Missile Defense from Gaza to the Gulf

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Brief Analysis

To counter the Iranian rocket and missile threat, Washington and its Gulf allies should draw on lessons learned from Israel's experience in Gaza to improve the interoperability and effectiveness of their defense efforts.

During last November's Gaza conflict, Israeli forces performed extremely well against short-range Palestinian rockets and mortars. The Iron Dome missile-defense system was able to counter heavy fire over a week of fighting, with the Israeli Air Force (IAF) serving as the indispensable brains of the operation. These two elements -- effective defense systems and seamless command and control (C2) -- would be just as essential in the event that the United States and its Persian Gulf allies are forced to confront a similar rocket/missile threat from Iran. Yet preparing for that scenario will require greater attention to the lessons learned from Gaza.

DISSECTING ISRAEL'S SUCCESS

Although Iron Dome's Tamir interceptor and associated radar garnered the lion's share of praise during the conflict, perhaps the most significant contribution was the C2 exercised by the IAF. During the 1982 Beqa Valley war with Syria, the IAF perfected tactical and operational C2 through directed intercepts of fighters from airborne radar platforms, and by creating a regional air operations center to manage the battle. In the November fighting, the IAF again trail-blazed C2, this time with regard to rocket defense.

Although Iron Dome is heavily automated with fast-computing radar algorithms, complicated systems must be managed by trained personnel. In the Gaza conflict, the C2 cycle of rapid missile detection, track/target initiation, battle management, and fire control (intercepts) proceeded quickly and with few (if any) errors. For example, when Jerusalem was targeted by a Hamas Fajr-5 ("Dawn") rocket -- an unprecedented attack -- Iron Dome successfully engaged it and other rockets headed toward "must defend" areas, with no reported occurrences of misidentification or fratricide (i.e., mistaking friendly aircraft or missile batteries for the enemy).

Of course, cost-effectiveness can be just as important as tactical effectiveness when discussing missile defense, and much has been written about the greater expense of "missile protection" versus "missile projection." In the Gaza conflict, each Tamir interceptor cost $60,000, compared to the $600 Palestinian rockets they were countering. Yet once the preservation of civilian infrastructure and human life are factored in, the ratio seems far less skewed. The **highly publicized video (http://www.missiledefenseadvocacy.org/videoplayer.aspx?videofile=Iron%20Dome%20intercepts%20rockets%20above%20a%20Beer%20Sheva%20wedding%20Nov%2014%202012.flv)** of an Israeli wedding party calmly watching an intercepted rocket attack in the night sky illustrates the confidence the public placed in Iron Dome.

The Gaza conflict also highlighted new approaches in missile defense. For example, a defense system does not need to have sufficient interceptors to counter every incoming missile, since not all of them will meet threat criteria based on their estimated point of impact. This strategy saved Israel some much-needed and expensive interceptors. Moreover, the Western doctrine of firing two interceptors for every one incoming missile will surely be scrutinized because interceptors have become more accurate, in many cases negating the need to fire a "backup."

LESSONS FOR THE GULF

Like the Gaza conflict, any missile confrontation with Iran would be unexpected, brief, and intense, so coalition defense systems

and C2 would need to be as effective as Iron Dome. To be sure, Iran's arsenal presents a long-range threat compared to the short-range one countered by Israel, but this is more a difference in scale than kind. And although the United States and its allies in the Gulf Cooperation Council (GCC) are at a numerical disadvantage (in terms of threat missiles to coalition interceptors available), they can still build an effective defense through integration, burden sharing, and "graduate-level" missile defense exercises.

INTEGRATING ALLIED FORCES

Unlike Israel, which was able to defend itself unilaterally, the Gulf countries must take a multinational approach to defending against Iran, which carries both advantages (burden sharing) and challenges (interoperability and integration). In particular, the U.S. and GCC militaries must improve their efforts via communications (data and voice) and employ compatible "situational awareness" datalinks that allow units to see the entire theater battlespace via other units' radars and information sources. They must also develop mirrored security protocols through an overlapping multilayered defense. These and other efforts would ensure effective cross-cueing and use of resources. Just one instance of misidentifying an airborne or ballistic threat, fratricide, or unintentional dual targeting (i.e., two interceptors paired in error to the same target) could have adverse consequences.

Given the time-consuming acquisition process for U.S. arms, some countries may opt for defense systems that are not interoperable with U.S. systems, thereby undermining the common defense. Accordingly, Washington should streamline the sometimes-cumbersome U.S. Foreign Military Sales process, providing a fast-track missile defense lane for GCC and other participating countries in order to prevent such a scenario. During the Gaza conflict, the IAF was usually able to complete its OODA cycle (observe, orient, decide, act) in a matter of seconds, and the same speed is required in the Gulf. Therefore, greater system integration and better communications are must-haves.

BURDEN SHARING

The United States should continue to take the lead in urging Gulf countries to fill gaps in their defense systems. For example, Saudi Arabia and Kuwait are well suited to counter aircraft and cruise missile threats with their considerable Patriot PAC-2 inventory, while the United Arab Emirates and Qatar are focusing on PAC-3 and Terminal High-Altitude Area Defense (THAAD) systems to counter ballistic missiles. But missile and rocket defense inequalities exist, and Washington can lead the effort to fill the void by integrating more coalition partners (e.g., through Dutch and German provision of PAC-3s). Much like last year's multinational minesweeping operation in the Gulf, non-GCC countries could partner with their regional allies to deter missile intimidation and ensure the uninterrupted flow of oil. Recent dealings with Turkey demonstrated the importance of expeditionary missile defense integration, and more countries should plug into the GCC architecture now. In addition to filling a gap (e.g., sending a European PAC-3 battery to Bahrain, which does not currently have a defense against the ballistic missile threat), they could also gain experience from such exercises in multinational interoperability.

Indeed, burden sharing and capacity building are paramount in today's austere budget environment. GCC countries have already shown a willingness to defend themselves with billions of dollars in missile defense expenditures. More can be done along those lines, and Washington should embrace its leadership role in facilitating such deals.

On a personnel level, the U.S. military should continue along the path established by Central Command's Air Operations Center, the parent C2 facility overseeing regional missile defense. There, GCC officers have earned C2 qualifications much like their U.S. counterparts. This is a step in the right direction in terms of building personal relationships between C2 officers and fostering trust and confidence in partner nation capabilities.

EXPANDED EXERCISES

Washington should initiate more-robust missile defense exercises integrating all willing partners. The desert ranges of El Paso, Texas, once hosted the world's largest and most advanced missile defense exercise. Named "Roving Sands," it tested the interoperability of allied missiles systems using actual "enemy" targets. This realistic, full-scale event allowed NATO air defense units to practice and facilitated the integration of their Patriot missile batteries. Due to budget constraints and two intervening wars, however, it was discontinued.

To fill this gap, the United States should help refashion the al-Bateen Integrated Missile Defense complex in the UAE as the new center for European and GCC interoperability and large-scale exercises. Even if certain countries could not maintain a full-time presence at the complex, they could at least rotate personnel there for quarterly exercises or augment existing coalition units.

CONCLUSION

Israel has demonstrated its ability to deal with the rocket threat it faces, yet in the Persian Gulf, the United States and GCC countries are not as well prepared. Much like Hamas and other Gaza factions, Iran has large numbers of rockets that could be employed to intimidate or threaten U.S. operations in the vital Strait of Hormuz. Therefore, Washington should explore a counter-rocket capability for the area, perhaps even establishing an Iron Dome (or Iron Dome-like) constellation in certain Gulf countries.

Other prerequisites for transferring Israel's success to the Gulf should be examined as well. Certain missile defense truisms are universal -- especially regarding C2 and effective husbanding of resources -- and they should be applied to the Gulf when possible. Israeli forces did not have to deal with the problems and advantages of multinational interoperability, so Washington and its coalition partners must address those challenges as well. In short, to succeed in a showdown with Iran and trump the regime's considerable rocket and missile arsenal, U.S. and GCC systems must be made more interoperable and overlaid with a seamless C2 capability.

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