy of the CIA RQ-170 stealth reconnaissance drone, which, it claims the Iranian Armed Forces' electronic warfare unit commandeered and brought to a safe landing in Iran in December 2011. If Iran now has a copy of an

¹¹ "UAV Drone Unmanned Aerial Vehicle," *UAV – DRONE.NET*, 2013, <http://uav-drone.net/anti-drone-uav.htm>.

¹² Micah Zenko, *Reforming U.S. Drone Strike Policies*, *Council on Foreign Relations, Council Special Report No. 65*, January 2013.

¹³ Tia Goldenberg, "Israel is World's Largest Drones Exporter," *Associated Press*, June 5, 2013.

¹⁴ Jefferson Morley, "Drone Proliferation Tests Arms Control Treaties," *Arms Control Today*, April 2014.

advanced U.S. drone, this raises its drone capabilities to yet another level, as it seeks to play a dominant role in the Middle East.¹⁵

Conclusion

Incursions of Hezbollah drones supplied by its patron Iran into Israel from Lebanon have occurred with increased frequency and sophistication since 2012. Now used only for purposes of reconnaissance, they have the potential for future attacks on military and civilian targets. Much depends on the political agenda of Iran. For the present, attacks on Israel from Lebanon either with drones or rockets may be receiving only divided attention from Hezbollah, as it focuses on pressing its support for Syria's president Bashar Assad in the Syrian civil war.¹⁶

Only a handful of countries presently manufacture military drones; the United States and Israel are the two major manufacturers. Russia and China have shown an interest in producing drones for military purposes, and India and Pakistan may also have developed them. Now is the time to give serious thought to a convention or treaty to ban the manufacture and use of UAVs for military purposes. In the United States, drones for commercial purposes are expected to be licensed in the next few years and the "rules of the road" in space are being considered by the Federal Aeronautics Administration. A focus on ensuring the benefits of drones in civil society should take the highest priority.

Milton Hoenig is a nuclear physicist and consultant on weapons of mass destruction and nonproliferation issues.

¹⁵ Brad Lendon, "Iran says it built copy of captured U.S. drone," *CNN*, May 12 2014, <http://www.cnn.com/2014/05/12/world/meast/iran-u-s-drone-copy/>.

¹⁶ Ben Hubbard, "Syrian Fighting Gives Hezbollah New but Diffuse Purpose," *New York Times*, May 20, 2014.