Here's how Israel would destroy Iran's nuclear program

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Israeli government ministers and Knesset members who will help make the decision about whether to attack Iran's nuclear facilities do not have to wait any longer for a preparatory briefing by the Israel Air Force.
They can read about all the possible scenarios for a strike on Iran, and about the potential risks and chances of success, in a study by Abdullah Toukan and Anthony Cordesman of the Center for Strategic and International Studies in Washington.

Never before has such an open, detailed and thorough study of Israel's offensive options been published. The authors of the 114-page study meticulously gathered all available data on Israel's military capabilities and its nuclear program, and on Iran's nuclear developments and aerial defenses, as well as both countries' missile inventory.

After analyzing all the possibilities for an attack on Iran, Toukan and Cordesman conclude: "A military strike by Israel against Iranian nuclear facilities is possible ... [but] would be complex and high-risk and would lack any assurances that the overall mission will have a high success rate."

The first problem the authors point to is intelligence, or more precisely, the lack of it. "It is not known whether Iran has some secret facilities where it is conducting uranium enrichment," they write. If facilities unknown to Western intelligence agencies do exist, Iran's uranium-enrichment program could continue to develop in secret there, while Israel attacks the known sites - and the strike's gains would thus be lost. In general, the authors state, attacking Iran is justified only if it will put an end to Iran's nuclear program or halt it for several years. That objective is very difficult to attain.

Intelligence agencies are also divided on the critical question of when Iran will deliver a nuclear weapon. Whereas Israeli intelligence maintains it will have the bomb between 2009 and 2012, the U.S. intelligence community estimates it will not happen before 2013. If the Israeli intelligence assessment is accurate, the window for a military strike is rapidly closing. It is clear to everyone that no one will dare attack Iran once it possesses nuclear weapons.

Since Iran has dozens of nuclear facilities dispersed throughout its large territory, and since it is impossible to attack all of them, Toukan and Cordesman investigated the option of hitting only three, which "constitute the core of the nuclear fuel cycle that Iran needs to produce nuclear weapons grade fissile material."

Destroying these three sites ought to stall the Iranian nuclear program for several years. The three are: the nuclear research center in Isfahan, the uranium-enrichment facility in Natanz, and the heavy water plant, intended for future plutonium production, in Arak. It is doubtful whether Israel would embark on an offensive with such major ramifications just to strike a small number of facilities, when it is not at all clear that this will stop Iran's nuclearization for a significant length of time.

The study analyzes three possible flight routes and concludes that the optimal and most likely one is the northern one that passes along the Syria-Turkey border, cuts across the northeastern edge of Iraq and leads into Iran. The central route passes over Jordan and is shorter, but would not be chosen for fear of political trouble with the Jordanians. Using the southern route, which passes over Jordan, Saudi Arabia and Iraq, might likewise lead to political entanglements.

To prevent the aircraft being detected en route to Iran, the IAF would use advanced technology to invade and scramble communication networks and radar devices in the countries over which the F-15s and F-16s fly, so even

though dozens of planes would pass through the countries' airspace, they will not be detected. According to the authors, the IAF used this technology in the raid on the Syrian nuclear reactor in Dayr az-Zawr, in September 2007. A hacker system was installed on two Gulfstream G550 aircraft that the IAF bought in recent years.

A strike mission on the three nuclear facilities would require no fewer than 90 combat aircraft, including all 25 F-15Es in the IAF inventory and another 65 F-16I/Cs. On top of that, all the IAF's refueling planes will have to be airborne: 5 KC-130Hs and 4 B-707s. The combat aircraft will have to be refueled both en route to and on the way back from Iran. The IAF will have a hard time locating an area above which the tankers can cruise without being detected by the Syrians or the Turks.

One of the toughest operational problems to resolve is the fact that the facility at Natanz is buried deep underground. Part of it, the fuel-enrichment plant, reaches a depth of 8 meters, and is protected by a 2.5-meter-thick concrete wall, which is in turn protected by another concrete wall. By mid-2004 the Iranians had fortified their defense of the other part of the facility, where the centrifuges are housed. They buried it 25 meters underground and built a roof over it made of reinforced concrete several meters thick.

The Iranians use the centrifuges to enrich uranium, which is required in order to produce a nuclear bomb. There are already 6,000 centrifuges at the Natanz facility; the Iranians plan to install a total of 50,000, which could be used to produce 500 kilos of weapons-grade uranium annually. Building a nuclear bomb takes 15-20 kilograms of enriched uranium. That means that the Natanz facility will be able to supply enough fissile material for 25-30 nuclear weapons per year.

Because the Natanz facility is so important, the Iranians have gone to great lengths to protect it. To contend with the serious defensive measures they have taken, the IAF will use two types of U.S.-made smart bombs. According to reports in the foreign media, 600 of these bombs - nicknamed "bunker busters" - have been sold to Israel. One is called GBU-27, it weighs about 900 kilos and it can penetrate a 2.4-meter layer of concrete. The other is called GBU-28 and weighs 2,268 kilos; this monster can penetrate 6 meters of concrete and another layer of earth 30 meters deep. But for these bombs to penetrate ultra-protected Iranian facilities, IAF pilots will have to strike the targets with absolute accuracy and at an optimal angle.

Additional challenges

But the challenges facing the IAF do not end there. Iran has built a dense aerial-defense system that will make it hard for Israeli planes to reach their targets unscathed. Among other things, the Iranians have deployed batteries of Hawk, SA-5 and SA-2 surface-to-air missiles, plus they have SA-7, SA-15, Rapier, Crotale and Stinger anti-aircraft missiles. Furthermore, 1,700 anti-aircraft guns protect the nuclear facilities - not to mention the 158 combat aircraft that might take part in defending Iran's skies. Most of those planes are outdated, but they may be scrambled to intercept the IAF, which will thus have to use part of its strike force to deal with the situation.

However, all these obstacles are nothing compared to the S-300V (SA-12 Giant) anti-aircraft defense system, which various reports say Russia may have secretly supplied to Iran recently. If the Iranians indeed have this defense system, all of the IAF's calculations, and all of the considerations for and against a strike, will have to be overhauled. The Russian system is so sophisticated and tamper-proof that the aircraft attrition rates could reach 20-30 percent: In other words, out of a strike force of 90 aircraft, 20 to 25 would be downed. This, the authors say, is "a loss Israel would hardly accept in paying."

If Israel also decides to attack the famous reactor in Bushehr, an ecological disaster and mass deaths will result. The contamination released into the air in the form of radionuclides would spread over a large area, and thousands of

Iranians who live nearby would be killed immediately; in addition, possibly hundreds of thousands would subsequently die of cancer. Because northerly winds blow in the area throughout most of the year, the authors conclude that, "most definitely Bahrain, Qatar and the UAE will be heavily affected by the radionuclides."

The difficulty involved in an IAF strike would become a moot point if ballistic missiles wind up being used instead of combat aircraft. The Iranians cannot defend against ballistic missiles. The study lays bare Israel's missile program and points to three missile versions it has developed: Jericho I, II and III. The Jericho I has a 500-kilometer range, a 450-kilogram warhead, and can carry a 20-kiloton nuclear weapon. Jericho II has a 1,500-kilometer range, and entered service in 1990. It can carry a 1-megaton nuclear warhead. Jericho III is an intercontinental ballistic missile with a range of 4,800-6,500 kilometers, and can carry a multi-megaton nuclear warhead. The study says the latter was expected to enter service in 2008.

The authors apparently do not insinuate that Israel will launch missiles carrying nuclear warheads, but rather conventional warheads. By their calculation it will take 42 Jericho III missiles to destroy the three Iranian facilities, assuming that they all hit their marks, which is extremely difficult. It is not enough to hit the target area: To destroy the facilities it is necessary to hit certain points of only a few meters in size. It is doubtful the Jerichos' accuracy can be relied on, and that all of them will hit those critical spots with precision.

The study also analyzes the possible Iranian response to an Israeli strike. In all likelihood the result would be to spur Iranians to continue and even accelerate their nuclear program, to create reliable deterrence in the face of an aggressive Israel. Iran would also withdraw from the Nuclear Non-Proliferation Treaty, which until now has enabled its nuclear program to be monitored, to a certain degree, through inspectors from the International Atomic Energy Agency. An Israeli strike would immediately put a stop to the international community's attempts to pressure Iran into suspending development of nuclear weapons.

No Syrian response

Iran would also, almost certainly, retaliate against Israel directly. It might attack targets here with Shahab-3 ballistic missiles, whose range covers all of Israel. A few might even be equipped with chemical warheads. In addition, the Iranians would use Hezbollah and Hamas to dispatch waves of suicide bombers into Israel. The Second Lebanon War showed us Hezbollah's rocket capability, and the experience of the past eight years has been instructive regarding Hamas' ability to fire Qassams from the Gaza Strip.

Hezbollah launched 4,000 rockets from South Lebanon during the Second Lebanon War, and their effect on northern Israel has not been forgotten: Life was nearly paralyzed for a whole month. Since then the Lebanese organization's stockpile was replenished and enhanced, and it now has some 40,000 rockets. Israel does not have a response to those rockets. The rocket defense systems now being developed (Iron Dome and Magic Wand) are still far from completion, and even after they become operational, it is doubtful they will prove effective against thousands of rockets launched at Israel.

An Israeli strike on Iran would also sow instability in the Middle East. The Iranians would make use of the Shi'ites in Iraq, support Taliban fighters and improve their combat capabilities in Afghanistan. They also might attack American interests in the region, especially in countries that host U.S. military forces, such as Qatar and Bahrain. The Iranians would probably also attempt to disrupt the flow of oil to the West from the Persian Gulf region. Since the United States would be perceived as having given Israel a green light to attack Iran, American relations with allies in the Arab world could suffer greatly. Toukan and Cordesman believe, however, that Iran's ally Syria would refrain from intervening if Israel strikes Iran's nuclear facilities.

http://www.theyeshivaworld.com/wp-content/uploads/2009/03/missile.jpgRegarding a possible time frame for an Israeli strike, the authors cited factors that could speed up the decision in this matter. By 2010 Iran could pose a serious threat to its neighbors and Israel, because it would have enough nuclear weapons to deter the latter and the United States from attacking it. Iran's inventory of effective ballistic missiles capable of carrying nonconventional warheads could also be an incentive. The fear that the country will procure the Russian S-300V aerial-defense system (if it has not done so already) might also serve as an incentive for a preemptive strike.

So what should Israeli policy makers conclude from this American study? That an IAF strike on Iran would be complicated and problematic, and that the chance of it succeeding is not great. That they must weigh all of the far-reaching ramifications that an Israeli strike on Iranian nuclear facilities would have, and that they must not be fooled by promises, should any be made, by Israel Defense Forces officers who present the attack plan as having good odds for success.

One of the conclusions from Toukan and Cordesman's study is that it is questionable whether Israel has the military capability to destroy Iran's nuclear program, or even to delay it for several years. Therefore, if the diplomatic contacts the Obama administration is initiating with Iran prove useless, and if in the wake of their expected failure the American president does not decide to attack Iran, it is likely that Iran will possess nuclear weapons in a relatively short time. It seems, therefore, that policy makers in Jerusalem should begin preparing, mentally and operationally, for a situation in which Iran is a nuclear power with a strike capability against Israel.

This is the place to emphasize Israel's mistake in hyping the Iranian threat. The regime in Tehran is certainly a bitter and inflexible rival, but from there it's a long way to presenting it as a truly existential threat to Israel. Iran's involvement in terror in our region is troubling, but a distinction must be made between a willingness to bankroll terrorists, and an intention to launch nuclear missiles against Israel. Even if Iran gets nuclear weapons, Israel's power of deterrence will suffice to dissuade any Iranian ruler from even contemplating launching nuclear weapons against it.

It is time to stop waving around the scarecrow of an existential threat and refrain from making belligerent statements, which sometimes create a dangerous dynamic of escalation. And if the statements are superfluous and harmful - then this is doubly true for a strike on Iran's nuclear facilities.

Of course, none of this contradicts the possibility of taking covert action to hamper the Iranians' program and supply routes. When the IAF destroyed the Osirak reactor in Baghdad in 1981, the "Begin doctrine" came into being, which holds that Israel will not let any hostile country in the region acquire nuclear weapons. The problem is that what could be accomplished in Iraq more than two decades ago is no longer possible today under the present circumstances in Iran.

The continual harping on the Iranian threat stems from domestic Israeli politics and a desire to increase investment in the security realm, but the ramifications of this are dangerous when you analyze expected developments in Iran's ballistics: It is impossible for Israel to ignore Iran's capacity to hit it, and Jerusalem must shape a policy that will neutralize that threat.

In another year, or three years from now, when the Iranians possess nuclear weapons, the rules of the strategic game in the region will be completely altered. Israel must reach that moment with a fully formulated and clear policy in hand, enabling it to successfully confront a potential nuclear threat, even when it is likely that the other side has no intention of carrying it out. The key, of course, is deterrence. Only a clear and credible signal to the Iranians, indicating the terrible price they will pay for attempting a nuclear strike against Israel, will prevent them from using their missiles. The Iranians have no logical reason to bring about the total destruction of their big cities, as could happen if Israel uses the means of deterrence at its disposal. Neither the satisfaction of killing Zionist infidels, nor, certainly, the promotion of Palestinian interests would justify that price. Israeli deterrence in the face of an Iranian

nuclear threat has a good chance of succeeding precisely because the Iranians have no incentive to deal a mortal blow to Israel.

Therefore, all the declarations about developing the operational capability of IAF aircraft so they can attack the nuclear facilities in Iran, and the empty promises about the ability of the Arrow missile defense system to contend effectively with the Shahab-3, not only do not help bolster Israel's power of deterrence, but actually undermine the process of building it and making it credible in Iranian eyes.

The time has come to adopt new ways of thinking. No more fiery declarations and empty threats, but rather a carefully weighed policy grounded in sound strategy. Ultimately, in an era of a multi-nuclear Middle East, all sides will have a clear interest to lower tension and not to increase it.