Trends in Military Buildup in the Middle East

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The Middle East remains one of the world's stormier regions, with fault lines running across ethnic groups, nation-states, communities, and religions. Even a cursory overview of the region yields a long list of active and nascent conflicts. Many countries in the region view Iran's growing strength in the nuclear realm as the most severe threat to their security. Over the course of 2008 Iraq witnessed an improvement in security, but there is still no guarantee that this achievement is stable or that it will be possible to maintain it once American forces leave the country. At the same time, the conflict in Afghanistan is intensifying anew, and the growing involvement of NATO and US forces is expected to increase even further. Over the last three years, Israel was involved in two armed confrontations that were characterized as wars, both against sub-state organizations and elements supported by Iran. The weight of non-state players in military confrontations is growing, and military confrontations between countries are becoming rarer.

Against this background, there is little wonder that the Middle East remains a region characterized by ever-growing national armed forces and non-state militias, and remains one of the largest customers of various types of weaponry. The largest purchases of armaments in the world, with the exception of the superpowers, are made by the countries in this region. The growth of military strength is dictated by the nature of the military confrontations at hand and the specific military doctrines they generate; the

resources at the disposal of the various players; their access to international arms suppliers; and their own production capabilities.

Changes in Confrontation and the Philosophy of Warfare

Over the last thirty years, it has become increasingly clear that the nature of warfare is undergoing a radical change. Enormous battles between two regular, mechanized, and well-equipped armed forces of the industrial age have become a thing of the past. In fact, the Yom Kippur War in 1973 was the last time classic battles of this kind were fought, either in this region or beyond. Other types of warfare, of an absolutely different kind, have taken their place.

One type, commonly called the Revolution in Military Affairs (RMA), rests on three main components: the use of precision guided, long range weapons; absolute intelligence superiority throughout the battle arena; and systems of Command, Control, Communications, Computers, and Intelligence (C^4I) that allow for integration of all the other elements. The war in Iraq in 2003 proved the absolute superiority of a military that adopted this approach over a traditional mechanized military.

How has this development affected the global arms market? Many countries have indeed shifted their purchasing interests into RMA-relevant areas. They prefer buying long range precision guided munitions (PGMs) and platforms capable of carrying them, in particular fighter planes. For example, Israel and the United Arab Emirates bought F-16s of the most advanced types, and Saudi Arabia recently ordered Typhoon fighter jets. Israel also recently announced its intention to procure the more advanced F-35 planes from the United States (Turkey too is expected to equip itself with these soon). In addition, countries are acquiring reconnaissance and intelligence systems and are investing in C^4I systems. On the other hand, they are investing less in battle tanks. Overall, however, an RMA approach is complex, sophisticated, and beyond the reach of most Middle Eastern countries.

Another development in the nature of warfare has resulted from the weakening of states and the appearance of more and more armed non-state entities. These elements are engaged in fighting both inside the countries from which they operate, against the central government or rival militias,

and outside, whether with the active support of the host country or, having no other choice, with its reluctant compliance. Such militias generally use simple armaments, and their methods include both terrorism, such as booby trappings, car bombs, and suicide bombers, and guerilla warfare. The existence of such militias and terrorist organizations has obviously affected the light arms market where the militias (usually illegally) buy weapons, but is has also had an impact on the weapons purchases of regular states forced to cope with this form of warfare. Such investments include equipment for special forces as well as protective and security equipment for facilities and populated areas that are liable to be vulnerable to such forms of warfare.

Other nations have concluded that they are incapable of keeping up with prosperous and sophisticated countries arming themselves for RMA-type warfare. They have chosen instead to adopt alternative capabilities for asymmetrical conflicts. In effect, these nations have two options. The first is to equip themselves with weapons of mass destruction and ballistic missiles. Such means are primarily intended to threaten the enemy's civilian rear and serve mainly as a deterrent. In the Middle East, Iran, Syria – which built up its ballistic missiles and chemical (and perhaps also biological) means – and Iraq (in the past) typified this approach. The second option was to develop guerilla and subversion warfare capabilities, both via special units of their own and by operating and supporting external militias. Thus, for example, Syria supports Hizbollah in Lebanon, an organization that provides its Syrian patron with a means of pressuring Israel.

Another development in the field of asymmetrical warfare is the increasing use of high trajectory weapons, in particular rockets and mortars. These are not new weapons; rockets were already in use in World War II (and mortars are as old as firearms themselves). However, they have proven themselves as an excellent means of exerting pressure on countries by harming the civilian populations, without allowing the country under attack to neutralize completely the capabilities of the attacker. Even though Israeli towns and villages were attacked by high trajectory weapons in the past (settlements in northern Israel were attacked by Grad rockets launched from Lebanon twenty years ago), recent years have seen quantitative and qualitative changes as well as a change in awareness, and the high

trajectory weapon has emerged as one of utmost strategic importance. The 2006 Second Lebanon War and years of Grad rockets fired at townships on the Gaza Strip border have proven the value of this type of weapon. The lessons of these wars have also affected the arms market. On the one hand, countries such as Iran and Syria have decided to arm themselves heavily with rockets, while on the other hand, the need to develop defense systems against short range high trajectory weapons, systems that in the past were never considered necessary, has grown.

Financial Expenditures

In the last two years, Middle East countries continued to be among the leading weapons purchasers in the world. According to data provided by the research service of the United States Congress, between 2004 and 2007 weapons contracts totaling $63,055 billion – representing 30.26 percent of all weapons contracts in the world – were signed with Middle Eastern countries. According to the same source, between 2000 and 2003, contracts with nations in the regions totaling $33.287 billion were signed, representing 22.55 percent of the weapons sales in the world. The difference between the two numbers indicates a growth in the role played by the region on the world arms market, as well as the growth of weapons sales around the world.[1]

These numbers demonstrate that Middle East states remain at the top of the list of weapons purchasers in the world (though certain Asian countries lag behind the Middle East by only a few percentage points). These massive investments in security testify to the complex geopolitical situation of a region that suffers from a large number of ongoing conflicts and from a large measure of involvement by extra-regional elements due to the region's importance and its resources, oil in particular.

The countries of the Middle East continue to be divided into three types: oil states that can finance their growing military strength from their own resources; states enjoying American financial aid to purchase weapons, such as Israel, Egypt, and Jordan; and states that do not have significant sources of oil and do not receive financial assistance. The latter have severe limitations on their military buildup, and are forced to focus on their most crucial areas. An example is Syria, which gave up any attempt to balance

its military capabilities with Israel's and therefore developed a doctrine of asymmetrical warfare enabling it to grapple with its security challenges using only meager resources.

In recent years, weapons purchases by the countries in the region increased, and in the five years since Operation Iraqi Freedom in 2003 this growth is notable for a variety of reasons. While America's military involvement in the region eliminated the Iraqi threat, it also ignited a period of Iraqi instability, which affected the sense of threat throughout the region. The elimination of the Iraqi threat also increased the threat perception from Iran among many in the region. This threat has several components: first, Iran's increasing military strength, especially its naval force in the Gulf, which might threaten shipping (and in particular the flow of oil) through the Straits of Hormuz; second, Iran's nuclear ambitions, exposed to the world in 2002; third, the country's armament with long range missiles; and fourth and above all, its involvement with and assistance to non-state entities involved in a number of Middle East conflicts – in Iraq, Lebanon, and in the Israeli-Palestinian arena.

Since the middle of 2008 there has been a dramatic shift in this state of affairs. Oil prices dropped and the economic crisis, full-blown by the end of 2008, began to make its mark. However, it is still hard to estimate the direct effects of the crisis, as arms deals that were already signed are not easily influenced by extreme changes on the capital markets. These deals are usually large and complex, and are spread out over many years. Just as nations are in no hurry to sign huge arms deals, they are in no hurry to cancel or reduce them even in times of economic crisis. Furthermore, several countries in the region base their arms purchases on foreign aid, particularly from the United States – Israel, Egypt, Jordan, Iraq, and Lebanon receive American aid. In late 2007, as part of American efforts to cope with the Iranian threat, the United States offered to sell advanced weaponry to a number of Gulf states for a total of some $20 billion. This proposal came on top of the significant aid given over the years to the Iraqi government to help it rebuild its armed forces. These efforts were reflected by some large weapons orders for Iraq at the beginning of 2008. An additional factor behind the increased arms purchases was the improved economic status of most of the region's nations, at least until mid-2008.

In this period, these countries reaped the benefits of the global economic boom; the oil producing nations in particular enjoyed the sharp spike in oil prices that hit $140 a barrel. Despite the global economic crisis and the fact that a new administration recently entered the White House, it is safe to assume that such aid will continue to flow in the next few years as well.

Nevertheless, the depth of the current crisis and the predictions that it might last for a relatively long time increase the probability that the situation will change in the next few years. It is almost certain that new deals – even those that were in an advanced stage of negotiations – will not be signed, and even signed deals may be cancelled or reduced.

Characteristics of the Weapons Market

The Cold War era in which the nations of the region divided among the two blocs is long past. So is the time when Soviet advisors dictated to countries and their leaders what their doctrine ought to be, what their militaries must look like, and what types of weapons they must buy. The arms market as a whole has become much more competitive throughout the area. A small number of suppliers vie for the large deals, and winning a tender is not a given. Several other factors also have an effect, as described below.

Local industries and sales within the region

Several regional countries have developed local military industries, both for their own markets and for sales abroad. The most highly developed nation in this sense is Israel, which produces numerous types of the most advanced equipment on the world market. The Merkava Mark IV is one of the most sophisticated battle tanks in the world, and the industry has also started to manufacture the Namer infantry fighting vehicle (IFV) based on the Merkava hull. However, within the last year the primary achievements of the Israeli defense industry lie mainly in missiles, electronics, and optronics. Israel produces surface-to-air, air-to-air, and anti-tank missiles, guided bombs, and anti-missile defense systems: the Arrow ballistic missile defense system against mid range missiles is already operational, and two anti-rocket systems against short range rockets, David's Sling and Iron Dome, are under development. Israel also has a sophisticated aerospace industry and produces both satellite launchers (the Shavit) and satellites of

various kinds – the Amos communications satellites, and the Ofek, Eros, and TecSAR lines of surveillance satellites. Israel produces guidance and target acquisitions systems for fighter planes and ground and airborne radar systems, including airborne early warning (AEW) and surveillance planes.

At the same time, because of its political situation, Israel does not sell military equipment within the region, with the exception of Turkey and sales intended for use by the American forces in Iraq. These forces use, among other items, made-in-Israel uninhabited aerial vehicles (UAVs) and modular armor for vehicles.

Turkey, which also boasts a strong military industry, does sell arms within the region. Turkey assembles F-16 fighter planes and some of the region's countries (such as Egypt) have purchased their F-16s through Turkey or had them upgraded there (Jordan). Other than that, Turkey sells mainly armored personnel carriers and light armored vehicles to a number of countries in the region (e.g., Jordan, United Arab Emirates, and Iraq).

The UAE boasts a rapidly developing defense industry. In the last decade, the UAE has invested enormous amounts of money in establishing a large and highly diversified defense industry. Most of this industry is government-owned and enjoys both large government investments and offset agreements.[2] The industry also benefits from technology exchange contracts as part of their weapons sales. In addition to the government-sponsored industry, some privately owned industries operate in the UAE; these are trying to gain a foothold in the weapons market, particularly in the Persian Gulf states. A central axis of the UAE defense industry is the Abu Dhabi Ship Building Company, which constructed and sold a number of patrol, logistics support, and landing vessels to several of the Gulf states. This industry's flagship is the Baynunah corvette (designed by the French CMN shipyards). Because of this project, the Emirates are also developing the ability to assemble and integrate sophisticated command and control systems. Other fields pursued by the UAE defense industry are the manufacturing and assembly of light armor, and the development and production of UAVs.

Other industries, more limited in scope, exist in Egypt, where the M1A1 Abrams main battle tank (MBT) is assembled; Saudi Arabia; and Jordan.

However, the ambitions of these countries to establish developed military industries have so far not met the expectations.

Finally, the Iranian defense industry takes pride in its ability to manufacture any piece of military equipment and to give the Iranian armed forces – the armed forces and the Revolutionary Guards – self-sufficiency in every aspect of armament. Iran declares its ability to produce fighter planes, tanks, submarines, and missiles of every kind. While significant portions of these are empty declarations, the Iranian defense industry has proven its abilities in several fields. Its prominent achievements lie in the areas of rocketry and aerospace. The Shehab-2 and Shehab-3 missiles may have been produced with the massive assistance of North Korea – the basic Shehab-3 was actually identical to the Korean Nodong missile – but since the end of the 1990s Iran has independently developed new models and types of missiles. Its last two successes were the testing of the Sejil (previously called Ashura), a solid fuel two-stage ballistic missile. This type of missile was first tested in November 2007 and seems not to be operational yet. The other success was the launch of the Omid satellite, produced in Iran, on the back of the Safir-2, a liquid fuel two-stage satellite launcher.

Iran's military industry has been successful in the naval area, and it produces small patrol boats as well as mini submarines. Overall, however, the industry has limited sales. It transferred rocket artillery and coastal anti-ship missiles to Hizbollah in Lebanon, and has sold light patrol boats to Syria.

Technological exchanges

One of the primary issues for any country trying to establish a defense industry is access to different technologies. At times this issue becomes a source of dispute, as countries with a defense industry that purchase weapon systems also demand access to their technologies as part of the weapons deal. Egypt, for example, purchased the know-how to build the M1A1 tanks it uses. Sometimes, the seller's consent to provide the technology to the purchasing country is the factor that clinches the choice of supplier. For example, Turkey chose to cancel its billion dollar deal with the US to buy attack helicopters because the United States refused to allow

the Turks access to the mission control software of the AH-1Z Cobras, and instead ordered the Agusta T-129 helicopters from Italy.

Upgrades

An additional characteristic of the Middle East weapons market is the drive to upgrade old weapon systems instead of purchasing new ones. This phenomenon, not unique to this region, is particularly prominent in the field of aerial systems. Given that the primary advances in aerial weapons over the last number of decades were in the field of armaments and electronics rather than new platforms, air forces prefer to upgrade their capabilities by installing new avionic systems and weapons on old platforms. However, in comparison with the first half of this decade, there has been a decline in the number of deals involving upgrades of old weapon systems and it seems that at least in this region, this market has reached its saturation point. Whatever could be upgraded has already been upgraded, and other systems have gone past the point at which it is possible to retrofit them.

Primary Weapons Suppliers

United States

The United States continues to be the most important weapons supplier to the Middle East. From 2004 until 2007 it signed contracts to supply weapons to Middle Eastern countries (excluding Turkey) for a total of $20.655 billion. However, the United States does not only sell weapons to the region's nations; some of them also receive financial aid in significant amounts to buy weapons in the US. At the top of the list is Israel, which received $2.4 billion last year, a sum that is set to increase gradually over the coming ten years. Israel is followed by Egypt, which receives $1.3 billion a year. Iraq, Jordan, Lebanon, Tunisia, and Yemen are additional aid recipients. These countries receive some of the aid in the form of financial grants and some in the form of American military overstocks.

In July 2007 President Bush announced the large scale sales of weapons to the area in an attempt to enlist the support of the region's nations for his anti-Iran policy. This included the continuing aid to Egypt, the gradual increase in aid to Israel, and the announcement of weapons deals for some $20 billion to the Gulf states: Saudi Arabia, the UAE, Bahrain, Kuwait,

Qatar, and Oman. At the time of the announcement, the particular weapon systems were not specified, but in the year following it became clear that the primary aid to the Gulf states will be in the form of air defense, in particular the upgrade of existing Patriot missile systems with the addition of GEM-T missiles and guidance systems and PAC-3 missile interceptors. The UAE will also be the first country outside the US to equip itself with THAAD anti-ballistic missile systems. In addition, some countries in the region were sold GPS-guided JDAM bombs. These steps demonstrate the importance the US attributes to weapons sales as a means for enlisting support among the region's nations for its policies and for keeping its allies under its umbrella.

Aside from air defense systems, the United States supplies most of the fighter planes in the regions, particularly various models of the F-16, which is the backbone of many Middle Eastern air forces (Bahrain, Egypt, Israel, Jordan, Oman, Turkey, and the UAE). The country that most recently announced its intentions of buying F-16s is Morocco, which until now used primarily French-made equipment. Until lately, the F-16s were among the most advanced models the US sold in the region, but last year the United States announced its willingness to sell the F-35 to the Israeli air force. In the coming decade, F-35 fighter jets presumably will enter the service of other air forces in the region.

The United States also sells helicopters to the region. In recent years, the Apaches were the most popular, and many of the region's countries that had bought them in the past upgraded them to the AH-64D standard, even though not all the countries received the Longbow radar system as part of the upgrade package. Among the countries using this helicopter are Israel, Egypt, Kuwait, and Saudi Arabia. The fighter jets and helicopters come with the various armament features, and in the last two years the up-to-date JDAM bombs were sold to several of the region's nations (Saudi Arabia, UAE, and Morocco, as well as Israel). Still in the aerospace domain, C-130J transport planes and E-2C Hawkeye 2000 surveillance and control planes have also been sold (to Egypt and UAE).

The United States also sells equipment to ground forces in the region, and here the main customer has been – and remains – Egypt, which buys and assembles the M1A1 Abrams tank. Another important customer for

American ground equipment is Iraq, which is procuring MBTs and many types of armored personnel carriers (APCs) to rebuild its military. The US does not lead sales in naval equipment, though at the moment three combat ships are being built for Egypt, while Israel ordered two new littoral combat ships (LCS). The United States, however, does sell various naval systems for ships built elsewhere.

Russia

At the beginning of the decade, it seemed that Russia was resuming its place on the Middle East weapons markets. A large deal worth $7 billion signed with Algeria about three years ago was seen as an important milestone in this breakthrough. The deal involved air defense systems, T-90 tanks, and advanced fighter planes – the MiG-29SMT and Su-30. Yet while the deal is soon to go through, Russia is encountering numerous problems. For example, Algeria returned the MiG-29s that were supplied and asked to have the entire contract nullified, as the planes did not – according to the buyer – meet the requisite standards. No other large weapons deals have gone through to date. In particular, large deals with Syria and Iran that were repeatedly under discussion have not been clinched. For now, Russia provides regional nations mainly with air defense systems, such as the TOR-M1 mobile short range anti-aircraft missile systems, the Pantsyr S-1 system, a small, mobile system equipped with both cannons and missiles for precision defense supplied to the UAE and Syria, and the S-300 PMU-1 system (a long range anti-aircraft missile system) promised for now to Iran, though it is not yet clear if the deal will actually go through. Other Russian-made systems sold to nations in the region are light helicopters and transport planes.

A particularly unusual step taken by Russia, part of its efforts to regain a foothold on the Mediterranean's eastern shores, was a proposal to supply Lebanon with ten MiG-29 fighter planes for free. Because Lebanon's air force has not flown fighter planes since the First Lebanon War (and even then the aircraft at its disposal were fairly outdated), the significance of the proposal – should the Lebanese government decide to accept it – is the establishment of an assistance program consisting of training, maintenance,

and other flight functions required to operate an aerial combat base to number dozens of Russian officers and soldiers.

Russia is proceeding with its plans to make installations in the Syrian port of Tartus serviceable and to upgrade them as a permanent maintenance base for the Russian fleet ships operating in the Mediterranean.

The European Union

European countries have a long history of military connections with Middle East states. Many Middle East states even viewed Europe as a preferred alternative to the United States, as the European equipment was on the one hand considered to be of the same quality as the American equivalents (unlike the Russian equipment, considered inferior to the American), and on the other hand had fewer strings than those attached by a superpower. Thus European equipment was purchased, at times along with American equipment and at time in competition with American companies for the same tenders.

The biggest transaction of a European country with a Middle Eastern country is the sale of Typhoon planes to Saudi Arabia. This is an enormous transaction with an estimated worth of some $7-$9 billion (its precise value has not been disclosed) between the Saudi Arabian government and the British company BAE for the purchase of 72 Typhoon planes. (The plane is actually manufactured by a consortium of several countries, including Germany, Italy, and Spain.) This transaction aroused a heated debate involving bribery accusations against the company. The signing of the deal was made possible only after Prime Minister Blair ordered an end to the investigation of corruption in the company.

France, on the other hand, has not yet had any success in selling fighter planes in the Middle East. It efforts to sell the Rafale to Morocco failed when Morocco decided finally to buy the American F-16. France sold FREMM frigates to Morocco and continues to promote these frigates to Algeria as well. French-made ships have been sold to the UAE (which also acquired the technology and is now building these ships at home), and in recent years to Kuwait as well.

Significant Weapons Purchasers in the Gulf

Saudi Arabia

While in recent years Saudi Arabia has enjoyed increased oil revenues, it has also felt threatened both by the growing strength of Iran and by the activity of al-Qaeda in its midst. This combination propelled a new round of large scale rearmaments. Saudi Arabia, like other countries in the Gulf, prefers to divide its arms purchases among several vendors so as not to become dependent on any one supplier. Thus, the Saudi military is equipped with both American and French-made products, while its air force flies planes made in the United States and in Great Britain.

The most prominent deal in recent years was the purchase of 72 Typhoons ordered from Great Britain at a cost of $7-$9 billion. At the same time it was purchasing these up-to-date planes, Saudi Arabia also ordered upgrades for its Tornado and for its F-15Ss combat aircraft. Additional arms orders include M1A2 tanks from the US, as well as upgrades for existing tanks, a transaction of some $3 billion. Of the extensive military aid package to Saudi Arabia announced by President Bush in July 2007 the only deal made was a transaction to buy JDAM type GPS-guided bombs, which aroused a political controversy in the US but eventually did not encounter Congressional opposition.

Because Saudi Arabia's income depends almost exclusively on oil, it is possible that the current economic crisis will affect the chances of these deals actually taking place, whether in whole or in part.

Iran

Even though Iran is in the midst of a long process of rearming its military and news about large arms deals with Russia appear regularly in the media, these deals have not in fact materialized. Recent transactions between Iran and Russia involved primarily air defense systems: Iran took delivery of 29 TOR-M1 short range anti-aircraft missiles, and allegedly may receive some of the Pantsyr S-1 anti-aircraft systems sold to Syria. Likewise, in recent months it was made public that Russia agreed to supply Iran with the S-300-PMU-1 model of long range air defense systems (despite the pressure on Russia against sales to Iran).

At the same time, Iran continues to rearm itself with the assistance of local development and manufacturing. In the field of long range missiles, Iran has made progress in two different directions: on the basis of liquid fuel technology, Iran developed the Safir-e Omid satellite launcher, a liquid fuel two-stage missile that launched the Kavoshgar research capsule and the Omid satellite in February 2009. At the same time, Iran is at work developing a two-stage, solid fuel powered surface-to-surface missile intended to reach a range of up to 2,000 km. This missile, alternately known as Ghadr, Sejil, and Ashura, was tested for the first time in November 2007 (and again in May 2009), and may enter operational service within a few years.

It is harder to estimate Iran's true capabilities in other fields. On the one hand, the Iranian media reports regularly about the development of innovative weapons systems – tanks, armored personnel carriers, fighter planes, helicopters, various missiles (sea-to-sea, air-to-air, anti-tank), and more. On the other hand, it does not seem that Iran is in fact capable of producing all the types and models it professes to produce in significant quantities. Without a doubt, Iran is capable of producing several models of artillery rockets, and perhaps even anti-tank and sea-to-sea missiles (based on Russian and Chinese models). However, there is no evidence that Iran is producing fighter planes with real capabilities of engaging in a modern battle.

Iraq

Iraq is in the process of rebuilding its army. This is taking longer than expected, and has been accompanied by a host of problems – recruitment of suitable personnel, graft and corruption in questionable arms deal, and more. In purchasing, the Iraqi army is mostly engaged in the most basic outfitting of a military, because little of the old Iraqi armed forces remained. Today, Iraq is buying primarily armored personnel carriers of various types and from various sources; the air force has purchased mainly helicopters and transport planes. Also in recent years, Iraq bought light surveillance planes from the US and Jordan; REVA armored personnel carriers from South Africa; and BMP-1 armored personnel carriers and T-72 tanks from drawdown of countries that joined NATO. In late 2008,

Congress was asked to authorize a number of large arms acquisitions valued at several billions dollars that will ultimately include M1A1 MBTs, several hundred Styker and Guardian APCs, AT-6B training planes, and Bell 407 helicopters armed with Hellfire missiles. These transactions, if materialized, will go through over the span of at least five years.

UAE

The UAE armed forces are among the militaries that have grown most significantly in recent years, and they continue to equip themselves intensively. The UAE, like other Gulf states, prefers to deal with a variety of vendors, and buys primarily from the US and France, though it is willing to do big business with Russia as well.

After the supply of the newest fighter jets was completed (the UAE beefed up its air force with 63 Mirage 2000-9 from France and 80 F-16 E/Fs – a model developed specifically for the Emirates), the country continues to procure equipment for the air force, the navy, and for the air defense forces. It signed a deal to upgrade 30 Apache helicopters to the AH-64d model, and ordered three Airbus A330 refueling aircraft.

The Baynunah ships project has been underway for several years. These corvettes were designed in France, and the first of them is being built by the CMN shipyard in France. The rest will be constructed in Abu Dhabi by ADSB. Despite the French design and local manufacture, some of the armaments will actually be American-made. Thus, for example, the UAE has ordered RAM missiles from Raytheon Corporation to defend the ships against cruise missiles.

In air defense, the UAE is soon supposed to receive the Russian-made Pantsyr S-1 systems, mobile air defense systems developed in Russia at the UAE's request and with its funding. However, the UAE will make its main investment in air defense systems and ballistic missile defense systems in the coming years in deals estimated at some $9 billion, to include upgrades for the Patriot missile batteries it already has and purchases of the PAC-3 missiles (for missile interception) for these batteries. The UAE's purchase of the THAAD anti-missile missile from the US is a transaction estimated at about $7 billion.

Because the UAE's income depends to a large extent on oil revenues, it is possible that the current economic crisis will affect the viability of these deals, either in whole or in part.

Significant Weapons Purchasers in the Levant

Egypt

Egypt, like Israel, benefits from steady American defense aid, and receives $1.3 billion a year. An agreement signed in 2007 ensures Egypt the continuation of this aid at least until 2018. This aid enables Egypt to purchase American-made weapons without having to worry about the global economic upheaval. Egypt's primary purchasing agreements in recent years have included AH-64D Apache helicopters (though the acquisition of the Longbow radar system for these helicopters has not yet been approved) and additional M1A1 tanks. These tanks are bought as kits for assembly in Egypt. Since starting to purchase these tanks, the Egyptian defense industry has assembled 880 such tanks, and the most recent transaction, now underway, includes an additional 125 tanks.

Nevertheless, Egypt has not given up its freedom to buy weapons from other sources within its financial limits, and is negotiating with Germany to buy Type 214 submarines (a model quite similar to the Israeli "Dolphin class" submarines). In addition, Russia upgraded Egypt's aging air defense systems bought in the 1960s and 1970s from the USSR.

Israel

Israel enjoys American military aid of $2.4 billion a year. This sum is intended almost in its entirety for military growth. On the basis of an agreement reached with the US in August 2007, this aid is slated to increase gradually and will total, in the decade ending in 2018, $30 billion. Israel's rearmament is therefore a fairly predetermined and continuous process and does not portend any unexpected reversals. Thus, Israel is also less affected than other nations by drastic changes in the global economic situation.

After the Second Lebanon War, the IDF invested large sums in restocking weapons and munitions, and as part of this step it also purchased large quantities of modern types of weapons, such as the GBU-39 small diameter bombs and a very large quantity of GPS-guided JDAM bombs.

As for large arms deals, Israel has completed its intake of all 100 Sufa F-16I fighter jets, and also took delivery of five Nahshon planes (Gulfstream G550), some intended for intelligence gathering (going under the name of Eitam in the air force) and some for aerial command and control missions (known in Israel under the name Shavit). The planes were bought in the US and arrived in Israel starting in 2005, where Israeli-made systems were installed.

Israel announced its intention to equip itself with F-35 planes in the coming decade, but negotiations are still underway on the terms of the deal. In addition, the Israeli air force requested nine advanced C-130J transport aircraft, estimated at $1.9 billion. Also, the air force intends to replace its Tzukit training planes that have served it for over 40 years with the American-made Beechcraft T-6 Texan II (which will be named Efroni in the IAF).

Israel ordered two more Dolphin submarines, which are being constructed in Germany, and is weighing the option of outfitting itself with LCS corvettes from the US, a transaction worth $1.9 billion.

In some areas, Israel is rearming on the basis of local development and manufacturing, starting with anti-ballistic missile and rocket defense systems. Israel decided to buy more Arrow batteries in addition to the two operational ones it already has, while at the same time having the entire Arrow project undergo a process of upgrading to help it achieve greater success in handling the long range missile threat. Similarly, Israel is investing in three additional active defense systems. Two of them are based on local development and production: David's Sling, meant to defend against rockets and missiles with a range of 40-200 km (particularly heavy rockets of the kind fired from Lebanon in 2006), and Iron Dome, meant to defend against short range rockets and missiles such as the Qassams and Grads fired from both the Gaza Strip and Lebanon. These systems are intended to become initially operational in the next few years. The third system is the Phalanx based on the high firing rate Vulcan which will be procured from the US.

Second, Israel continues to develop and outfit itself with space assets: in 2007, the Ofek-7 satellite, replacing the outdated Ofek-5, was launched into space, and at the beginning of 2008, using an Indian Polar satellite

launcher (PSLV), the TecSAR surveillance satellite was launched, allowing for visual intelligence gathering by day or by night and in any kind of weather.

Third, Israel has no serious competition in the field of UAVs, and lately the air force has deployed the new Shoval and Eitan long endurance UAVs, capable of remaining in the air for extended periods of time at high altitudes; both are intended to fulfill extended missions – over 40 hours long – and will undertake reconnaissance and intelligence gathering missions. Side by side with the larger UAVs, IDF units are being outfitted with the Skylark-I mini UAVs, made by Elbit. These are small, quiet, and easily operated mini UAVs, operated by soldiers in combat units for the purpose of intelligence gathering from "the other side of the hill" at short distances (up to 10 km). Recently, the Skylark I LE, which has somewhat extended endurance, was chosen as the model with which to equip other units.

Fourth, Israel has expanded its acquisition of self-produced weapon systems for the ground forces. One of the lessons of the Second Lebanon War led to the military starting to equip itself with the Namer IFV, based on the hull of the Merkava MBT. In addition, both the Merkava Mark IV and, in the future, also the Namer will be equipped with the Trophy, an active anti-tank defense system.

Syria

Syria has not purchased main weapon systems in many years. Since the collapse of the Soviet Union, Syria has not bought a single fighter jet or a single ship. Instead, the Syrians have chosen to rely on an array of surface-to-surface missiles, which they continue to develop with Iranian assistance, as well as to develop unconventional capabilities, mainly chemical weapons.

In recent years, Syria has begun to emphasize the expansion of its arrays of anti-tank missiles and artillery rockets, the majority of which are also locally produced. Hizbollah's success in the summer of 2006 was a lesson Syria studied carefully. In contrast to most of the region's countries, Syria has chosen to base its security on the capability of posing a threat to the enemy's civilian population with large numbers of high trajectory weapons and heavy anti-tank missile deployments. This enables it to defend itself

effectively and exact a costly toll if the enemy (Israel) should respond with a coordinated ground attack.

Jordan

Jordan too is one of the countries benefiting in recent years from significant American aid, though of much smaller scope than the aid extended to Israel and Egypt. Jordan's important acquisitions deals in recent years include an expansion of its F-16A/B plane ORBAT through the purchase of used planes from Holland and Belgium. Other older F-16s, integrated in the past, will be upgraded by Turkey.

Significant Weapons Purchasers in North Africa

Algeria

Algeria is in the midst of a large weapons transaction (of some $7 billion) with Russia. As part of this deal, Algeria has received T-90 tanks, and MiG-29 SMT and Su-30 fighter planes. It is also supposed to take possession of long range S-300 PMU-2 anti-aircraft missiles, Pantsyr S-1 anti-aircraft systems for point defense, and Yak-130 training planes. In place of the MiG-29s Algeria received and returned to Russia, it may receive additional Su-30 MKA planes or MiG-35s. For its navy, Algeria issued a tender for four frigates, with France, Germany, and Great Britain competing for the deal. Algeria also benefits from a small amount of American military aid (for a total of $700,000 in 2008), and it purchased night vision equipment and Beechcraft 1900D surveillance planes from the US.

Conclusion

An article written for the 2005-2006 volume of the INSS annual strategic survey discussed extensively the RMA effect on the armed forces of the region. At that time, the region's forces were still captivated by Operation Iraqi Freedom in 2003, when 23 divisions were completely wiped out in a matter of weeks by a modern and much smaller military employing aerial force, precision weapons, and full intelligence control of the battle zone. Since then, this revolution has lost some of its luster, whereas the notion of asymmetrical warfare has gained in importance. The two campaigns Israel fought in the interim have proven the ability of a small, semi-regular force,

armed with artillery rockets, to attack the civilian population, while it itself fights from within a supportive civilian population and enjoys its shelter.

Nevertheless, in the field of military purchasing, the picture has changed only slightly. Arms deals are long term affairs, and years pass from the decision to purchase a particular system until it is integrated into service, and certainly a long time passes until a country decides to buy a different system to replace the first one. Therefore, it is hard to predict an immediate change. Still, at least in Israel and in Syria, it is clear that the lessons of the Second Lebanon War have started to be felt: Israel continues to equip its military with advanced fighter jets, surveillance and early warning planes, and satellite capabilities, but has also accelerated the rate of outfitting the military with anti-rocket systems and with armored personnel carriers and armor, which one may have thought were hopelessly out of date, yet turned out to be indispensable in an asymmetrical confrontation with a well equipped non-state enemy. Syria has accelerated enlarging its stock of rockets and anti-tank measures. Hizbollah and Hamas, the non-state entities buoyed by the successes of asymmetrical engagements, continue to rearm themselves in those areas.

It seems that weapons purchases in the Middle East will level off in the coming years. States with financing capabilities will continue to arm themselves with precision guided weapons systems, aerial warning systems, and intelligence, even if they were not totally successful in buying and internalizing the full range of RMA capabilities. However, the importance of means of fighting terrorism, defenses against rockets and missiles, and fortification of population centers will continue to grow as the threat of terrorism and guerilla warfare from within and without the region's nations grows.

Finally, the economic crisis will likely be felt sooner or later. Oil prices that dropped dramatically in the second half of 2008 acutely affected the oil producing countries' abilities to invest in weapon systems. Oil-less nations in the region were usually supported from the outside, and so they too are liable to suffer from their sponsors' lack of generosity. What remains an interesting question is the special assistance some of the region's nations receive from the United States – Israel, Egypt, Jordan, and Lebanon. Today, aid to Israel and Egypt is ensured by 10-year agreements. Time will tell if

the economic crisis in the US creates political pressure to cancel or reduce these agreements.

Notes

1 One must also factor in the decrease in the value of the dollar, as the numbers appearing here are in current prices. The data is from the CRS report to the Congress of October 2008, which did not include Turkey as a part of the Middle East region. The percentages appearing herein were calculated by the author, and were not taken from the charts in the CRS report (which calculates them as percentages of the total "regional sales" – sales that do not include sales to Europe and North America).

2 Offset agreements are agreements where the seller is obligated to invest a certain percentage of its proceeds in an arms sale deal on the purchasing country's market. Such agreements have become an important feature of every weapons sale, especially with nations with a strong defense industry. In many cases, the seller is also committed to buy certain components for its weapon systems sold by the local industry. Such agreements characterized the arms deals with Israel and with Turkey, and with other countries as well. In a few cases, stiff competition between weapons manufacturers pushed the offset agreements beyond 100 percent of the value of the deal.