Center for Strategic and International Studies
Arleigh A. Burke Chair in Strategy
1800 K Street, N.W. • Suite 400 • Washington, DC 20006
Phone: 1 (202) 775-7325 • Fax: 1 (202) 457-8746
Web: www.csis.org/burke

The Gulf Military Forces in an Era of Asymmetric War

Saudi Arabia

Anthony H. Cordesman
Arleigh A. Burke Chair in Strategy
acordesman@aol.com

Khalid R. Al-Rodhan
Visiting Fellow
kalrodhan@csis.org

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Introduction

Saudi Arabia has the largest oil reserves in the world, the largest oil production capacity, and one of the largest gas reserves in the world. However, the importance of Saudi Arabia is goes beyond oil. Saudi Arabia dominates the Southern Gulf, and the security of the smaller Southern Gulf states is in many ways dependent on the security Saudi Arabia. Saudi Arabia is the location of the two holiest places in Islam and the Center of the Pilgrimage. In an era where Islamist extremism and terrorism struggle against modernization and social change for the soul of Islam, Saudi stability and progress affect the future of the entire Islamic world.

Saudi Arabia also has important strategic geography. It is the biggest country in the Gulf and one of the largest in the Middle East, shown in **Map 1**. It has a total of 1,960,582 square kilometers compared to Iran's 1,648,000 square kilometers, and Iraq's 437,072 square kilometers. Saudi Arabia has borders with every country in the Gulf, except Iran: Iraq 814 kilometers, Kuwait 222 kilometers, Oman 676 kilometers, Qatar 60 kilometers, UAE 457 kilometers, Yemen 1,458 kilometers, and Jordan 744 kilometers. [1]

Strategically, the Kingdom also has a coastline of 2,640 kilometers with access to the two most important sea lanes in the Middle East: 1,840 kilometers on the Red Sea and 700 kilometers on the Gulf. Extensive coastlines on Gulf and Red Sea provide Saudi Arabia great leverage on shipping of international trade (especially oil and gas) as well as military ships through the Suez Canal, the Strait of Hormuz, and Bab el-Mandeb.

The Saudi armed forces dominate the strength of Southern Gulf and Gulf Cooperation Council (GCC) forces. This makes Saudi military capabilities critical to the security of some 60% of the world's oil reserves and over 35% of its gas. It also makes the balance of power in the Gulf a balance of the forces that Saudi Arabia and the GCC states can deploy the force of Iran, and the power projection forces available from the United States and Britain.

In summary, the Kingdom's strategic importance stems from the following factors:

- **A leader in the Islamic and Arab world:** The Kingdom is the custodian of the two most important shrines in Islam, Mecca and Madinah. Compounded with the Kingdom's oil wealth, Saudi's leadership in the Muslim and Arab world has played a moderating player between Islam and the West. It is a member of important "organizations" that set the tone for regional policies and attitudes including the Arab League, the Organization of Islamic Conference, Organization of Petroleum Exporting Countries (OPEC), and the Gulf Cooperation Council (GCC).

- **The largest oil reserves in the world:** Regardless of whether Saudi Arabia has 25% of the world's known reserves (260 billion barrels), Saudi Arabia will still dominate much of the world supply. Most oil producing countries use the same methodology to calculate reserves. In broad terms, the uncertainties affecting Saudi resources affect all other major producers, particularly in the MENA region.

- **The largest oil producer in the world:** Saudi Arabia has produced 12.5% of world total production for the last decade, and has been the only oil producer that has consistently sought to maintain surplus oil production. In addition, the Kingdom still seems to have approximately 1.5-2.0 million barrels per day of spare capacity. It claims to be "easily capable" of producing 15 million barrels per day in the next 15 years.

- **An influential member of OPEC:** Saudi Arabia continues to play a central role in the decisions of OPEC. Due to its immense reserves and influence over the other member states, especially the Gulf countries, the Kingdom has its weight with the organization and the ability to change production hikes or cuts.

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- **Central to Gulf Security:** Saudi Arabia has the largest and most modern military and internal security apparatuses in the Gulf. Saudi Arabia continues to play an important role in the stability of the other GCC states and in securing oil facilities from asymmetric attacks from extremists or conventional or WMD attacks from Iran. With close coordination with the U.S. military, the Kingdom has been able to ensure security in the Gulf and secure oil and gas trading lanes. In addition, the Kingdom has played a moderating role between other Gulf States and has insured Bahrain's stability for the past several decades.

Map 1: Saudi Arabia

Source: CIA, 2003, available at http://www.lib.utexas.edu/maps/middle_east_and_asia/saudi_arabia_pol_2003.jpg

Saudi Strategic Dynamics

Like the other Southern Gulf countries, Saudi Arab has both benefited from the strategic shield provided by the US and British presence in the Gulf, and like its neighbors it has had to deal cope the political and military backlash from some American and British actions. Saudi Arabia has always been too large, however, to face a serious threat from any other Southern Gulf states. While tensions remain will several fellow members of the Gulf Cooperation Council, Saudi Arabia has seemingly resolved all of its significant border disputes, and its political tensions with

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Qatar and the UAE do not present a risk of war. It does not face a threat from the southern Red Sea states, or from Syria and Jordan. Israel only poses a threat if it feels Saudi Arabia is likely to intervene massively in some future Arab-Israeli conflict, or is acquiring weapons of mass destruction that could threaten Israel. For all of its rhetoric, Israel does not see Saudi Arabia as a significant threat or plan to fight it.

Saudi forces must, however, deal the major uncertainties in its strategic position caused by the insurgency in Iraq and its uncertain political and military future. It must also with two potential regional threats -- Iran and Yemen. Iran is acquiring long-range missiles and may become a nuclear power. Yemen is a weak military power, but its political instability, poverty, large population, insecure borders, and constant illegal Yemeni emigration into Saudi Arabia mean that Saudi Arabia cannot ignore the risk of some Yemeni internal conflict affecting Saudi Arabia or that a new Yemeni regime might pose a future threat. Yemen has also been the source of most of the Al Qai'da in the Peninsula infiltration of terrorists, arms, and explosives into Saudi Arabia.

Arab Saudi Arabia must also deploy forces to cover its borders with Iraq, Jordan, and Syria, and defend both its Gulf and Red Sea Coasts. This means Saudi Arabia's regular military services must defend a territory roughly the size of the U.S. east of the Mississippi. The mix of potential threats Saudi Arabia faces also means that Saudi Arabia cannot concentrate its forces to meet a single threat and must normally disperse its forces over much of the Kingdom.

At the same time, the Kingdom's primary active threat comes from internal and external Islamist extremists and not from regular armies, navies, and air forces the Saudi Arabia. It has always had problems with religious extremists fanatics that deviate from its accepted Wahhabi practices, but the rise of neo-Salafi extremism and Al Qa'ida have create a transnational threat that calls for the destruction of the Saudi Kingdom, new and far more extreme versions of Puritanism, and Saudi territory to be the core of a new theocracy or "Caliphate."

The attacks by Al Qa'ida in the Peninsula that began in May 2003 have been limited in scale, and there is little evidence such movements have any serious following, but they have been threatening enough to force Saudi Arabia to shift some of its military forces to anti-terrorism missions, and greatly strengthen the capability of its Ministry of Interior to fighting the threat from Al Qa'ida and independent extremist groups. It national guard, police, intelligence services, and facility protection forces have all had to develop new counterterrorism capabilities, and prepare for the threat of low-level counterinsurgency warfare.

These security dynamics are complicated by several factors. One is the rise of an insurgency in Iraq that has come to be dominated by neo-Salafi Sunni extremists, which recruits young Saudis, and gives movement like Al Qa'ida new strength. This same insurgency is helping to divide Iraq's Sunnis and Shi'ites and drive them towards civil war. It is polarizing Iran to support Shi'ite causes outside Iran, affecting the Alawites in Syria, raising tensions with Shi'ites in Saudi Arabia and every Gulf country, and affecting Shi'ites in Lebanon and Yemen. Sectarianism has always been a problem in Saudi Arabia, but it is now risks becoming a transnational threat that cuts across national boundaries to a very different degree.

The ongoing war of attrition between Israel and the Palestinians -- and election of Hamas, another Islamist extremist group, to power in Gaza and the West Bank – creates another source of tension to the West and one that could spillover into Jordan. More generally, Al Qa'ida and other Islamist extremist groups now operate in some 80 countries. Iraq is scarcely the only

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source of problems. Afghanistan, Chechnya, and Pakistan also have some Saudi volunteers, and so do armed Islamist extremist in several Central Asian countries. The numbers are small, but the interaction between movements is important.

Saudi Arabia also still faces tensions and problems with the US. US ties to Israel and Saudi ties to the Palestinians have long been a source of tension between the two countries, and the Israeli-Palestinian war of attrition that began in 2000 made these problems worse. The US military presence in Saudi Arabia from 1990 to 2003 created serious political and religious problems within Saudi Arabia, where many religious Saudis objected to such a foreign and non-Islamic presence. The withdrawal of US combat forces completed in 2004 eased this situation, but Saudi public resentment of the US-led invasion of Iraq remains a major issue.

Many members of the US Congress and media reacted to the attacks on the World Trade Center and Pentagon on September 11, 2001, by blaming Saudi Arabia for tolerating and financing the rise of Al Qa'ida. The end result was that many in the US saw Saudi Arabia as a source of Islamist extremism and terrorism while many Saudis saw the US reaction as unfairly focused on Saudi Arabia, and broadly anti-Arab and anti-Islamic. The events of "9/11" also made Americans far more sensitive to Saudi conservative religious and cultural practices, and publicized the fact that much of the Saudi religious and educational establishment used writings attack Christians, Jews, and other Muslims that did not follow Saudi practices. At the same time, many Saudis came to feel the US was intolerant of their faith and culture. The fact that both nations now face a common threat from Al Qa'ida and similar groups has eased this situation, and government-to-government cooperation in counterterrorism is close and steadily improving, but the legacy of "9/11" remains.

The massive rise in energy prices that began in 2004, and the fact the world entered what may be a prolonged period where demand puts heavy pressure on supply, has made oil a major security issue. The world's attention is focused on Saudi ability to exploit its oil reserves, Saudi willingness and ability to expand oil and gas production, and Saudi ability to secure all its petroleum facilities. The worldwide fragility of global oil and gas exports has also made Saudi energy facilities a steadily more attractive target for Al Qa'ida and Osama Bin Laden.

Finally, in the last half century, Saudi Arabia has expanded from a population of 3.20 million in 1950 to 24.57 million in 2005,[2] including 5.6 million non-nationals.[3] In the process, Saudi Arabia has gone from a large pastoral and village society with a per capita income of several hundred dollars a year to one with a current per capita income of over $13,000 a year. Young Saudi men and women are now highly educated by global standards, and there is a virtual youth explosion in the country. At least 38% of the population is 14 years of age or younger (and the figure for native Saudis may be much higher), and some 482,000 native Saudi men and women enter the labor force a year. They are accustomed to high living standards, but often poorly educated to work and have little work experience or work ethic. Official unemployment is 13%, but disguised unemployment (men and women working at make work jobs with no useful economic output) is almost certainly at least twice that rate.

The need for political, religious, and cultural reform may be a subject for debate. There can be no debate over the fact that the mid and long-term stability of Saudi Arabia depends on the ability to give these men and women productive jobs -- and the education, motivation, and training to perform them.

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The Saudi National Security Apparatus

The current Saudi security apparatus that must deal with these mix of strategic threats and pressures is a complex mix of regular military forces in the Ministry of Defense and Aviation (MODA), a separate Saudi Arabian National Guard (SANG), and various internal security and intelligence services in the Ministry of Interior (MOI). Saudi Arabia's military forces are only one element of the Saudi security structure and are currently divided into five major branches: the Army, the National Guard, the Navy, the Air Force, and the Air Defense Force. Saudi Arabia also has large paramilitary and internal security forces, and a small strategic missile force.

Saudi Arabia has made significant progress in creating modern and effective military forces, but it still faces major problems in the leadership and organization of its armed forces. These include the traditional problems all states face in organizing and commanding large military forces, and in shaping and funding the future structure of its armed forces. At the same time, the Kingdom newer problems in dealing with significant problems in manpower quality, advanced military technology, readiness, sustainability, and managing an advanced force structure that must have the option of being interoperable with both region allies and those from outside the Gulf.

Saudi Arabia is also working on recasting the mission of many elements of it forces to focus on "jointness." The Kingdom must adopt many of the advances in joint warfare pioneered by the US and other Western nations, and improve cooperation between the Army, Navy, Air Force, and Air Defense Force. It must also redefine the mission of jointness to link the regular services, the National Guard, and the internal security and police forces under the Ministry of Security into a coherent structure that can prevent and respond to terrorism.

Saudi Arabia has made major advances it internal security and counterterrorism since it came under more intense terrorist attack in May 2003. It has given the Deputy Minister of the Ministry of Interior the interagency lead in this role. Nevertheless, it will be several years before Saudi Arabia can plan and implement all of the measures required.

The Search for "Jointness"

Saudi Arabia has become steadily more aggressive in its efforts to create true jointness in the operations of all four of its regular military services. It found during the preparation and execution of its operations in the first Gulf War that its Army, Navy, Air Force, and Air Defense Force had little joint training and doctrine and that many of their command and information systems could not properly communicate. The Saudi Air Force was also not properly prepared to support the army with close air support (CAS), airlift, reconnaissance and information transfer.

Accordingly, Saudi Arabia established a National Defense Operations Center to coordinate command activity, intelligence, and information. It began joint training at its airbase at Khamis Mushayt in the south, where it brought together army and air force instructors. Forward Air Controllers (FACs) trained with the army. Mid-level commanders were given training in joint operations and a continuous course program was set up, and suitable training programs and equipment began to be put in place.

Slow improvement in Jointness in the Regular Services

This, however, was only a start and it was clear at higher levels at the MODA that more had to be done. At the same time, it was apparent that Saudi Arabia could not simply adopt a US

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doctrine and concept of operations that emphasize global power projection and preparation for all kinds of warfare.

As a result, Saudi Arabia surveyed the doctrine of countries, including France, Egypt, and Israel. It also began to develop a set of joint doctrine plans and documents based largely on a defensive approach to operations. Saudi Arabia established a formal joint doctrine in 2001, and is steadily re-evaluating its doctrine and ways to improve joint operations. It has begun to exercise joint operations in exercises like the Peace Sword series, and to use such exercises to test and review what needs to be done. It conducted exercises of this kind with outside observers in 2004.

The Saudi forces have taken other tangible steps like providing FACs to all brigades, more airland training, and more training between the Air Force and the Navy They have improved the "connectivity" and data transfer between the Air Force's E-3A AWACS airborne warning and control systems and the land forces and navy. The Navy now takes much more advantage of the maritime surveillance capabilities of the E-3A, and both the navy and army can fully communicate with the Saudi E-3A. During the first Gulf War, technical interface problems meant that the Saudi ground and air forces often found it easier to communicate through the USAF E-3As. The Saudi Army has established an educational institute to examine ways to improve joint and combined warfare activity, and is seeking to create would like to see a fully computerized joint training center established with many of the features of the US Army center at Fort Irwin.

Saudi Arabia has found that a joint interservice presence at command centers is the key to effective "jointness" in actual operations, and is establishing joint command links between the regular forces and National Guard. It plans to create a new C^4I/battle management system and architecture to fully implement such capabilities in the future.

Saudi officers recognize, however, that progress has been slow, the scale of joint exercise training remains far too small, and that the Saudi forces must scale-up its exercises, training, and doctrine to the brigade and major air formation level to be effective. Jointness must be adapted to both the defensive character of Saudi planning, and the need to be able to deal with different mission needs in different areas.

In addition to adapting to the counterterrorism missions discussed shortly, jointness must develop air-land battle concepts that call for rapidly redeployment of air power from bases in forward areas throughout the Kingdom to support air-land operations on any given border, and make up for the inability to rapidly redeploy land forces from the "corners" of a country the size of the US east of the Mississippi.

Air-navy operations must adjust to the different conditions in the Gulf and Red Sea. The Gulf is a dense, congested area, with many countries operating near Saudi Arabia and critical flows of commerce and oil. The Red Sea is a large area where Saudi Arabia has a very long coast, there is far less traffic, and maritime surveillance presents different problems from the Gulf. It also presents different coastal security problems because of the influx of illegal immigrants from Eritrea and Ethiopia seeking jobs in the Kingdom. Air-land-sea operations must also be capable of counter-infiltration and smuggling activity in any region, particularly the Iraqi border, Yemeni border, and Gulf and Red Sea coasts.

All of these measures require a degree of integrated command and control capability that is still in development. This include the ability to handle near real time operations far more efficiently,

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and provide better integration of intelligence, targeting, battle damage, and "joint situational" awareness data. In many of these areas, Saudi Arabia must still transform concepts into operational capabilities. Like most countries other than the US, Saudi Arabia must also find solutions to the problem of "netcentric" warfare that are affordable, easy to maintain and operate, and place as much emphasis on the skill of "humancentric" operators as complex IT systems.

Much also depends on Saudi capability to work with US, British, and outside reinforcements in an emergency and to be capable of joint interoperability on an international level. They face the problem that while Saudi Arabia provided the US with significant support in the attack on Saddam Hussein, coordination with the US has suffered badly since 9/11.

Establishing Broader Jointness for Counterterrorism

As has been mentioned earlier, the Saudi forces, National Guard, and Ministry of Interior security and police forces have become more effective in working together in counterterrorism operations. Saudi Arabia had sought to establish an integrated approach to civil defense during the first Gulf War, but Iraq never provided any meaningful test of the system, and its few Scud strikes were little more than an irritant. The scattered acts of terrorism between 1995 and 2001 did little to test the coordination between the Saudi regular forces, National Guard, and Ministry of Interior security and police forces.

Serious problems existed in the training, readiness, coordination, interoperability, and jointness of the various forces in the Ministry of Interior. The police forces had little preparation, training, and equipment for counterterrorism. The security forces had never had to deal with a serious threat, intelligence was compartmented, and the Border Guard and Coast Guard forces were not really trained and equipped for such missions and operated virtually independently of each other, the security services, and regular forces. These problems were compounded by the fact the National Guard was trained largely as a light mechanized force to deal with foreign threats, rather than force area defense, counterterrorism, and to supplement the various security forces protecting critical facilities.

As a result, Saudi counterterrorism efforts exhibited serious coordination problems following the first major attacks in May 2003. Saudi forces did not coordinate in dealing with a hostage situation, and untrained forces had elementary problems in exiting from helicopters.

This experience that led to the creation of a Joint Counterterrorism Center in the Ministry of Interior. A separate Counterterrorism Operations Center was also created in MODA to strengthen, better train, and equip the different services of the armed forces involved in the on-going war against terrorism such as the Defense Facilities Protection Forces. Furthermore, a National Joint Counterterrorism Command (NJCC) was also established to enhance the cooperation and Command and Control capabilities between MODA, SANG and MOI, The NJCC is headed by the Assistant Minister of Interior for Security Affairs, Prince Muhammed bin Nayef.

The regular services, National Guard, and Ministry of Interior redefined their internal security missions to allow more cooperation while reducing overlapping responsibility or dual command. Each element has been given a more clearly defined new set of responsibilities with the Ministry of Interior retaining primary responsibility for security in all populated areas, and the regular services and National Guard taking on well-defined responsibilities for area defense and back up the protection of critical infrastructure facilities and energy facilities.

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The regular services have better-defined roles in supporting the Ministry of Interior security forces, and clear guidance on key missions like providing helicopter support. The Special Security Forces and the Special Emergency Forces have also been retrained to deploy more rapidly and more flexibility, operate better with other force elements like the Border Guard and the General Security Service in counterterrorism operations, and be better prepared for independent counterterrorism missions. The end result was much better performance during the attacks on the US Consulate in Jeddah in December 2004, the attack against the Ministry of Interior on December 29, 2004, and the attempted attack against Abqaiq oil facility in February 2006.

Saudi officers acknowledge, however, that much still needs to be done. As was the case in the US after 9/11, creating fully effective coordination and jointness among so many force elements in three major different ministerial equivalents, as well as other civil ministries with critical facilities to protect, will take years. Just as creating a fully effective Homeland Defense function in the US will take a minimum of half a decade, Saudi officers and officials fully understand that Saudi Arabia still has a long way to go before it can develop an optimal level of efficiency and coordination.

The Importance of Consensus and Consultation

While separate royal chains of command divide some aspects of the control of the Saudi security apparatus by senior princes, it is important to understand that the cooperation between them has steadily improved since the Gulf War in 1990-1991, and particularly since the series of terrorist attacks that began in May 2003.

Moreover, the senior leaders of the royal family normally operate by a consensus reached at a number of levels. It is rare for a major decision not to be discussed informally by the most senior princes. This discussion generally includes consultation and advice from all of the relevant princes at the Ministerial level, supported by a mix of outside advisors and technocrats within the key security Ministries. Interviews indicate that there is nothing rigid about this process, however, and that senior Ministers can act quickly and with minimal amounts of technical advice. Such actions are rare, however, and the senior princes often staff their decision-making process with analyses of options, budget implications, and advice on the internal political, social, and religious impact of their decisions.

A lack of administrative structure and clear and well-established procedures for collective planning and review do, however, present problems. This is particularly true when decisions cut across the lines of responsibility from one senior prince to another, when they are not part of the normal flow of annual decision making, and which hard choices have to be made in analyzing the effectiveness and cost of given decision and options.

The coordination of all counterterrorism efforts under the Ministry of Interior (MOI) since 2004 is an important start, but Saudi leaders and officers recognize that more must be done. At the operational level, they recognize that there is a need for joint commands that include all of the regular military services, the National Guard, and the key elements of the security services under the Ministry of Interior. There is also a need for a joint approach to creating a national command, control, communications, computer, and intelligence system (C^4I), and joint battle management capabilities. Plans to begin this process by creating a suitable joint command and control system may help create such capabilities.

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At the planning level, there is a need for a coordination planning, programming, and budgeting level. The need to put major new resources into internal security is having an impact of procurement and modernization in the military services, and the Kingdom has long needed a longer-term and more integrated approach to shaping and funding its force development. Similar "jointness" is needed in intelligence, in acquiring suitable military and information technology, and in creating a nation intelligence system. Preventing and responding to terrorist attacks makes the "fusion" of various intelligence efforts even more time sensitive.

Consultation at the top also is not a substitute for systematic coordination throughout the security apparatus, and the coordination between planning, policy, and budget decisions for the regular armed forces, National Guard, internal security services, and intelligence branches is inadequate and sometimes tenuous. The Kingdom has talked about creating a national security council for decades and even once built a building for such a body, but does not have either a staff that integrates all of its security efforts, or a something approaching an adequate interagency process.

The remaining problems in interagency cooperation have been compounded by other aspects of the terrorist threat. Coordination must now be far more effective at levels that go beyond the MODA, SANG, and MOI. Other princes act as governors and play a major role in shaping internal security at the regional level. Equally important, dealing with Islamic extremism involves a wide range of other ministries and religious leaders, and requires a coordinated approach to issues like education and countering the attacks extremists like bin Laden make on Islam.

The Role of the Saudi National Security Council

In order to deal with these challenges as well as integrating the national security apparatus in the Kingdom, King Abdullah upgraded the National Security Council (NSC) to deal with all facets impacting Saudi Arabia's national security. In October 2005, a royal decree revamped the council—which has been in place since the reign of King Faisal under the command of royal court, to "…focus on social, political, economic, military, security, media, and international affairs in order to guarantee the country's comprehensive national security."[4]

If this decree is fully implemented, the NSC will become one of the top decision-making bodies in the Kingdom. The King (Abdullah) is the chairman of the council, the Crown Prince (Sultan) is the vice chairman, and Prince Bandar bin Sultan was appointed as the Secretary General. Its members include the ministers from the Ministry of Defense and Civil Aviation, the Saudi National Guards, the Ministry of Interior, the Ministry of Foreign Affairs, the General Intelligence Presidency, the Ministry of Oil, Ministry of Health, Ministry of education, and the Ministry of the Economy.

In practice, however, the real-world importance and effectiveness of the NSC may not be apparent for many years to come. Interagency integration takes time and trial and error at the best of times and in every country including the developed world. In the case of the Kingdom, these changes are taking place amidst internal threat from extremists, the uncertain nature of Iran's WMD and missiles program, the insurgency in Iraq, the surge in global oil demand and the pressure on the Saudi oil infrastructure, and the pressure for further economic, security, social, and political reforms in the Kingdom.

Saudi Military and Security Spending

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There are a number of different estimates of Saudi expenditures, and of the burden they impose on the Saudi economy. Almost all agree to the extent they report extremely high levels of spending. The United States Department of Defense estimates show that Saudi spending peaked during the Gulf War, then dropped in the mid to late 1990s as Saudi Arabia came under increasing financial pressure because of comparatively low oil revenues and increased civil spending burdens caused by major population increases. In fact, 1995 was a year of Saudi fiscal crisis, and led to cuts that reduced Saudi spending by 33 percent between 1990 and 2000. Other Department of Defense sources indicate, however, that Saudi security expenditures leaped back up in 2001 as a result of a sudden "boom" in oil expenditures, and continued to increase through 2006.

Reporting by the U.S. Department of State indicates that Saudi Arabia spent $8.3 billion on defense between January 1 and December 31, 1999. It notes, however, that the Saudi government data in drew upon did not provide separate line items budgets for defense and national security. As a result, such estimates of defense spending include Ministry of Interior expenditures and are therefore somewhat misleading. According to this estimate, Saudi Arabia spent 13 percent of its GDP and 41.65 percent of its national budget on military forces during this period.[5]

The International Institute of Strategic Studies (IISS) uses Saudi budget data to calculate the total Saudi security budget, including internal security, using data provided by the Saudi Arabian Monetary Agency (SAMA). According to the IISS, this spending totaled $18.4 billion in 1999 (69 billion riyals), $20.0 billion (74.9 billion riyals) in 2000, $24.7 billion (92.7 billion riyals) in 2001, and $22.2 billion (83.2 billion riyals in 2002). The Saudi budget generally fell well below the level of actual spending. According to the IISS, the budget called for spending levels of $21.1 billion (78.9 billion riyals) in 2001, $18.5 billion (69.4 billion riyals) in 2002, $18.4 billion (68.9 billion riyals) in 2003, $19.3 billion (72.3 billion riyals) in 2004, and $21.3 billion (79.9 billion riyals) in 2005.[6]

These figures indicate that Saudi Arabia spent 40 percent of its total budget on national security in 2000, 37 percent in 2001, 34 percent in 2002, 33 percent in 2003, and 36 percent in 2004. A detailed examination of the Saudi budget data indicate that national security spending is kept relatively high even in low budget years, but that Saudi Arabia is slowing increasing the percent of its budget going to the civil sector.

It is impossible to assess how Saudi military and security expenditures are spent in any detail using unclassified data. The Saudi budget provides only an undefined "top line" total. Furthermore, it does not include all purchases of military equipment, construction, and services. Saudi Arabia does not report all of the relevant costs in its budget documents -- particularly costs of defense relating to the purchase of foreign defense goods and services. Saudi Arabia has often increased its defense expenditures after the budget was issued without reporting them, and has never publicly reported the actual cash flow it has spent on arms imports or on the value of the oil it has sometimes used in complex barter deals.

Finding the Proper Level of Expenditure

Some things are clear. The total cost of Saudi military efforts since the early 1970s has exceeded several hundred billion dollars, even if one excludes the cost of the Gulf War. The Kingdom spent from $14 to $24 billion a year on defense during the later 1970s and the 1980s, its full-time active military manpower increased from 79,000 in the 1970s to 199,500 in 2005.[7] Much of this

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expenditure -- probably on the order of 60-65 percent -- was spent on infrastructure, foreign services and maintenance, and basic manpower training. Saudi Arabia had to create entire military cities, new ports, and major road networks. It had to create modern military bases in the middle of its deserts, and pay for far more extensive training than most of the military manpower in the Third World receives.

There were good reasons for many of these expenditures during the period Saudi Arabia had to create a modern military force. Saudi recruits, whether nomad or townie, had to be brought to the point where they could operate modern military equipment, and buy a pool of equipment and munitions large and modern enough to give Saudi Arabia the ability to deter Iran and Iraq. Since the mid-1980s, Saudi Arabia has been able to shift from creating basic military capabilities and infrastructure to a slower and less expensive build-up of combat capabilities.

The cost of the Gulf War placed a massive new burden on the Kingdom, however, and such expenses had to take place at the cost of "butter" and helped lead to chronic Saudi budget deficits.[8] In fact, the Gulf War pushed Saudi military and security expenditures to the crisis level. Saudi security expenditures rose from 36% of the total national budget in 1988, and 39% in 1989, to nearly 60% in 1990. Although any such estimates are highly dependent on exactly what aspects of the cost of Saudi support to allied military forces during the Gulf War should be included, the percentage rose to around 70% in 1991-1992 -- including the cost of aid to allied governments during Desert Storm.

What is not clear is why Saudi military expenditures remained so high for so long after the Gulf War. One explanation is the need to pay for the long pipeline of arms deliveries ordered in reaction to the war. However, the data available indicate that such costs should have tapered off more rapidly by the mid-1990s than the figures shown indicate and should have bought more major combat systems, readiness, and sustainability for the money. In fact, both the size of Saudi arms deliveries after 1995, and the ratio of deliveries to new agreements after 1995, is higher than can easily be explained by either the volume of actual deliveries of major weapons or Saudi needs.

Saudi military expenditures have consumed a very high percentage of GDP and as a percent of total government expenditures, and one that has put serious strain on the Saudi budget and pressure on the Saudi economy. The US State Department estimates indicate that Saudi Arabia spent about 20% of its GDP on defense during 1983-1986. They ranged from 16 to 23 percent of the GNP during the 1980s, peaked at 27-29 percent in 1990-1992, and have since dropped to around 14 percent. The percentage was only about 8.5 percent in 1996, however, if GDP is measured in purchasing power parity.[9] The Department of Defense has somewhat different estimates. As a percentage of GDP, the defense spending is: 1990 (25.9%), 1995 (13.5%), 1996 (13.9), 1997 (11.0%), 1998 (14.3%), 1999 (13.4%), 2000 (11.7%), 2001 (13.3%), 2002 (13.3%), and in 2003 (11.54%).[10]

(Khalid, we need to add trends since 2003 to reflect impact of massive increase in oil revenues.)

Saudi military expenditures averaged around 40 percent of all central government expenditures (CGE) before the Gulf War, and rose to a peak of 60-73 percent during the Gulf War. As the previous data have shown, they then dropped back to around 35-40 percent. US officials estimate that Saudi expenditures accounted for approximately 35-40 percent of all Central Government Expenditures, and 12.9 percent of the GNP, in 2000.[11] Even so, this is still an exceptionally high

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percentage for a Saudi government that must fund so large a mix of welfare, entitlement, and civil investment expenditures.

There is no way to establish a "golden rule" as to what share Saudi military and security expenditures should consume of the GNP or total budget in the future. It is clear, however, that past levels spending placed a strain on the Saudi budget and economy. At the same time, military spending is not easy to cut. The past history of Saudi spending indicates that Saudi Arabia must spend about $13 to $15 billion a year, in 2002 dollars, if it is to maintain its present forces and rate of modernization. It should be noted that the military is making an effort to save some money by taking such steps as increasing its repair capabilities, which would reduce the number of spares normally required to be stockpiled while systems are en route for overseas repair.[12]

Saudi Arms Imports

Saudi Arabia has long been dependent on other nations for virtually all of its arms and military technology. Saudi Arabia is making some limited slow progress in developing an indigenous arms industry. Saudi Arabia has made progress in the support, supply, operations, and maintenance areas. It can produce some small arms, automatic weapons, and munitions, but much of the Saudi portion of the work consists of assembling imported parts rather than real manufactures.

A number of other programs consist of efforts where a foreign arms supplier has agreed to set up defense-related industrial efforts in Saudi Arabia to "offset" Saudi spending on arms imports. Some of these "offset" efforts have been useful in reducing the need to import technology, services, and parts, but many others are more symbolic efforts to employ Saudis than substantive efforts to aid the Saudi military or industrial base. It is scarcely surprising, therefore, that Saudi Arabia's military build-up and modernization has led to massive expenditures on military imports.[13]

Saudi Arabia has no reason to try to build major weapons systems, particularly when it can now buy some of the most advanced military technology available from diverse suppliers in the US, Europe, and Russia. Saudi Arabia's recent arms purchases reflect this fact. **Figure 1** shows Saudi actual arms deliveries between 1993 and 2004.

The general trends reflect the declining arms deliveries during the 1990s due to the "oil crash" of the 1990s. For example, it is estimated that Saudi Arabia imported $31.9 billion between 1993 and 1996, $35.7 billion between 1997 and 2000, and $19.0 billion between 2001 and 2004. In addition, the figure shows that the United States and Western European nations dominated as the major arms suppliers to the Kingdom during this period. Saudi Arabia's new arms agreements have, however, been declining at a rate higher than actual arms deliveries.

Figure 2 shows Saudi Arabia's new arms agreements between 1993 and 2004, and it its shows that between 1993 and 1996, the Kingdom imported $18.8 billion worth of arms. But the Kingdom's signed only $4.9 billion worth of new arms agreements between 1997 and 2000, and an estimated $5.6 billion between 2001 and 2004. These numbers, however, do not reflect the increase in oil revenues and defense spending in 2005 and 2006, including the deal Saudi Arabia signed with Britain to purchase the Eurofighter aircraft.

Saudi spending on arms imports also helps explain why Saudi Arabia ranked as one of the world's ten largest military importers in every year for much of the last two decades. It ranked

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first in both new arms agreements and in actual arms deliveries during 1989-1992, and 1993-1996, It ranked first in arms deliveries during 1996-1999, although it ranked third in terms of new orders – behind the UAE and India and only marginally above Egypt.[14]

This situation has changed strikingly, however, since the mid-1990. Saudi Arabia ranked seventh in terms of new agreements during 2000-2003, although it stayed first in arms deliveries during the same period because deliveries lag years behind orders. Saudi new orders during 2000-2003 were half of what they were during 1996-1999, and only 14% of what they were during 1991-1994.[15] Saudi Arabia no longer is one of the top ten arms importers.[16]

Saudi Arabia has a great deal to gain from rationalizing its military industries and equipping them to produce more spares and handle major equipment upgrades and overhauls. This would reduce Saudi life cycle costs, help sustainability, and ensure that the Kingdom could afford major upgrades and extend the life cycle of its weapons. It is also clear that this is the best way to insure Saudi Arabia's independence from any one supplier of key weapons. Simply diversifying the sources of weapons and technology to reduce dependence on any one country is expensive, reduces interoperability, raises training and readiness costs, and still leave Saudi Arabia dependent on a given supplier for a critical part of its arsenal in any sustained or high intensity conflict.

The Impact of the Gulf War

Saudi Arabia took delivery on $48.1 billion worth of arms during 1983-1989, and purchased 14.1% of all Third World military import agreements during 1982-1989.[17] The Gulf War did, however, lead Saudi Arabia to make major additional purchases of military imports. Saudi Arabia ordered $18.6 billion worth of military imports in 1990, and took delivery on $6.749 billion worth. Saudi Arabia cut its new orders to $7.8 billion in 1991, but deliveries rose to $7.1 billion as its backlog of increased orders began to raise deliveries. Both new orders and deliveries dropped to $4.5 billion in 1992. Saudi military imports then began to rise again because of the perceived threat from Iran and Iraq. Saudi Arabia ordered $9.6 billion worth of arms in 1993, and took delivery on $6.4 billion. In 1994, it ordered $9.5 billion worth of military imports and took delivery on $5.2 billion.

The end result of these orders was a bill that strained Saudi Arabia's financial capabilities at a time its oil revenues were declining, and a massive "pipeline" of ongoing arms deliveries that Saudi Arabia could not effectively absorb. The Kingdom had problems with meeting its payment schedules for several ongoing arms deals. Saudi Arabia had signed a multi-stage deal with Britain called Al-Yamama that costs the Kingdom up to three billion dollars per year, but which was not integrated into its normal budget process. A similar agreement for the upgrade of the Saudi Navy, Sawari, was penned with France. While the Kingdom could meet some of its obligation with oil, these deals still imposed a major financial burden. The US had to be paid in cash, which imposed even more of a burden.

There were reasons to diversify the Kingdom's arms purchases. Saudi Arabia found it could not rely on the US because of US ties to Israel, and internal political pressure from Israel's supporters. It made sense for the Kingdom not to become too dependent on one supplier. Second, major arms purchases were a diplomatic tool in ensuring support from supplier nations. Finally, arms imports were a way of "recycling" oil export revenues and preserving market share. However, the Kingdom failed to pay proper attention to interoperability and standardization.

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Like most Gulf countries, it often focused on buying the most effective or advanced system, and paid little attention to the practical problems of integrating weapons from different suppliers into overall force structures that minimized the problems in operating systems designed by different countries, the maintenance problems involved, and the difficulties in supplying and sustaining systems with different maintenance and ammunition needs in combat.

Aside from the National Guard, Saudi Arabia paid too little attention to the training burden involved, problems in combined arms and joint operations, and difficulties in command and control. It also underestimated the inevitable rivalry between foreign military advisory teams and the natural competitive bias of foreign contract support teams towards favoring systems made by their companies or countries. Saudi Arabia also underestimated the tendency of supplier countries to focus on sales per se and ignore the Kingdom's strategic interests, even though most supplier countries were dependent on the security of Saudi oil exports.

Excessive arms spending also led to a budget crisis in the mid-1990s. The Kingdom's problems in paying for its existing arms orders in 1994 led it to make much more modest new purchases after this time. The Kingdom ordered $2.1 billion worth of arms in 1995, and took delivery on $2.1 billion. New orders totaled $1.9 billion in 1996, and deliveries totaled $6.3 billion. Saudi Arabia placed $2.7 billion in new orders in 1997, and took $11.0 billion worth of deliveries.[18]

Arms Imports Since the Late 1990s

The "oil crash" in late 1997 reinforced Saudi Arabia's need to limit its new arms imports. As a result, it placed $2.9 billion in new orders in 1998, and took $8.7 billion worth of deliveries, and placed $1.6 billion in new orders in 1999, and took $6.9 billion worth of deliveries.[19] The scale of the decline in new Saudi arms import agreements is indicated by the fact that new orders during1991-1994 were only about two-thirds of the total during 1987-1990. Saudi new orders for the four-year period from 1994-1997 were substantially less than half the new orders Saudi Arabia placed during the four-year period before the Gulf War, even measured in current dollars.[20]

The Kingdom's new arms orders also suffered from planning management problems that reinforced the problems in Saudi military sustainment and modernization.

- First, the Kingdom focused on major new arms purchases during the period immediately after the Gulf War, rather than sustainment and then did not shift its purchases to focus on sustainment when it had to make major cutbacks after the mid-1990s. As a result, Saudi Arabia was flooded with weapons but seriously under funded in terms of the investment in maintenance and sustainment that was necessary to keep its existing weapons effective and properly absorb its new ones.

- Second, the flood of new deliveries during the 1990s added to the Kingdom's problems in effectively recapitalizing and maintaining its overall force posture. As a rough rule of thumb every major weapons system costs at least as much in terms of the arms imports needed to maintain and upgrade it during its life cycle as it does to buy, and often twice as much. The Kingdom now faces a major future cost problem in making and in keeping its new weapons effective that will add to the problem of sustaining its existing weapons. While no precise figures are available, some US advisors estimate that the Kingdom needed to restructure its arms import program to focus on sustainment half a decade ago, and needs to spend three to four times more on support equipment, training systems, etc. than it does today, even if this means major additional cuts in spending on new arms.

- Third, the Kingdom never really developed a clear strategy for both improving interoperability and setting affordable long-term force goals. It went from year to year, solving its payments problems as they occurred.

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> It did not develop effective future year plans and the spending fixes it adopted for any one year tended to compound its overall problems in standardization and interoperability.

The patterns Saudi arms imports since its funding crunch in the mid-1990s have been different. Saudi Arabia imported $37.2 billion worth of arms during 1996-1999, and $23.9 billion during 2000-2003. In contrast, it signed only $6.0 billion worth of new arms agreements during 1996-1999, and only $3.4 billion in new arms agreements per year during 2000--2003. [21] New orders were less than one-sixth of deliveries during 1996-1999, and roughly one-seventh during 2000-2003.[22]

There are indications that this situation may reverse itself in the near future, as the flood of oil export revenues Saudi Arabia has received since 2004 lead to new arms purchases. There are as yet, however, too few actual contracts to even begin to speculate on the future size of Saudi arms buys.

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Figure 1: Saudi Arabia's Arms Deliveries by Supplier, 1993-2004

(In Current Million $US)

	1993-1996	1997-2000	2001-2004
US	12,100	16,000	4,700
Russia	0	0	0
China	100	0	0
Major W. European	16,100	17,100	13,900
Other European	3,600	2,600	400
All Others	0	0	0
Total	31,900	35,700	19,000

Source: Richard F. Grimmett, *Conventional Arms Transfers To Developing Nations, 1997-2004*, CRS, August 29, 2005; and Richard F. Grimmett, *Conventional Arms Transfers To Developing Nations, 1993-2000*, CRS, August 16, 2001.

Figure 2: Saudi Arabia's New Arms Agreements by Supplier, 1993-2004

(In Current Million $US)

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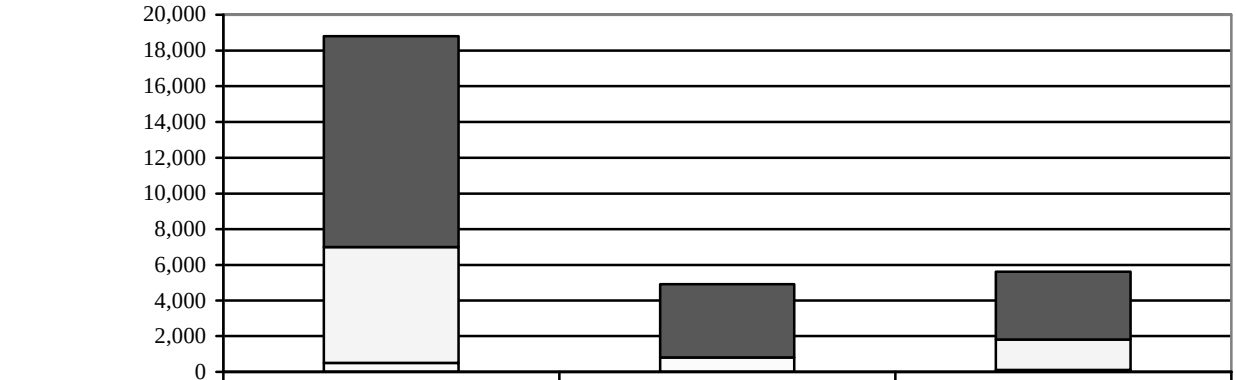

	1993-1996	1997-2000	2001-2004
US	11,800	4,100	3,800
Russia	0	0	0
China	0	0	0
Major W. European	6,500	0	1,700
Other European	500	800	0
All Others	0	0	100
Total	18,800	4,900	5,600

Source: Richard F. Grimmett, *Conventional Arms Transfers To Developing Nations, 1997-2004*, CRS, August 29, 2005; and Richard F. Grimmett, *Conventional Arms Transfers To Developing Nations, 1993-2000*, CRS, August 16, 2001.

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Manpower

Saudi military forces are modern, high technology forces by regional standards, but manpower is a problem. The Saudi manpower base has expanded to the point where Saudi Arabia could theoretically support much larger forces. Some 6.6 million men are fit for military service, and some 247,000 males a year reach the age of 18. [23] Motivation, education, and training are, however, serious problems. It is hard to obtain the mix of manpower quality and quantity needed to man Saudi forces properly, and the Saudi services are still adapting the fact that modern military training and promotion must be ruthlessly based on performance and merit, not birth, family, politics, or social custom.

Saudi regular forces now total some 124,500 men, plus some 95,000–100,000 actives in the National Guard and another estimated 130,000 men in the various paramilitary forces (excluding the different police forces): Some 30,000 in the Border Guard, 20,000 in the Drug Enforcement Agency, 25,000 in the Civil Defense Administration, 30,000 in the Special Emergency Forces, 5,000 in the Mujahideen, 10,000 in the Petroleum Installation Security Force and some 10,000 in the Special Security Forces.

These totals do not include the internal intelligence service, the General Security Service, and the different police forces in the Ministry of Interior. Moreover, the Royal Guard and the General Intelligence Presidency are also not included in the above tally.

The Saudi Army

The Saudi Army has about 75,000-100,000 actives, an inventory of some 1,055 medium tanks, plus over 3,000 other armored vehicles, and 500 major artillery weapons. It is headquartered in Riyadh, and has five staff branches**:** G1 Personnel, G2 Intelligence and Security, G3 Operations and Training, G4 Logistics, and G5 Civil and Military Affairs. It also has field commands organized into six area commands under Military Zone Commanders, and located at Riyadh, King Khalid Military City, Tabuk, Khamis Mushayt, Dhahran, and Jeddah.

Since the Gulf War, the Saudi Army has developed, modernized, and increased in size. It has nearly doubled its manpower, battle tanks, APCs, transport helicopters, and SAM launchers. **Figure 3** provides the details of the development of the force structure in the Saudi Army since the end of the Gulf War in 1990, levels of manpower, and numbers and types of major weapons.

It is clear from **Figure 3** that the Saudi Army has expanded significantly in manpower. It is also clear that it has increases combat unit strength, and has modernized many categories of key weapons. At the same time, the number of different equipment types compounds its interoperability problems and the army retains significant numbers of older or obsolescent systems. Army readiness and maintenance have improve since the late 1990s, but the Saudi Army's diversity of weapons also contributes to the fact it has serious maintenance and sustainability problems if its forces have to operate away from the their main bases or military cities.

Much of the Saudi Army is now deployed in military cities at least 500 miles from the Kingdom's main oil facilities in the Eastern Province, although a brigade is stationed in the new King Fahd military city in the Eastern Province, and combat elements of another brigade are deployed to the new Saudi Army base at King Khalid City, near Hafr al-Batin, in 1984. For the

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foreseeable future, the Saudi Army will be dispersed so that much of its strength will be deployed near Saudi Arabia's borders with the angles located at Tabuk, Hafr al-Batin, and Sharurah-Khamis Mushayt.

Force Strength and Structure

The combat strength of the Saudi Army consists of four armored brigades, five mechanized infantry brigades, three light motorized rifle brigades, and one airborne brigade. It also has five independent artillery brigades and an aviation command. The Saudi Army deployed the 12th Armored Brigade and 6th Mechanized Brigade at King Faisal Military City in the Tabuk area. It deployed the 4th Armored Brigade, and 11th Mechanized Brigade at King Abdul Aziz Military City in the Khamis Mushayt area. It deployed the 20th Mechanized Brigade and 8th Mechanized Brigade at King Khalid Military City near Hafr al Batin. The 10th Mechanized Brigade is deployed at Sharawrah, which is near the border with Yemen and about 150 kilometers from Zamak.

A typical Saudi armored brigade has an armored reconnaissance company, three tank battalions with 42 tanks each, two tank companies with a total of 30 tanks, three tank troops with a total of 12 tanks, a mechanized infantry battalion with 54 AIFVs/APCs, and an artillery battalion with 18 self-propelled guns. It also has an army aviation company, an engineer company, a logistic battalion, a field workshop, and a medical company.

A typical Saudi mechanized brigade has an armored reconnaissance company, one tank battalion with 37-42, three mechanized infantry battalion with 54 AIFVs/APCs each, two infantry companies with a total of 33 APCs, three infantry platoons with a total of 12 APCs, and an artillery battalion with 18 self-propelled guns. It also has an army aviation company, an engineer company, a logistic battalion, a field workshop, and a medical company. It has 24 anti-tank guided weapons launchers and four mortar sections with a total of eight 81mm mortars.

The Airborne Brigade is normally deployed near Tabuk. The Airborne Brigade has two parachute battalions and three Special Forces companies. The three light motorized brigades include the 17th, 18th, and 19th. Saudi Arabia is expanding its Special Forces and improving their equipment and training to help deal with the threat of terrorism. The Special Forces have been turned into independent fighting units to help deal with terrorists, and report directly to Prince Sultan.

The Army also has an Army Aviation Command, which was formed in 1986, and operates Saudi Arabia’s Bell 406 armed helicopters and AH-64s. There also security garrisons at most major Saudi cities, including Dhahran, Jeddah, and Riyadh.

There also Royal Guards, which are an independent force located near Riyadh. The Royal Guard Brigade has three battalions, and is equipped with light armored vehicles. It reports directly to the King and is recruited from loyal tribes in the Najd.

This is an impressive land force order of battle for a country the size of Saudi Arabia, but the Saudi Army only has around 75,000-100,000 full time actives for a force structure and equipment holdings that requires up to at least twice as many men. The current level of Saudi active army manpower is adequate to man about two to three U.S. division “slices,” with minimal manning for combat, combat support, and service support units. In the U.S. Army, it could support a total force with a maximum of around 600 tanks and 1,000 other armored

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vehicles. In practice, however, the Saudi Army's manpower must be divided into force structure that has an order of battle equivalent to around three heavy divisions, and with an equipment pool at least that size. This requires more manpower than Saudi Arabia has available.

The Saudi Army's problems in expansion, planning, manpower, organization, and deployment have been compounded by the need to absorb the massive equipment build-up that took place before and after the Gulf War. As has been noted earlier, the Army faces the need to operate a complex mix of equipment supplied by many nations, and then be able to operate effectively with the equipment mixes in the forces of regional allies, the United States, and Britain. The diversification of the Saudi Army's sources of army equipment has reduced its dependence on the United States, but it has also increased its training and support burden, and has raised its operations and maintenance costs.

Saudi Armored Forces

Saudi Army weapons and equipment numbers are more than adequate now that Iraq has ceased to be a threat. Saudi Arabia has an inventory of 1,055 main battle tanks and more than 300 tank transporters. Its tanks included 315 M-1A2s, 450 M-60A3s, and 290 French-made AMX-30s. The Saudi Army now concentrates on maintaining, training, and operating its M-60s and M-1A2s, and regularly upgrades them as the U.S. Army develops modifications and improvements. It has shifted its lightly armored and aging AMX-30s to its light brigades.

Some experts feel that half of its AMX-30s are in storage, however, and only about 700-765 of Saudi Arabia's main battle tanks are fully operational. Saudi Arabia was also experiencing major problems in converting to the M-1A1 tanks and would leave it with a core strength of around 380 well-manned M-60A3s, about 200-275 M-1A2s that were combat ready with good crew proficiency, and a residual force of around 160-170 AMX-30s.

Saudi Arabia has a large inventory of other mechanized armored equipment. It has roughly 2,600 armored vehicles in addition to its tanks (300 reconnaissance, 970 armored infantry fighting vehicles, and 1,900 armored personnel carriers), and has a ratio of about 27 actives per other armored vehicle. In contrast, Iran has 1,455 other armored vehicles for 325,000 actives (450,000 if the Revolutionary Guards are included. The Saudi Army also has large numbers of French and U.S.-made armored recovery vehicles, armored bridging units, and large numbers of special purpose armored vehicles.

It is not possible to separate all of the Saudi Army's holdings of other armored vehicles (OAFVs) from those of the National Guard, Border Guard, and other paramilitary forces. According to the *IISS Military Balance*, the Saudi Army's holdings of armored infantry fighting and command vehicles seem to have included 400 M-2A2 Bradleys, 150 M-577A1s, and 570+ AMX-10Ps as of late 2004.[24] According to *Jane's Sentinel Security Assessment*, Saudi Arabia has 110 AML-60 and 190 AML-90.[25]

In terms of armored personnel carriers, various sources indicate that the Saudi Army had up to 3,000 M-113s in various configurations (the operational inventory may be closer to 1,750-2000). Saudi Arabia is experimenting with upgrading its M-113s and is studying the upgrades developed by the Turkish army. It also had 150 Panhard M-3, 40 Al-Fahad, 440 Piranha, and 290 V150 (810 more in store) in 2006. It is obvious from these totals that the Saudi Army's holdings of OAFVs include enough US-supplied equipment to provide reasonable levels of

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standardization for all of the Saudi army's full-time active manpower, as well as a high degree of interoperability with U.S. forces. The Piranha has also proved to be effective in Saudi exercises and trails.

At the same time, the Saudi Army's total inventory of armored weapons not only presents problems in interoperability, standardization and modernization, there are many variants with the various types of armor listed above that are highly specialized and difficult to properly integrate into Saudi forces in small numbers. Some purchases are also the result of past political efforts to give foreign suppliers a share of the Saudi market, regardless of military needs.

The end result also further complicates the problems the army would have in moving forces from their widely dispersed peacetime locations in military cities near the Kingdom's different borders to concentrate them to defend against a given enemy. Saudi Arabia still exercises almost exclusively at the battalion level and does not conduct long-distance brigade-sized exercises. Its armored training is largely firing range and daytime training, and not maneuver and night warfare training. The Saudi Army did learn during the Gulf War that it can draw on its civilian fleet of transporter to move tanks, and trucks for logistic supply, but has little meaningful practice in such operations and does not seem to have detailed contingency plans for such operations.

Saudi officers note that the destruction of the Iraqi Army, Iran's lack of major amphibious lift, and Yemen's steadily declining military capabilities reduce the potential need to concentrating the Kingdom's heavy armor uncertain. They feel there is now more emphasis on moving lighter and easier to move formations for missions like border security against infiltration and to support the Ministry of Interior in fighting terrorists. Nevertheless, the combination of a lack of interoperability, maintenance and sustainment problems, large-scale exercise training, and reliance on civilian lift for rapid long-distance armored movement is a significant force limitation.

Whether there also is a requirement for Saudi Arabia to develop urban warfare capabilities for its heavy forces is an open question. Saudi officers note that Saudi army missions are defensive, and that any security operations in Saudi cities are the function of the Ministry of Interior security forces. They do not see a potential threat requiring such training and preparation.

Saudi Anti-Tank Weapons

The Saudi Army has a good mix of small arms, light weaponry, and anti-tank weapons. These include massive stocks of mobile, crew-portable, and man-portable TOW, HOT, and Dragon anti-tank guided missiles. Saudi Arabia has a total of some 950 TOW launchers with some 200 TOW launchers mounted on VCC-1 armored fighting vehicles, and an additional 300 mounted on M-113A1s or other U.S. supplied armored vehicles. It had 100 HOT launchers mounted on AMX-10P armored fighting vehicles. The Army also has large numbers of TOW crew-portable and roughly 1,000 Dragon man-portable anti-tank guided weapons systems.

It also has 300 Carl Gustav rocket launchers, 400 M-20 3.5" rocket launchers, thousands of M-72 LAWs, and extensive numbers of 75mm, 84mm, 90mm (100), 106mm (300) rocket launchers, and recoilless rifles.

Saudi Arabia is replacing its LAWs with more effective anti-armor rockets. It is replacing its TOW-1A anti-tank guided missiles with TOW-2As. Unlike the older anti-tank guided weapons

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in some Gulf armies, the Saudi Army TOW-2A missiles are very effective in killing T-72A, T-72M1, T-80 and other modern tanks. It is seeking to replace its Dragons with the more modern Javelin.

Saudi Artillery

The Saudi Army has large numbers of modern artillery weapons. The Saudi Army inventory includes 60 Astros II multiple rocket launchers, and 110 M-109A1B/A2 and 60 GCT 155 mm self-propelled howitzers.[26]

The Army had 24 Model 56 and 90-100 M-101/M-102 105mm towed howitzers and 40 FH-70 105mm towed howitzers, in storage. It had 40 M-198 and 50 M-114 155mm towed howitzers in service and 5-10 M-115 203mm towed howitzers and some other older towed weapons in storage. Its total mortar strength included over 400 120mm and 4.2" weapons, over 1,000 81mm weapons, and large numbers of light 60mm weapons. It had 70 81mm, and150 M-30 4.2" mortars on M-106 and M-125A1 armored vehicles, and roughly 200 81mm-120mm towed mortars.

Saudi artillery units are being equipped with better targeting, command and control, and battle management capabilities, but they do suffer from training, mobility, and support problems. Training is range-oriented, and some experts report that many units only shoot in serious training exercises every 1 1/2 years. The Saudi Army needs more and better ballistic computers, mobile fire control and ammunition-supply equipment, and desperately needs new target acquisition radars -- such as the AN/PPS-15A, MSTAR, or Rasit 3190B. It also needs a modern and fully integrated mix of counter battery radars and fire control systems to rapidly mass and shift fires, and to practice night operations in combination with the armored and light forces.

In spite of these problems, the Saudi Army has more effective artillery than most Middle Eastern and developing armies do. It has the advantaged that the Saudi Air Force is much better equipped to provide firepower for the army in joint operations than most regional air forces, and it is seeking to develop more advanced concepts for combined arms, joint, and maneuver warfare that most regional armies still ignore.

Nevertheless, the Saudi Army presently has limited-to-moderate ability to use artillery in maneuver and combined arms warfare, to target effectively in counter-battery fire or at targets beyond visual range, and to shift and concentrate fires. Unless the Kingdom takes combined arms and maneuver warfare more seriously in terms of brigade size maneuvers and joint warfare exercises, Saudi artillery units will have significant limitation in maneuver warfare.

Saudi Light and Medium Air Defense Weapons

Saudi Arabia has relatively large numbers of modern air defense weapons by Gulf standards. It is not easy to separate the Saudi Army's air defense assets from those in the Saudi Air Defense Force, and sources disagree over which force operates given systems. The Saudi Army seems to have 33 SAM batteries and 17 AM/FPS-117 radars, and is organized and equipped to protect its maneuver forces in combat. Total Saudi holdings of short-range air defenses include 73 Crotale (Shahine) radar guided missiles on tracked armored vehicles and 17 with 68 Shahine firing units, some mounted on AMX-30 tank bodies.

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Saudi Arabia also has man-portable surface-to-air missiles. Its current holdings include 500 Mistrals. It is upgrading its Mistrals with better rocket motors and possibly better sensors and countermeasures. It once had around 500 Stingers, which it destroyed in 2002 because of maintenance and security issues; it had previously destroyed holdings of 500 obsolescent Redeye man portable surface-to-air missiles. Saudi Arabia may have an unknown number of Kolomna KBM Igla (SA-16 Gimlet) weapons. Saudi Arabia bought 50 Stinger launchers and 200 Stinger missiles on an emergency basis in August 1990, and ordered additional Crotales and 700 French Mistral launchers and 1,500 missiles.

It is equally difficult to separate the Army's air defense gun holdings from those of the National Guard, but Saudi Arabia's total holdings of light anti-aircraft weapons seems to include 10 M-42 40mm, and 92 Vulcan M-163 20mm anti-aircraft guns. It also seems to have 150 Bofors L-60/L-70 40mm and 128 Oerlikon 35mm towed guns, and possibly 15 M-117 90mm towed anti-aircraft guns.

This is a reasonable mix of air defense assets, but training and readiness levels are moderate to low. The separate Saudi Air Defense Force – which controls Saudi Arabia heavy surface-to-air missiles and fixed air defenses -- is also a relatively static force that cannot easily support the army in mobile operations. The Army's air defense units consist largely of independent fire units, rather than an integrated system of netted C^4I/BM capabilities, although Saudi officers indicate such capabilities are planned.

A broader question affects the future of this force, as it does the future of most short-range air defense units (SHORADS). The Afghan and Iraq Wars have shown that a truly modern air force can strike land units with extraordinary lethality using weapons like laser and GPS-guided weapons at stand off ranges that SHORADS cannot target, that radar-guided air defense systems are easy to locate and bypass or strike with anti-radiation missiles, and that optical ands IR systems are subject to countermeasure and tracking problems.

This does not mean that disperse systems that conceal their presence and "pop up" cannot be effective, that dense or "curtain" fire will not occasionally hit an aircraft with a lucky or "magic bullet, or that the very existence of such force does not force aircraft to operate at much longer strike ranges and degrade their effectiveness. It does, however, raise issues about the kind of air defense forces the Saudi Army must plan for in the future.

Saudi Army Aviation

Saudi Army helicopter forces are important areas for future force improvement, and the Saudi Army has developed a comprehensive army aviation modernization plan that it will seek to implement as funds become available.

As has been noted earlier, the Saudi Army is highly dispersed, and much of its strength is deployed near Saudi Arabia's borders at Tabuk, Hafr al-Batin, and Sharurah-Khamis Mushayt. Helicopters offer a partial solution to providing rapid concentration of force and help Saudi Arabia to make up for its lack of experience in large-scale maneuver. They also allow the Army to support the Ministry of Interior security forces in counterterrorism missions, and the National Guard, throughout the Kingdom by providing both lift and firepower

These factors first led the Saudi Army to seek attack helicopters in the early 1980s. Saudi Arabia initially experienced political problems in obtaining such helicopters from the US, and this led

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the Saudi Army to obtain an option to buy 88 Sikorsky-designed S-70 Blackhawk helicopters from Westland in Britain. Roughly, 80 of these Westlands were to be attack helicopters equipped with TOW-2. The rest were to be configured for SAR missions. The order was divided into batches of 40 and 48 aircraft.

The Gulf War changed this situation and created the political conditions in which Saudi Arabia could buy the AH-64 from the US. The AH-64s began to enter Saudi service in 1993. Saudi Arabia eventually took delivery on 12 AH-64 Apache attack helicopters, 155 Hellfire missiles, 24 spare Hellfire launchers, 6 spare engines, and associated equipment from the US.

In 2005, the Saudi Army had a helicopter strength that included 12 AH-64 attack helicopters, 15 Bell 406CS armed helicopters, 12 S-70A1 Sikorsky Blackhawk transport helicopters, six SA-365N medical evacuation helicopters, 10 UL-60 Blackhawk medical evacuation and 12 UH-60 transport helicopters. The Saudi Army has had maintenance problems with its helicopter fleet, although standards seem to be much higher than in Iran and Iraq. It also tends to use helicopters more for search and rescues, light transport, service and medical evacuation functions than to achieve tactical mobility. This could present problems in terms of training and readiness to compensate for the dispersal of the Saudi Army and in deploying forward defenses.

The army would like to buy more attack helicopters, and sees them as a key future system for both regular military counterterrorism operations. It is studying the user of UAVs for reconnaissance and targeting missions, as are all of the Saudi military services. It also is working with the Saudi Air Force and Air Defense Force to develop better plans to joint operations, deconflicting fixed and rotary wing aircraft in combat operations, and improved air space control – which is managed by the Air Force.

Facilities and Infrastructure

The Saudi Army has all the facilities, infrastructure, and equipment necessary to support its forces in peacetime. It has a full series of training facilities for officers and other ranks, and most of its combat forces are in large, self-contained, military cities. These cities have modern housing, good equipment facilities, and adequate maintenance and support facilities for peacetime and limited combat operations near base. There is ongoing construction of facilities near Yemen. This latter effort now seem oriented largely toward border control and the prevention of infiltration or operations by terrorists, although low-level tribal violence still takes place sporadically in the area.

The Army has excellent support facilities, although it underfunded logistic and support vehicles and equipment between the mid-1990 and 2001s. Nevertheless, the Saudi Army has made major purchases of support equipment, along with the purchase of its M-1A2s and M-2A2s. It is improving its field support vehicle strength and ordered 10,000 support vehicles from the United States on September 27, 1990, including 1,200 High Mobility Multipurpose Wheeled Vehicles (HMMWVs). The Saudi Army still has extensive foreign support in spite of cutbacks in foreign manpower and support contracts.

The Saudi Army has not, however, created the sustainment and support capabilities necessary to support mobile combat operations in the field. While it did make progress towards converting to maneuver warfare during the Gulf War, it then reverted to a largely static and caserne-oriented

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pattern of peacetime behavior. As a result, it has failed to give sustainability the same priority as firepower and mobility.

The lack of standardization within the Saudi Army adds to these problems, as does excessive dependence on base facilities and foreign civilian support. So would the lack of progress in these areas in the rest of the Southern Gulf, in any joint warfare involving regional allies. There are exceptions like attack helicopters, but the Saudi Army now needs the specialized training, organization, and manpower necessary to improve its support structure, and ability to sustain its existing forces in combat, far more than it needs more weapons.

The Saudi Army is still an army that normally operates near its peacetime casernes, and which will experience serious problems in redeploying its major combat forces unless it has extensive strategic warning. While Saudi Arabia can move a brigade set of armor relatively rapidly, it would take the Saudi Army a minimum of 7-10 days to redeploy a combat sustainable brigade to a new front.

Interoperability within the Saudi Army would then be an even broader problem than the previous discussion of armor indicates. Saudi Arabia operates three types of tanks and five different types of major armored fighting vehicles and armored personnel carriers, with an inventory of more than 20 subtypes. It has major artillery holdings from five different countries, anti-tank weapons from four, and helicopters from two. This equipment is broadly interoperable, and there is no reason not to buy from a variety of foreign suppliers. However, Saudi Arabia's unique weather, terrain, and desert warfare conditions create special demands in terms of support and sustainability and each additional type of weapon increases any army's training and sustainability problems.

Much of the equipment the Saudi Army has purchased has required modification, or extensive changes to its original technical and logistic support plan, before it could be operated in large numbers. New problems may arise the moment the Saudi Army is forced to operate away from its bases, conduct sustained maneuvers, and deal with combat damage. Contractor support is not a substitute for uniformed Saudi combat support and service support capabilities that can deploy and fight in the field, and the Saudi Army's standardization and interoperability problems are compounded by the need to support equipment in remote and widely dispersed locations. The Saudi Army has tried to reduce such problems by creating an advanced logistic system, but some experts feel this effort has been overly ambitious and has lacked proper advisory management.

Military advisory teams generally provide relatively unbiased advice, but do tend to push their own nation's manufactures. Contract teams – Saudi or foreign – are profit and sales oriented groups. The Kingdom should use advice, not rely on it, carefully carrying out its own independent assessment, and seek to Saudize contract efforts wherever cost-effective. Saudi planners should examine what Western countries do, compare the systems, and select the best elements tailored to Saudi needs – seeking competitive bids for what must be bought from the outside. "Trust, but verify" applies to more than arms control.

Foreign contractors are also expensive; and non-combatants that may not be willing to support military operations in the field. The Kingdom now has the manpower pool and skills to create its own major overhaul and maintenance facilities, provide the necessary maintenance and sustainment capabilities in the field, and provide recovery, service, and repair units that will enable it to maneuver in the field. It also has developed to the point where it can still benefit

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from foreign advice on such issues, but does not need to rely on it. It should be able to create its own plans and make its own choices about logistics, sustainment, and repair systems.

It may be initially more expensive to create Saudi managed and manned capabilities, but they will employ Saudis and develop essential skills and military capabilities. Recent wars have shown that field repair and sustainment is as important as initial combat strength and critical to rapid and effective maneuver. Moreover, one of Israel's advantages over Arab troops in past wars has been that it concentrated on the recovery of damaged equipment in combat, and rapidly brought weapons like tanks back into service, while Arab forces tend to abandon equipment with limited combat damage or field repairable maintenance problems.

The creation of Saudi-manned major maintenance and overhaul facilities might offer several other advantages. Buying from different suppliers does not by itself guarantee independence or sustainability. Dependence on foreign suppliers is not an issue after the equipment and weapons are delivered if Saudi Arabia has the capability to repair and refit equipment, and has bought the necessary stocks of parts and specialized equipment. Turnaround and repair times are shorter and can be peaked in prepared for war and sustaining operations without political issues and delays for delivery from the supplier country.

Field exercises become far more realistic if emergency repair can be made part of the exercise without adding to foreign contractor costs. Commanders come to see repair and sustainability as an integral part of combat operations and not a task contracted out to foreigners. Developing such capabilities also creates an enhanced ability to modify and modernize equipment, and make modifications tailored to Saudi needs that can be bought from a range of foreign suppliers.

These are the issues the Saudi Army must now address in the light of the fact Iraq has ceased to be a threat. Lighter and more mobile forces may be needed to deal with the problems of infiltration and terrorism. It should be possible to consolidate Saudi forces around the mission of defending against any incursions by Iran or Yemen, cut major equipment purchases, and eliminate older and less capable equipment, and stress training and readiness. The Saudi Army also fully recognizes that its need to focus on developing additional light and heavily mobile forces, Special Forces and counterterrorism units will require new forms of support at every level.

Saudi Arabia should make its own choices and create its own operations research (OR) and test and evaluation (T&E) teams, focusing on interoperability, joint warfare performance and sustainability -- and not simply technical specifications and individual equipment performance. It should buy independent sustainability with its weapons in terms of stocks on in-Kingdom service and repair facilities to minimize dependency. Iraq's defeat and the slow rate of Iranian improvement give the Kingdom time in which to adopt a slower rate of modernization based on its own choices as to what equipment best meets its needs.

Overall Capabilities

The preceding comments judge the Saudi army by a very demanding standard: How it compares with U.S., British, Israeli, and other advanced land forces. Three points need to be stressed in summarizing such judgments for the Saudi army. First, the Saudi Arabia has made immense progress in the last thirty years, and has regained the momentum it lost during the 1990s since Prince Khalid bin Sultan became Assistant Minister of Defense in 2001. Second, such standard

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are absolute and do not take account of the destruction of the Iraqi threat and acute limitations of potential threats like Iran and Yemen. Third, global military standards for readiness are relatively low and the Saudi armed forces not only compare favorably to those of regional power, but to those of many NATO countries – many of which have not fought a meaningful military action in well over half a century.

That said, the Saudi army does not to press ahead with a focus on readiness, training, and sustainability focused on maneuver warfare, night combat operations, combined arms, and joint warfare. No force can afford to stand still or not seek excellence regardless of today's known threats and mission requirements. The risk of becoming a "garrison force" is too great; forces that do not progress, regress.

One key concept that the Saudi Army is examining its to create its own equivalent of the advanced training facilities the U.S. Army has developed at Fort Irwin, and to create a similar mix of automated capabilities for large unit joint warfare training, and demanding "red-blue" exercises with highly capable "threat forces." This is almost certainly the best investment the Saudi Army could make at this time. It is also seeking to expand to brigade-sized exercises with the United States Army. This kind of exercise training with friendly and allied forces has equally high priority.

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Figure 3: Saudi Army's Force Structure, 1990-2006

	1990	**2000**	**2005**	**2006**
Manpower	**40,000**	**75,000**	**75,000**	**75,000**
Active	40,000	75,000	75,000	75,000
Reserves	0	0	0	0
Combat Units				
Armored Brigade	2	3	3	3
Mechanized Brigade	4	5	5	5
Airborne Brigade	1	1	1	1
Royal Guard Brigade	1	1	1	1
Artillery Battalion	5	8	8	8
Army Aviation Command	0	1	1	1
Infantry Brigade	1	0	0	0
Main Battle Tanks (MBT)	**550**	**1,055**	**1,055**	**1,055**
M-1A2 Abrams	0	315(200)	315(200)	315(200)
AMX-30	300	290(145)	290 (145)	290(145)
M-60A3	200	450	450	450
M-60A1	50	0	0	0
AIFV/Recce, Lt. Tanks	**740**	**1,270+**	**1,270+**	**1,270+**
AML-60\-90	240	300	300	300
AMX-10P	500+	570+	570+	570+
M-2 Bradley	0	400	400	400
Armored Personnel Carriers (APC)	**1,280**	**1,900**	**3,190**	**3,190**
M-133	1,100	1,750	3,000	3,000
Panhard M-3	150	150	150	150
EE-11 Urutu	30	0	0	0
Al-Fahad	0	0	40	40
TOWED Artillery	**134(110)+**	**248(58)+**	**238(148)**	**238(150)**
105mm: Model 56	24+	0	0	0
105mm: M-101/-120	40(40)	100	100(100)	100(102)
155mm: FH-70	70(70)	50(50)	40(40)	40(40)
155mm:M-198	66	90	40	40
155mm:M-114	0	?	50	50
203mm: M-115	0	8(8)	8(8)	8(8)
SP Artillery	**275**	**200**	**170**	**170**

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155mm: M-109A1B/A2	224	110	110	110
155mm:GCT	51	90	60	60
MRL	**14**	**60**	**60**	**60**
ASTROS II	14	60	60	60
MOR	330	400	400	400
81mm	0	?	70+	70+
107mm: 4.2in M30	330	?	150+	150+
120mm: Brandt	0	110	110	110
SSM Launchers	**30**	**10**	**10**	**10**
CSS-2	30	10	10	10
ATGW	**290+**	**1,300+**	**2,000+**	**2,050**
BGM-71A TOW	200+	0	0	0
TOW/-2A	0	200+	900	950
M-47 Dragon	?	1,000	1,000	1,000
HOT	90+	100+	100+	100
RL & RCL	**450+**	**1,550**	**650**	**650**
75mm: M-20	?	0	0	0
84mm: Carl Gustav	450	300	300	300
90mm: M-67	?	100	100	100
106mm: M-40A1	?	50	50	50
112mm: APILAS	0	0	200	200
Attack Helicopter	**0**	**12**	**12**	**12**
AH-64	0	12	12	12
Transport Helicopter	**34**	**55**	**55**	**55**
S-70A-1	0	12	12	12
UH-60A	12	22	22	22
SA365N	22	6	6	6
Bell 406CS	0	15	15	15
SAM Launchers	**500+**	**500+**	**1,000+**	**1,000+**
Stinger/FIM-92A	?	?	500	500
Redeye	500	500	500	500
Crotale	?	?	?	?
SURV	0	?	?	?
AD Guns	**15+**	**0**	**0**	**0**
40mm: M-42 SP	?	0	0	?

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90mm: 15 M-117	15	0	0	?

Notes:

1) "?" refer to weapons that the service is believed to possess, though the exact numbers in their possession are unknown.

2) Numbers in parenthesis refer to weapons that are in storage.

3) "+" mean that the service is believed to possess at least that number.

Source: IISS, *Military Balance*, various editions including 1989-1990, 1999-2000, 2004-2005, 2005-2006.

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The Saudi National Guard

Saudi Arabia divides its land force manpower between the Army and the Saudi Arabian National Guard (SANG). The National Guard is the successor of the Ikhwan or White Army. It is still largely a tribal force forged out of tribal elements loyal to the Saud family. It was created in 1955, and was originally administered directly by the king until King Faisal appointed the current King, Abdullah its commander in 1962. A year later, Abdullah requested a British Military Mission to help modernize the Guard.

Since the late 1970s, however, the U.S.-Saudi Arabian National Guard Program (SANG) and U.S. contractors have provided most of the SANG's advisory functions.[27] In fact, in 1973, Prince Abdullah signed an agreement with the United States ambassador to Saudi Arabia to set up the office of the Program Manager-Saudi Arabian National Guard Modernization Program (OPM-SANG). Since then, there have been shifts in the organization, manpower, and equipment strength of the Saudi National Guard.

The National Guard is sometimes viewed as a counterweight to the regular military forces, where reliance on recruiting from loyal tribes creates a force the regime could count on to checkmate a coup by the regular forces. In practice, however, it has serve more to ensure the continued loyalty of various tribes, and has evolved steadily towards become a more modern force in its own right. Over time, it has become a steadily more effective internal security force, as well as a force that can provide rear area security for the Army and can help defend the major urban areas and critical petroleum infrastructure.

The five major current missions of the Guard are:

- Maintain security and stability within the Kingdom,
- Defend vital facilities (religious sites, oil fields),
- Provide security and a screening force for the Kingdom's borders.
- Provide a combat-ready internal security force for operations throughout the Kingdom.
- Provide security for King Abdullah and the senior members of the royal family.

Since May 2003, the Saudi National Guard has focused on counterterrorism and support of the Ministry of Interior's security, facilities protection, counter infiltration in border areas, and counterterrorism operations in built-up areas.

Strength and Organization

The National Guard got its first real modern combat experience during the Gulf War in 1991. It has since steadily improved its readiness and training, and has grown into a 95,000-man force. While it retains tribal elements, its modern combat elements have added 730 APCs, 1,117 LAV, more than 73 mortars, and more than 111 anti-tank guided weapons to its arsenal. The manpower and equipment developments in the Saudi National Guard are shown in **Figure 4.**

Estimates of the current full time strength of the National Guard differ sharply. The IISS reports that SANG had 95,000 actives and 25,000 tribal levies in 2006. A senior U.S. expert quoted a strength of 105,000 in February 2001. Some estimates put the range at 100,000 actives and 30,000 tribal levies. Regardless of the exact numbers, it is clear that the Guard is now far larger

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than it was at the time of the Gulf War, and that it has a full-time active strength approaching that of the Saudi Army.

The Guard is organized into three mechanized brigades, and five infantry brigades. These brigades had modern Light Armored Vehicles (LAVs), and each brigade had some 800 men each and some 360 vehicles. There were also five light infantry brigades, equipped primarily with V-150s. These forces were deployed so that there were two mechanized brigades, and another forming, near Riyadh, plus one light infantry brigade. The Western Sector had three light infantry brigades, and the Eastern sector has one mechanized and one light infantry brigade.

There is one major headquarter located in Riyadh, which controls the units in the central region of the Kingdom. There are two regional headquarters located in Dammam and Jeddah. The following order of battle is reported by *Jane's Sentinel Security Estimates*:[28]

- **Riyadh Regional Headquarter, which is located in Riyadh, controls:**
  - Imam Muhammad bin Saud Mechanized Brigade (IMBS), which controls four battalions (1st-4th) as well as the first artillery battalion, and is based in Riyadh.
  - Prince Saad Abdulrahman Mechanized Brigade (PSAR), which controls four combined-armed battalions, and is based in Riyadh.
  - Turki Mechanized Brigade was reported to be in formation in 2002. As of 2006, it remains uncertain as to how developed this unit is.
  - King Khalid Light Infantry Brigade's strength is unknown.
  - Ceremonial Calvary Squadron.
  - King Khalid Military College.
  - Military Police battalion.
  - Irregular Fowj tribal forces.
- **Eastern Regional Headquarter, which is located in Dammam, controls:**
  - King Abdulaziz Mechanized Brigade, was in information in 2002, but its strength and organization is still unknown.
  - Prince Mohammad bin Abdulrahman al-Saud Light Infantry Brigade.
  - Irregular Fowj tribal forces.
  - **Western Regional Headquarter, which is located in Jeddah, controls:**
  - One light infantry brigade based in Jeddah
  - One light infantry brigade based in Medina
  - Omar bin Kattab light infantry brigade based in Taif
- **Impendent Battalions:** In addition to the battalions under the control of the three regional HQs, SANG has four independent light infantry battalions, which appear to be dedicated to protecting facilities and installations.

Major Combat Equipment

The Guard does not have a complex or sophisticated mix of equipment, and has chosen to standardize on some of the best-wheeled armored weapons available. The Guard's forces operational forces are equipped with about 1,117 LAV light armored vehicles in its mechanized

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units. According to the IISS, these include 394 LAV-25s, 184 LAV-Cps, 130 LAV-Ags, 111 LAV-AT, 73 LAV-Ms, 47 LAV, plus 190 LAV support vehicles.

It also has 290 V-150 Commando armored vehicles in active service in its light infantry forces, plus 810 more V-150s in storage, and 440 Piranha. The Guard prefers wheeled vehicles because of their superior speed, endurance, and ease of maintenance. The Guard also had a significant number of towed artillery weapons.

Modernization and New Mission Requirements

The Guard is still modernizing, but continues to improve its support and sustainability. Saudi Arabia has agreed to a contract to supply the Guard with replacement parts for its LAVs and APCs, as well as additional vehicles, artillery pieces, and training. The contract, according to *Jane's Defense Weekly* would include a support service for the period January 1, 2004-December 31, 2008, and be a joint venture with Vinnell Cooperation. Its value could total over $900 million

The Guard's present goal is to become a modern, 100,000-man force. The U.S. Defense Security Cooperation Agency's statement on November 22, 2003 describes this goal as follows, "The [SANG] Modernization Program ensures necessary training, logistics, support, doctrine, development and force integration for the continuing expansion and uses of their weapons systems. These services will remain the cornerstone of an effort to upgrade and enhance the future infrastructure of the SANG organization."[29]

Overall Capabilities

Just as the regular military services need to comprehensively revise their future plans to take account of the fall of Saddam Hussein and the destruction of Iraq's armed forces; reexamine the potential threat from Iran, and develop better capabilities for asymmetric warfare, the National Guard needs to reexamine its roles and missions. It has evolved more as a result of history than to meet a clear national need. That need has emerged with the rise of the terrorist threat inside Saudi Arabia.

The National Guard must now adapt to more demanding security missions, to counter terrorism, and internal security operations on a far more demanding level in the past. The defeat of Iraq means there is little point in building up the Guard as a supplement to the regular army. At the same time, the growth of a serious terrorist threat, the critical importance of Saudi petroleum facilities and civil infrastructure, and the problem of securing the Iraqi and Yemeni borders create a clear set of new and more demanding mission priorities for the Guard.

This means the Guard needs better training for counterinsurgency, urban warfare, counterterrorism, to protect Saudi Arabia's critical infrastructure, and to protect its petroleum facilities. It needs better ability to protect borders against infiltration by elements too well armed for normal border guards, and to reinforce Ministry of Interior forces when they need light mechanized forces.

This also means adopting tactics for using its LAVs suited to such missions, which may involve dealing with RPGs, improvised explosive devices, and even ATGMs in the hands of terrorists and insurgents. At the same time, the Saudi Army has the heavy armor for the kind of urban fighting described above, and may – as did the U.S. Army – need retraining and organizational chances for missions of this kind. The military balance in the Gulf has changed fundamentally

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over the period since Iran's defeat in 1988, and the Kingdom may need to make the same shifts toward force transformation as U.S. and British forces.

Finally, while some steps have been taken to improve jointness, and create a central command for counterterrorism under the MOI, joint operations are still a problem. The National Guard may send officers for training in the Armed Forces Command and Staff College, but there is still little joint exercise training and coordination.

One oddity of the visa problems that have developed between the U.S. and Saudi Arabia since 9/11 is that the Guard has taken advantage of the slots given up by the regular armed services to send more and more officers and personnel to the U.S. for training. This has obvious advantages, but it is also helping to maintain the gap between the Guard and regular forces.

Furthermore, efforts to integrate the Guard into the overall C^4I/battle management system of the regular forces are waiting on the creation of a new Saudi C^4I/battle management system for all the services that will, even if funded, take years to implement.

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Figure 4: Saudi National Guard's Force Structure, 1990-2006

	1990	**2000**	**2005**	**2006**
Manpower	**55,000**	**95,000**	**110,000**	**120,000**
Active	35,000	75,000	95,000	95,000
Reserve	20,000	20,000	20,000	25,000
Combat Units				
Mechanized Infantry Brigade	2	3	3	3
Infantry Brigade	2	5	5	5
Ceremonial Cavalry	1	1	1	1
LAV	**0**	**1,117**	**1,117**	**1,117**
LAV-25	0	384	384	384
LAV-CP	0	182	182	182
LAV-AG	0	130	130	130
LAV-AT	0	111	111	111
LAV-M	0	73	73	73
LAV	0	47	47	47
Support Vehicle	**0**	**190**	**190**	**190**
APC	**1,100**	**730 (810)**	**730 (810)**	**730 (810)**
LA V-150 Commando	1,100	290 (810)	290 (810)	290 (810)
Piranha	0	440	440	440
TOWED Artillery	**68**	**70**	**70**	**70**
105mm: M-102	50	40	40	40
155mm: M-198	18	30	30	30
MOR	**0**	**73+**	**73+**	**73+**
81mm:?	0	?	?	?
120mm:?	0	73+	73+	73+
RL & RCL	?	?	?	?
106mm: M-40A1	?	?	?	?
ATGW	**?**	**111+**	**111+**	**111+**
TOW-2A	?	111+	111+	111+

Notes:
1) "?" refer to weapons that the service is believed to possess, though the exact numbers in their possession are unknown.
2) Numbers in parenthesis refer to weapons that are in storage.
3) "+" mean that the service is believed to possess at least that number.

Source: IISS, *Military Balance*, various editions including 1989-1990, 1999-2000, 2004-2005, 2005-2006.

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The Saudi Navy

The Saudi Navy has slowly improved its readiness and effectiveness, but still has major problems. Only its fleet on the Gulf coast is regarded as having made significant progress as a war fighting force. Its force on the Red Sea is seen more as a work in progress than a war fighting force. Joint warfare capabilities are still in development, and the Navy is not integrated into either a GGC or Saudi-US-UK concept of operations.

The Saudi Navy must restructure is plans and capabilities to focus on Iran, now that Iraq has ceased to be a threat, and on defense of the Red Sea. It still has a potential surface warfare, anti-mine warfare, and ASW threat from nations like Iran. In practice, however, its immediate threats are potential terrorist attacks, infiltration, and asymmetric warfare.

Strength and Organization

The manpower strength of the Saudi Navy and other Gulf navies is shown in **Figure 5**. The Saudi Navy has a nominal strength of 15,500-17,000 men including 3,000-4,500 Marines. It has added more than 6,000 men to its naval power in the past decade

The Saudi Navy is headquartered in Riyadh and has major bases in Jeddah, Jizan, Al Wajh in the Red Sea, and in Jubail, Dammam, Ras al-Mishab, and Ras al Ghar in the Gulf.

Main Surface Combatants

Its combat strength includes four Madina-class (F-2000) frigates, three Alriyad-class (F-3000S) guided-missile frigates), four Badr-class missile corvettes, and nine Al Siddiq-class guided missile ships.[30] The Madina-class has already been refitted and modernized.

The Saudi Navy has commissioned three multipurpose anti-air warfare frigates, which were scheduled to enter the service between 2004 and 2006. The three frigates are: Makkah, commissioned in July 2001, Al-Riyadh, commissioned in July 2002, and Al-Dammam, commissioned in September 2002. Al-Riyadh and Makkah were delivered to the Kingdom on November 7, 2004, and Al-Dammam is scheduled to be delivered later in 2005. The Sawari II accord between France and Saudi Arabia, signed in 1994, includes logistics, training, and infrastructure development. The training mission involves as many as 200 personnel from NAVFCO to train Saudi naval forces in the King Faisal Naval Base in Jeddah. The first of their training mission will start a 9-week course including 30 sea days for the Al-Riyadh class frigate.[31]

The Sawari II frigates will be 25% larger than the French La Fayette class with enhanced anti-air warfare and anti-submarine capabilities. They will have the design of DCN's stealth frigates with highly automated combat management systems based on the Thales' Tavitac 2000.[32] They are shaped to decrease radar cross-section (RCS). Furthermore, to reduced vulnerability, the frigates will be designed with double bulkheads, amour around sensitive parts, firefighting capabilities, ventilation structure, and redundancy in the systems. [33]

The Sawari-II systems will include the following: [34]

- Eight anti-ship missiles, Exocet MM40 Block II SSM, with 165kg shaped charge warhead and a range of 70km, which travel at approximately 0.95 Mach.

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- The guidance system on the SAM is equipped with data uplink and active radar terminal homing. For increased maneuverability in the terminal phase, the missile uses a 'PIF-PAF' direct thrust control system with gas jets.
- Two eight-cell Sylver vertical launch systems for Aster 15 SAM, which is effective from 1.7km to 30km and to an altitude of 15,000m.
- Guns: an Oto Melara 76/62 and two Giat 15B guns. The Oto Melara 76/72 can fire up to 120 rounds per minute with a range of 20km. A heavyweight anti-submarine torpedo.
- Sonar: a sonar suite is the Thales Underwater Systems CAPTAS 20 towed array sonar.
- Radars: The round radome of the Thales Arabel 3D I-band surveillance and fire control radar. Thales long-range air search radar, DRBV 26D Jupiter operating at D-band, is forward of the main radar mast. Two Sperry Marine Decca navigation and helicopter control radars are also fitted.
- EW: DR 3000 electronic support measures (ESM), Altesse communications intercept system, Salamander B2 radar jammer and TRC 281 communications jammer. Two EADS Dagaie decoy launchers are also fitted.
- The deck at the stern has a single landing spot for a medium size helicopter and has a fully equipped hangar to accommodate one helicopter.
- Engines: The diesel engines drive two shafts with Rolls-Royce Kamewa controllable pitch propellers.

One of the frigates ran aground in the Jeddah area, and has proved difficult to free. It may require a major refit by the manufacturer, and the future status of its vertical launch system is unclear.[35]

The Navy's major surface ships are still a developing force. Actual at sea performance is increasing, as is exercise activity. It is still low by Western standards, however, particularly in the Red Sea area.

Modernization plans are uncertain and no major surface ship purchases seem to be planned in the near future. Some Saudi expert feel the future emphasize should be on smaller ships with less detectable superstructures, high levels of firepower, and "a compact, AEGIS-like" sensor and battle management capability.

Smaller Combat Ships, Minewarfare, and Support Forces

The Saudi Navy also has 3 Dammam-class (German Jaguar) torpedo boats, 20 Naja 12 inshore fast craft, 17 Halter-type coastal patrol craft (some in the Coast Guard), and three Al Jawf (British Sandown) and four Safwa (Addriyah)-class (ex-US MSC-322 Bluebird) mine warfare ships.[36]

The mine warfare mission is potentially critical. It also presents major problems. Libya once laid mines covertly in the Red Sea using a commercial vessel. Iran showed in 1987-1988 that it could disrupt some aspects of Gulf shipping simply by releasing free-floating mines and a wide range of Iranian Navy and IRGC naval branch forces practice minelaying, including laying free-floating mines. This kind of minelaying can be done by any ship, from a tanker to small craft, and virtually any type of mine from the oldest contact mine to the most modern influence mine can be used.

The Saudi minewarfare force is far too small to practice defense against this kind of random threat, and the limited GCC cooperation in mine warfare is hampered by the small size of minewarfare forces in other navies.

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Although the Saudi Navy does have relatively modern mine vessels, there are also significant technical challenges. The U.S. and British Navy could not initially detect an Iraqi minefield during the first Gulf War relying on very similar vessels. U.S. IS&R assets also failed to detect the fact the field was being laid. This is a warning that structured minefields could present as much of a threat as random minelaying.

Auxiliary ships include 3 Radhwa-class ocean-going tugs, 3 Radhwa-class coastal tugs, 2 Buraida-class replenishment oilers (French Durance-class), 1 Al Riyadh royal yacht, and the Al Azizah hydrofoil yacht tender. The royal yachts are based at Dammam.

Submarines?

Saudi naval planners differ over the need for a submarine force. Some feel this mission should be left to other forces and that the U.S. and British Navy can deal with the ASW threats in the Gulf, Red Sea, and other nearby waters. They note the Saudi Navy already has maintenance and readiness problems, and needs forces that are simply and easy to maintain. They submarines as expensive and very difficult to operate, and as a misuse of money.

Nevertheless, other officers disagree – as much for prestige reasons as because of validated mission requirements. Reports indicate that Saudi Arabia is considering acquiring up to four diesel-electric submarines. Reportedly, the Saudis are looking into the Swedish Kockums Type 471, the German IKL 200, and an undetermined French submarine.[37]

Marine and Amphibious Forces

The Saudi Navy has doubled its Marine force in the past decade. The 3,000 to 4,500-man force is organized into a brigade with six battalions. There are now three battalions deployed in the west and three more in the east, and are deployed near Jeddah and Ras al-Ghar. The Marines are now being organized and trained for counterterrorism missions as well as asymmetric warfare.

Saudi Special Forces have a small SEAL (sea-land-air) component. King Faisal's great grandson commands this force.

The Marine force was initially equipped with 140 BTR-60Ps. It is now equipped with 140 Spanish Santa Barbara SBB BMR-600 6x6 amphibious APCs. It seems to have received nearly 100 Al Fahd 8x8 armored personnel carriers during 2001.

The Saudi Navy has four Afif-class LCU amphibious craft, 4 LCMs, two other amphibious craft, 2 10,500-ton Boraida-class (French Durance) support ships, 4 smaller support vessels, 14 tug boats, and large numbers of small patrol boats including 40 Simmoneau Type 51 inshore patrol boats.

While the Navy has lost 8 of its LCM amphibious vessels in recent years, it has kept its 4 Badr Corvette, and added 17 U.S. made Halter Marine FCI patrol crafts. Saudi Arabia is considering buying more modern LCUs and/or LCMs.

Naval Aviation

Saudi naval aviation is based at Al Jubail. Various sources report different holdings for Saudi naval aviation. It seems to have included 15 operational SA-565F Dauphin ASW and anti-ship missile helicopters with AS-15TT missiles, and four SA-565s equipped for the search and rescue mission.

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The SA-365Fs have only limited ASW capability, and are configured primarily for the surface search and attack roles. Each combat-equipped SA-365F carries four missiles and has an Agrion search/attack system. They have Crouzet MAD systems and can carry two Mark 46 torpedoes.

The Saudi Navy also has 3 Westland Sea King Mark 47 ASW helicopters, 12 land-based AS-332SC(B/F) Super Puma helicopters, and 13 Bell 406CS. Some reports indicate the AS-332s included 12 aircraft with Omera search radars, nine with Giat 20mm cannon, and 12 with Exocet or Sea Eagle air-to-ship missiles. Other reports indicate the AS-332s included only six transport aircraft, plus another six with Exocet air-to-ship missiles. [38]

Reports that NH-90 helicopters are being purchased for Saudi frigates are not confirmed, and may only be a contingency study.[39]

Saudi Border Guard

The Saudi Border Guard is a branch of the Ministry of Interior, and its mission is to defend Saudi Arabia's land borders. It has an estimated 30,000 men and has its main base at Azizam.

Its main equipment includes two large Yarmouk-class patrol boats, two fast missile attack craft with AS-15TT missiles, four large Al-Jouf-class patrol boats, two large Al Jubaiel-class patrol boats, 25 Skorpion-class patrol boats, 13 other coastal patrol boats and four SRN-6, Model 4 Hovercraft, 16 Slingsby SAH 2200 Hovercraft, large numbers of inshore patrol craft, three royal yachts, three small tankers, fire fighting craft, and three tugs.

Saudi Arabia is buying new very fast patrol craft from the Philippines with 14.5mm guns. These seem to be for the Border Guard. Consideration is being given to either giving the Border Guard helicopters with suitable sensors to extend its range and coverage, or to supporting it with Saudi Navy helicopters.

The Border Guard's primary mission has been anti-smuggling in the past, but it has shifted to internal security, counter infiltration, counterterrorism, and the defense of critical coastal facilities against terrorism and covert strikes.[40] In theory, the Border Guard can draw upon the Navy and Air Force for support, as well as the National Guard and other land services in dealing with serious threats. The Ministry of Interior has the authority to request such support, and maintains a joint command and control committee to coordinate such efforts. Saudi naval officers indicate that the Saudi Navy already supplements the Border Guard in patrolling the Red Sea area.

In practice, the Border Guard's real world surveillance and combat capabilities against such threats are unclear. It is an untested force and while it is reorganizing to meet new threats, there is no way to judge its actual progress. The adequacy of the mission tasking of the Border Guard and Navy is unclear as is the interface they have with other security forces in defending critical targets like desalination plants, ports, oil facilities, and offshore facilities. It is easy to claim that suitable capabilities and plans for coordination and joint operations exist. It is less clear that such claims can be made good in practice.

Roles, Missions, and Capability

The Saudi Navy has substantial amounts of modern, expensive ships and equipment, but lacks a clearly defined set of roles and missions, and needs improved training and readiness. It also

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needs to develop a clear picture of what its role is as an independent force, in support of outside powers, and as the core of a potential GCC force.

It the past, the Saudi Navy been overshadowed by the dominant role the U.S. and British navies have played in the Gulf, particularly since the "tanker war" against Iran in 1987-1988. Like other Southern Gulf navies, the Saudi Navy has never had to develop the level of effectiveness and coordination that would be vital if they could not depend on the navies of other powers. The Red Sea has also been a "quiet zone," except for a low level Libyan mine warfare attack now long in the past, and limited clashes between Yemen and Eritrea over several islands.

A force as large, well-equipped, and expensive as the Saudi Navy, however, must be able to perform important roles and missions, and its effectiveness is the key to any future serious effort to create effective GCC forces that are not almost totally dependent on the U.S. Navy in dealing with a potential threat the size of Iran.

Several obvious areas where changes could take place would enhance the value of the Saudi Navy and justify its present strength and cost:

- **Protection of critical facilities**: The Saudi Navy may never need to directly engage the Iranian Navy, but sabotage or sudden strikes on offshore oil facilities, ports, and critical shoreline facilities like desalination plants are both possible and a form of asymmetric warfare that could do serious damage to the Kingdom.
- **Mine warfare**: Both the "tanker war" and Gulf War showed the danger mines pose, even if laid in covert operations or as free floating mines. This is an important mission in conventional war and asymmetric conflicts.
- **Ship protection and escort**: Iran's Revolutionary Guard is well equipped to launch strikes against tankers and commercial shipping, and terrorists in Yemen have already shown that terrorists can attack in ports and other facilities.
- **Joint land/air operations**: Saudi Arabia has never fully exploited the maritime reconnaissance capabilities of its E-3A, and there is little jointness in Saudi Navy, Air Force, and Air Defense Force operations. The Saudi Navy would be far more effective as part of a joint team, able to use direct intervention with seapower when needed, relying on air strikes when more desirable, and carrying out maritime surveillance against both combat ships and potential covert and unconventional infiltration and operations.
- **A maritime role in air and missile defense**: Saudi E-3As have limits to their low altitude coverage and endurance. The ability to provide a forward screen of pickets and radar coverage could help provide warning of air and cruise missile attacks, particularly if netted into the Saudi Air Force and Saudi Air Defense Force warning and control system.
- **Anti-amphibious raid and operations capability**: Iran has limited amphibious lift, but extensive ferry and Revolutionary Guard raid capabilities. These can attack offshore facilities, raid shoreline areas, and potentially transfer forces to a port in the event of a coup or upheaval in a Southern Gulf Country.

It should be noted that in all these missions, the Saudi Navy would benefit from a force multiplier effect if there was far closer and more realistic cooperation among all of the Southern Gulf navies, and if the Saudi Navy participated in more demanding and realistic exercises with the U.S. and British navies such as an expansion of the Red Reef exercise series.

It is equally clear that "jointness" with the Saudi Air Force, Saudi Border Guard, and possibly the Saudi Air Defense Force is critical to both conventional warfare, and to meeting the threat of infiltration, terrorism, and asymmetric warfare.

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Figure 5: Saudi Navy's Force Structure, 1990-2006

	1991	**2000**	**2005**	**2006**
Manpower	**9,500**	**15,500**	**15,500**	**15,500**
Navy	8,000	12,500	12,500	12,500
Marines	1,500	3,000	3,000	3,000
Frigates with GM	**4**	**4**	**6(1)**	**7**
Madina: Fr F-2000	4	4	4	4
Makkah: Mod La Fayette F300S	0	0	1	?/0
Al-Riyadh: Mod La Fayette F3000S	0	0	1	3
Al-Dammam: Mod La Fayette F3000S	0	0	(1)	?/0
Corvettes	**4**	**4**	**4**	**4**
Badr: US Tacoma FSG	4	4	4	4
Missile Craft	**9**	**9**	**9**	**9**
Al-Siddiq: US 58m PFM	9	9	9	9
Torpedo Craft	3	0	0	0
Jubail: FRG Jaguar	3	0	0	0
Patrol Craft	**0**	**17**	**17**	**17**
US Halter Marine PCI	0	17	17	17
Mine Countermeasures	**5**	**7**	**7**	**7**
Al-Jawf: UK Sandown MHO	1	3	3	3
Addriyadh: US MSC-322 MCC	4	4	4	4
Amphibious	**16**	**8**	**8**	**8**
LCU	4	4	4	4
LCM	12	4	4	4
Support & Miscellaneous	**3**	**7**	**7**	**7**
Boraida: Mod Fr Durance	2	2	2	2
AT/F	0	3	3	3
ARS	0	1	1	1
Royal Yacht	0	1	1	1
Ocean Tugs	1	0	0	0
Helicopters	**24**	**31**	**44**	**44**
AS-565 SAR	4	4	4	4
AS-565 AS-15TT ASM	20	15	15	15
AS-323B/F: Transport	0	6	6	6
AS-332B/F: AM-39 Super Puma	0	6	6	6

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Bell 406CS	0	0	13	13
BMR-600P	**140**	**140**	**140**	**140**

Notes:
1) "?" refer to weapons that the service is believed to possess, though the exact numbers in their possession are unknown.
2) Numbers in parenthesis refer to weapons that are in storage.
3) "+" mean that the service is believed to possess at least that number.

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The Saudi Air Force

The Royal Saudi Air Force (RSAF) is one of the most technically advanced air forces in the Middle East. It also has the potential to be the most decisive single element of both Saudi forces and the military forces of the Gulf Cooperation Council. However, it developed significant shortcomings during the 1990s that it is now struggling to overcome.

Between 1994 and 2001, the air force suffered from poor leadership that mishandled overall training and readiness, underfunded readiness, and mismanaged procurement. The resulting shortcomings included:

- A lack of overall readiness, and poor aircrew and maintenance to aircraft ratios, severely reduced the effectiveness of its F-15s and Tornados. Monthly training hours for the F-15, for example, dropped to 6 hours. They have since risen back to 9, but need to be 12-18. Long-range mission and refueling training also dropped sharply, but is slowly being brought up to standard.
- Mistakes in managing the Saudization of contract maintenance and support personnel led high quality personnel to leave. This and poor contractor management helped bring readiness to the point of near-crisis and led to an increase in the Air Force's accident rate.
- An over-emphasis on air defense at the expense of offensive air capabilities, and particularly capabilities designed to deal with advancing Iraqi armor or the naval threat from Iran.
- A failure to develop effective joint warfare capabilities, realistic joint warfare training capabilities, and transform joint warfare doctrine into fully effective war fighting plans to support the land-based Air Defense Force, and the Army, National Guard, and Navy.
- A failure to develop a truly integrated air defense and war fighting capability with other Southern Gulf states.
- A failure to rapidly modernize the RSAF C4I/SR and battle management system and to develop high capacity secure communications, and to expand the role of sensor, electronic warfare, and intelligence aircraft to support offensive and joint warfare missions.
- A failure to modernize training to support realistic offensive and joint warfare missions.

This situation is being corrected. Since 2001, the Royal Saudi Air Force has seen a significant new emphasis on readiness, combat effectiveness, and joint warfare, and have improved its cooperation with the other services. It takes time to recover an "edge," however, and it will be at least several years before RSAF readiness, training, and maintenance can be increased to the point where the Air Force can exploit its equipment and technology effectively.

The RSAF still needs to set more demanding standards at every level in terms of meeting training qualifications and performance, and particularly to both eliminate pilots who cannot fly demanding flight profiles and meet the required number of training hours and to either force contract maintenance to meet high standards or find a new source of contract support.

Strength and Structure

The trends in the strength, organization, and modernization of the Saudi Air Force are summarized in **Figure 6**. The RSAF has about 18,000 men, not including another 16,000 men in the Air Defense Force.

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According to one source, the RSAF's combat forces were organized into six wings with a total of 15 combat squadrons and about 256-259 operational first-line, fixed-wing combat aircraft, and 39 combat capable trainers. The IISS estimates that Saudi Arabia, in 2006, maintains a total inventory of about 291 active combat aircraft.

The Saudi Army operates an additional force of 12 AH-64 attack helicopters, and the Navy has 21 more armed helicopters. These armed naval helicopters include 19 AS-56 helicopters, of which four are equipped for the search and rescue mission and 15 AS-15TT anti-ship missiles, six AS-332B transports, and six AS-332Bs equipped with Exocet anti-ship missiles.[41]

Combat Aircraft

Saudi Arabia's total inventory of major combat aircraft in 2005 is estimated to include 68-71 F-15S, 66 F-15Cs, 18 F-15Ds, 85 Tornado IDSs (10 Tornado GR.1 recce-attack equipped), 22 Tornado ADVs, and 5 E-3 AWACS.

The RSAF also has 56 F-5Es, 21 F-5Fs, and 15 F-5Bs that it has been trying to sell for several years. By early 2001, most of its F-5s were grounded and in storage including 53 F-5E. The RSAF has 10 RF-5Es, and continues to fly these as its main reconnaissance aircraft. The RF-5Es flying out of Taif play a critical role in providing surveillance over the Yemeni border area. Another 15 F-5Bs still seem to be operational in a combat-capable training unit.[42] In theory, there are still three squadrons with up to 53 F-5Es, but virtually all of these aircraft were grounded in 2005. This explains the drop in the RSAF's holding of Fighter-Ground Attack from 224 to 171 between 2005 and 2006, which is shown in **Figure 6.**

There are four fighter-attack squadrons, three with Tornado IDS, and one with 15 F-15B. The IDS squadrons had dual-capable trainer aircraft, and 10 had a dual-mission capability in the reconnaissance role, although it is unclear they are actually used in this role. These squadrons were equipped with a wide range of attack munitions, including laser and GPS-guided bombs, and the AS-15, AS-30, AGM-45 Shrike, and AGM-65 Maverick air-to-surface missiles. There is a large inventory of dumb bombs and cluster munitions. The Sea Eagle, and Alarm air-to-ground weapons are aging and proved expensive to support and have been withdrawn from service, and Saudi Arabia is seeking more advanced air-to-surface weapons like the JDAM.

The Tornado IDS squadrons provide much of the potential offensive strength of the Saudi Air Force. The Tornado is used in both low altitude and medium altitude attack missions. The Tornado does have superior low altitude flight performance in attack missions to the F-15S, and the Tornado was specifically designed to fly nap of the earth missions, while the F-15S is subject to buffeting because of its large wing area. The RSAF has largely abandoned training in this mission profile, however, and now relies almost exclusively on using the IDS in medium altitude strike profiles.

The F-15S has accordingly become the most important offensive aircraft in Saudi inventory, although it is also dual capable in the air-to-air role. It has notably more power and lift capability than the F-15C/D, and much more modern avionics and flat panel displays. Saudi pilots feel it is far superior to the IDS in practice in terms of stand-off precision strike capability at medium and high altitudes – mission profiles, which now offer more precision and survivability than low altitude strike profiles. Both the F-15S and IDS aircraft can deliver laser-guided and GPS guided bombs, and self-illuminate their targets, and the F-15S is again superior in this role. Both aircraft

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are being steadily improved as the USAF and RAF implement multistage improvement plans (MSIPs).

The RSAF has nine interceptor squadrons for defensive missions. There are five squadrons with a total of 84 F-15C/Ds (66 F-15C and 18 F-15Ds), and more squadrons with 71 F-15Ss. F-15Ds were deployed to each F-15 squadron to perform both training and operational missions. There was one Tornado ADV squadron with 22 aircraft, which also included dual-capable trainer aircraft. Saudi pilots feel the ADV is not a successful air combat design (which has also been the experience of the RAF), and this aircraft was been deployed to Khamis Mushayt, which the RSAF feels is an area with a relatively low air combat threat, when Saudi F-15C/Ds replaced phased out F-5s at Taif and Tabuk.

Saudi fighters are equipped with modern air-to-air missiles, including AIM-9L and AIM-9P infrared guided missiles, AIM-7F Sparrow and Sky flash radar guided missiles. The RSAF is taking delivery on the AMRAAM air-to-air missile, which is giving it substantial beyond visual range (BVR) all-weather air combat capability.

Saudi F-15 fighter units are capable in the air defense role, but most aircrews now lack adequate advanced fighter combat training. As has been noted earlier, the training of Saudi aircrews became weak to the point during the mid and late 1990s where it presented serious safety problems in advanced mission profiles, and led to a number of fatal accidents. The level of accidents no longer is high relative to force numbers, but is still high in terms of hours flown. Mission training is also slowly becoming more demanding, and more advanced training efforts are underway at King Khalid and Prince Sultan bases.

Saudi Arabia also needs to examine ways to speed up the tempo of its offensive air operations. It relies largely on the relatively slow reacting cycle of target-acquisition-sortie allocation-mission execution-battle damage assessment used during the Gulf War. This air traffic order (ATO) system was vastly speeded up ion the Iraq War, and both the Afghan and Iraq conflicts have shown the value of near-real time and in flight mission tasking and re-tasking, and have on-call strike airpower ready to respond to ground force needs and target illumination. Both Saudi air force and army officers see a shift to near-real time strike operations as being of major importance.

Dropping the F-5E presented special problems that led Saudi Arabia to obtain U.S. permission to deploy some of its F-15s to Tabuk in western Saudi Arabia in 2003, although it had previously agreed not to do so because of Israeli security concerns. This deployment has little, if any, practical impact on Israel's security, but has significantly improved the RSAF's ability to cover Saudi Arabia's western border.

Possible Upgrades in the RSAF Combat Aircrafts

The RSAF has talked about upgrading its combat aircraft for several years. The increases in oil prices and Saudi export revenues have enabled the Kingdom to think of possible "options" to enhance its RSAF capabilities. Saudi officials have talked about upgrading current aircrafts such as the Tornados or purchasing new planes such as the Rafael, the Eurofighter Typhoon, or a U.S. made aircraft.

As is the case with any procurement or offset program, the Kingdom must focus how such a deal does or does not serve its overall strategic interests. It is far from clear that the Saudi Air Force

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needs any new aircraft at this time, or what the threat is given the disappearance of the Iraqi Air Force and the lack of modernization and growth in the Iranian and Yemeni Air Forces. If an arms deal is seen as important to the Kingdom's national defense, the contract must include proper training, munitions, and logistic support to insure against waste and the "glitter factor."

Saudi Arabia's prestige is enhanced not by adding another weapon system to its arsenal, rather by developing the necessary jointness, interoperability, and sustainment in its armed forces. In addition, the Kingdom must improve its man-power training program, enhance its integrated C4I and IS&R, and focus on building jointness and interoperability between the Saudi services, among its Gulf allies and power projection partner such as the US and the UK.

Upgrading the RSAF Tornados?

In early 2005, the Royal Saudi Air Force (RSAF) had 85 Tornado IDSs (10 Tornado GR1 recce-attacks equipped) and 22 Tornado ADVs. It was reported that in April 2005, three of the RSAF's Tornado IDS strike/attack aircraft were seen at a BAE Systems' facility in England. BAE said that the aircraft were in their Warton facility as part of Al-Yamamah support contract.[43]

Other experts, however, have argued that the Tornados' arrival in England is a prelude to an upgrade contract for the RSAF GR1 fleet. The three aircrafts, they said, were prototypes for the upcoming upgrade. The British Royal Air Forces adapted some modification to its fleet in 2003. The upgrades, while believed to be more extensive that what the RSAF may adapt, may give a good benchmark of any possible upgrade.[44]

The Tornado mid-life upgrade, the GR4 configuration, which is an update from the GR1 model, based on lessons learned from the Tornado's performance in the Gulf War includes:[45]

- New avionics to improve navigation and flight performance including a more advanced Global Positioning System equipment;
- FLR (Forward Looking InfraRed), NVG (Night Vision Goggle capabilities), and Laser Designation facilities to allow for precision bombing;
- A multifunctional pilot head-up-display and head-down display of flight, navigation, attack, or other information such as thermal imaging projected on the pilot's forward field of view.
- Improved Reconnaissance capabilities;
- Defensive aids subsystems to protect the aircraft from SAMs and radar directed AA Guns;
- Equipped with Sea Eagle anti-shipping missiles;
- A 1760 weapons bus controlling the release of new advanced missiles like Brimstone;
- Advanced Short Range Air-to-Air Missile; and
- Storm Shadow stand-off cruise missiles.

The GR4 was used by the British Air Force in Southern Watch, and the Iraq War. All indications are that the aircraft performed well. It main role was ground medium and low-level precision strikes. The upgraded Tornado aircrafts are more stealthy planes. They have the capabilities to see in the dark using their FLIR and NVG, fly in close formation, and at terrain-following height. These characteristics give the GR4 higher abilities of deep covert incursions. [46]

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It is uncertain whether the Kingdom has agreed to upgrade it fleet, what type of updates it has agreed to, or the cost of the contract. If the rumors are true and the upgrades include most if not all the GR4 configurations, it might well be a cost-effective way of enhancing the RSAF stealth capabilities and give the Kingdom an edge.

Purchasing the Rafael?

Following then Crown Prince's Abdullah to Paris in April 2005, it was rumored that the Kingdom has been in discussion with France's Dassault Aviation for the purchase of 96 Rafale combat aircraft. According to press reports, the Kingdom and France have agreed "in principle" to finalize Saudi Arabia's purchase of 48 aircrafts and an option to buy 48 more for €6.0 billion.[47]

Dassault played down the report and said that the aviation company has been in discussions with the Kingdom for years about the Rafale. It was reported that the Rafale A prototype was presented to Saudi Arabia in 1986.[48] The Kingdom unequivocally denied any discussions over the Rafale. The Saudi Foreign Minister, Prince Saud al-Faisal, was quoted as saying, "Prince Abdullah's visit was more significant than concluding commercial deals." When asked about any aircraft deal with France, al-Faisal said "No decisions have been taken on these issues and thus we were not able to sign deals during this visit."[49]

The Rafale is a twin-jet aircraft designed for short and long term missions. It is equipped for land and sea attacks, air defense, and air superiority. It can also be used for high accuracy strikes and nuclear strike deterrence. The Rafale has three models: the Rafale M is a single-seat and is made for the navy, the Rafale B is a two-seat plane and is made for the air force, and the Rafale C is a two-seat aircraft made for the air force.

It is unclear if a deal was made on the Rafale or which model the Kingdom may purchase. Some experts have argued that this "agreement" with France is a reminder by the Saudis to the "British and US governments that there are other options out there when it comes to buying combat aircraft. It reminds their allies how important they are. However, I don't believe there is the political will or funding to purchase new aircraft at this time."[50]

The Eurofighter Typhoon

The discussions about upgrading the Tornados or purchasing the Rafael jet were denied by the Kingdom as settled by the announcement that Saudi Arabia was signing a $57.9 billion deal with Britain to purchase 72 Eurofighter Typhoon aircrafts. In addition, the deal to purchase the Eurofighters, reportedly, would also include maintenance, spares, weapons, and training until the year 2030.[51]

These jets would replace RSAF's aging Tornados, which were purchased from Britain in the 1980s. In addition, part of the deal is that the UK would take the RSAF used planes. Crown Prince Sultan, Saudi Arabia's Minister of Defense, was quoted as saying that "Britain … has agreed to take away from us all our used aircraft whether they are American- or British-built, and they number about 200 planes." This move to require sellers to take old planes, according to Saudi military officials, has been the policy of Saudi Arabia.[52]

However, it has also been reported that the deal is also expected to include an upgrade of 84 Panavia Tornado interdictor strike aircraft, which are already in service with the RSAF. Saudi

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Arabia, however, is reportedly eager to replace 22 Tornado Air Defense Variants (ADV) that have been in service since the 1980s.[53]

While few details about the deals are actually known, press reports have quoted both Saudi and British officials as saying that the deliveries of the Typhoons will start in 2008, and that the UK and Saudi Arabia plan to establish closer ties with the UK in modernizing the RSAF through joint exercises and training. Saudi Typhoon pilots and ground crews are expected to be trained by the UK Royal Air Force's Typhoon conversion unit at Coningsby in Lincolnshire. In the future, a team from the UK RAF and BAE Systems (the manufacturer of the typhoon) are expected to move to Saudi Arabia to help the Saudis establish their own training and support facilities for the aircrafts.[54]

Reconnaissance and Early Warning

Saudi Arabia has been the only Southern Gulf air force with meaningful numbers of reconnaissance aircraft. The RSAF must, however, rely heavily on two aging reconnaissance squadrons with 10 RF-5Es. These aircraft have reached obsolescence in terms of their sensors and survivability, however, and most are now deadlined or in storage. It is seeking to replace them by adding advanced reconnaissance packages to its F-15s, including reconnaissance and electronic warfare pods. The 10 Tornado IDS-Rs in the fighter-ground attack force can perform some missions, but their current role and capability is unclear.

The RSAF has an airborne early warning squadron with four E-3As and one E-3B communications intelligence (COMINT) aircraft. These aircraft now have Saudi crews, but the crews are still acquiring all of the training and mission capability necessary to manage complex air battles and the RSAF must rely on the USAF for help in such missions. The Saudi E-3As need better secure communications and data links, although this may come along with the upgrading of their software and improved electronic support measures.

The Saudis have improved the connectivity of their E-3As with the air defense command center as well as with the Saudi Navy. During the Gulf War in 1991, these connectivity problems forced the Saudi Navy to rely on USAF E-3As. The departure of the USA from the command center at Prince Sultan air force base after the Iraq War did, however, leave the RSAF without a truly advanced air command center and overall C^4I battle management center and system, and one that allows it to shift effectively from preplanned to near-real time mission planning. Acquiring such a capability is a high priority for the RSAF for both the air defense and offensive missions.

As has been mentioned earlier, it was reported that the Kingdom was discussing the purchase of 14 AEW&C planes. One key candidate is based on Sweden's Saab 2000, and equipped with the Erieye radar and sensor suite by Ericsson Microwave Systems.

Saudi Arabia has MQM-74C Chukar II and Banshee remotely piloted vehicles for training, reconnaissance and target acquisition, It does not have modern unmanned aerial vehicles (UAVs), or use its drones in this role.

Training Aircraft

The remaining multipurpose squadron with 14 F-5Bs has both training and combat missions, but had little real operational capability in combat.

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The RSAF has roughly 25-armed Hawk Mark 65 jet trainers, and 20 armed Hawk Mark 65A jet trainers. Saudi holdings of 36 BAC-167 turboprop COIN and training aircraft were phased out of service in the late 1990s. The Hawk units are technically capable of performing COIN and light attack functions with machine guns, cannons, and rockets, in addition to training missions but the limited combat mission training of the Hawk aircrews prevents RSAF from using them in that role.

The RSAF also has 13 Cessna 172s, 1 Jetstream, and 50 PC-9 aircraft in training units that were not armed for combat. The RSAF have purchased Super Mushshaq from Pakistan, and IISS estimates that the RSAF has received the first 20.

Refueling, Transport, and Support

The RSAF is the only Gulf air force with an effective mid-air refueling capability. Its support units include a tanker squadron with 8 KE-3A tanker/transports, and 8 KC-130H tankers. Along with the extremely high mission support capacity of Saudi air bases, tanker refueling capability is critical to the RSAF's ability to rapidly deploy its forces from one end of the Kingdom to another and mass airpower from different bases over the same area of operations. Tanker upgrades and modernization are a high priority for the RSAF.

The Air Force has three transport squadrons with 38 C-130 cargo-transports (7 E, 29 H, and 2 H-30), 1 KE-3B (EW), 3 L-100-30HS hospital aircraft, and 4 CN-235s. The C-130 is the workhorse of the RSAF, and of increasing value in providing mobility for light forces to fight terrorism. Upgrading the C-130 fleet is a high priority.

There are also two helicopter squadrons with 22 AB-205s, 13 AB-206s, 17 AB-212s, 40 AB-41EP (SAR) and 10 AS-5323A2 (SAR). Three AS-532A2 Cougar search and rescue helicopters were ordered from France in September 1996, at a cost of $590 million.[55] The Royal Flight provided substantial additional airlift assets, including 2 B-747SP, 1 B-737-200, 4 BAE 125-800, two Gulfstream III, 2 Learjet 35, 4 VC-130H, and 5 utility helicopters.

Munitions and Spares

Saudi Arabia has moderate but aging inventories of air munitions and spares-- a marked decline from the large inventories of cutting edge munitions and high inventories it had at the time of the Gulf War. The Kingdom has not continued to properly maintain and modernize its munitions inventory, however, and has not procured all of the air-to-ground and anti-ship ordnance necessary for joint warfare.

Support, Training, Logistics, and Sustainment

Saudi air force facilities remain excellent. No U.S. or NATO base has sheltering or hardening equal to the Saudi bases at Dhahran and Khamis Mushayt, and similar facilities are being built at all of Saudi Arabia's main operating bases. Saudi bases also have significant modern maintenance and service facilities, including advanced F-15 services facilities at Khamis Mushayt.

As has been noted earlier, however, maintenance and sustainment still present problems. Up until the mid-1990s, the Saudi Air Force had excellent foreign support. The Kingdom did, however, face growing financing and payment problems after the mid 1990s, and these problems worsened

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after the "oil crash" of late 1997. This created a climate where readiness and sustainment were not properly funded.

Efforts to force the rate of Saudization in contractor maintenance and support without adequate resources and standards have not helped. Foreign contractors have often been replaced with Saudis selected more for their contacts than their skills, and training programs for Saudis have not enforced the proper qualification standards.

Some U.S. experts and Saudis blame the main maintenance contractor for these problems, but several Saudi unit commanders feel the problem has been the funding and flow of spare parts and equipment orders. They note that the flow of parts and equipment has become much slower since 9/11, that it is much harder to maintain readiness with long lead times for orders, than re-export of serviced equipment experiences serious delays, and that the U.S. and U.S. manufacturers refuse to license key service and maintenance activities.

The RSAF has failed to make adequate use of its offset programs. These have some important successes, but they have not developed the level of maintenance, major repair, and other capabilities the RASF needs to support sustained operations and maintain readiness.

Overall Capabilities

Training and readiness are the most serious problem the RSAF faces at several different levels. As has been discussed earlier, Saudi flight hours per aircrew have improved strikingly over the last few years from an average monthly low of only 6 hours to 12-14, but still need to be raised and the realism of the training missions flown remains a problem.

Above all, the RSAF must move forward to ensure that all of the pilots it trains, retains, and promotes actually fly suitable numbers of hours. Moreover, flight hours must be spent in truly demanding training profiles for the use of precision weapons in interdiction and close support missions, and integrated air defense training using large numbers of fighters, its E-3As, and Air Defense Forces in demanding "aggressor" exercises.

The RSAF and other Saudi services, especially the Air Defense Force and Navy, also need a modern C^4I/battle management system to replace the one the U.S. withdrew from Prince Sultan Air Force Base south of Riyadh after the Iraq War. No U.S. facilities remain other than the office furniture, and Saudi Arabia badly needed an advanced system to replace it that is both tailored to Saudi needs and interoperable with the relocated U.S. capabilities now located in Qatar. This is also a key modernization priority for the GCC, but there seems to be little chance the GCC can agree on an effective system and a very good chance it could waste more money on efforts of little more than symbolic value for actual warfighting.

The Gulf War, Kosovo conflict, and Iraq War all demonstrate the fact that integrated, joint air operations can be decisive, but are extraordinarily difficult to conduct. They require extensive pre-conflict training between all elements of the armed forces, and particularly in air-land battle exercises. These wars also show that meaningful air training must be conducted primarily on a task force basis, and integrate all elements of targeting, strike planning, damage assessment, and "jointness" with the land forces,

Put differently, the RSAF must ask itself why did the Iraqi air force collapse after a few days in 1991 and fail to fight in 2003? It must ask why the Syrian Air Force has become something of a military joke, and why Israel has acquired such an "edge." The answer is that effective C^4I/BM

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and IS&R integration of the air force is the key to modern air warfare. Without it, military spending can only produce a third rate or ineffective force

Once again, the destruction of the Iraqi threat and slow pace of Iranian modernization give Saudi Arabia a window of opportunity in which it can concentrate on effectiveness rather than modernization and force building. The Saudi Air Force's most important challenges are the improvement of its readiness, training, and capability for joint operations. Iraq's defeat has great reduced the potential threat, as has the slow rate of Iranian air modernization. As a result, Saudi Arabia has no immediate need for replacement of its F-5Es, or for any other major procurement. It can consolidate around its most advanced aircraft, creating a smaller and more effective force.

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Figure 6: Saudi Air Force's Force Structure, 1990-2006

	1990	**2000**	**2005**	**2006**
Manpower	**22,000**	**36,000**	**34,000**	**34,000**
Air Force	18,000	20,000	18,000	18,000
Air Defense	4,000	16000	16,000	16,000
Total Combat Aircraft	**189**	**417**	**291**	**291**
Fighter-Ground Attack	**5/99**	**7/225**	**4/224**	**4/171**
F-5B/F/RF	21	21	15	15
F-5E	53	56	53	?
Tornado IDS	25	76	85	85
F-15S	0	72	71	71
Fighter-Interceptor	**5/76**	**9/118**	**9/106**	**9/106**
Tornado ADV	19	24	22	22
F15C	42	70	66	66
F15D	15	24	18	18
RECCE	**1/10**	**1/10**	**1/10**	**1/25**
Tornado IDS	0	0	10	10
RF-5E	10	10	0	15
Airborne Early Warning	**1/5**	**1/5**	**1/5**	**1/5**
E-3A	5	5	5	5
Tanker Aircraft	**1/16**	**1/16**	**1/15**	**1/11**
KE-3A	8	8	7	3
KC-130H	8	8	8	8
Operational Conversion Units	**2/14**	**2/14**	**2/14**	**2/14**
F-5B	14	14	14	14
Transport Aircraft	**3/70**	**3/39**	**3/45**	**3/45**
C-130	30	36	38	38
L-100-30HS	5	3	3	3
CN-235	0	0	4	4
C-212	35	0	0	0
Helicopters (UTL)	**2/48**	**2/104**	**2/78**	**2/78**
AB-205	8	22	22	22
AB-206A	13	13	13	13
AB-212	27	17	17	17
AB-412	0	40	16	16

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AS-532A2	0	12	10	10
KV-107	7	0	0	0
Training Aircraft	**?/60**	**7/114**	**7/122**	**7/122**
Hawk	29	50	43	43
PC-9	30	50	45	45
Jetstream	1	1	1	1
Cessna 172	0	13	13	13
Super Mushshaq	0	0	20	20
BAC-167	35	0	0	0
Air-To-Surface Missile	**?**	**?**	**?**	**?**
AGM Maverick	?	?	?	?
Sea Eagle	0	?	?	?
ALARM	0	?	?	?
AS-15	?	0	0	0
Air-To-Air Missile	**?**	**?**	**?**	**?**
AIM-9J/L/L/M/P Sidewinder	?	?	?	?
AIM-7F Sparrow	?	?	?	?
Skyflash	0	?	?	?
AD Guns	**420**	**420**	**340**	**1,140**
20mm: M-163 Vulcan	92	92	92	92
30mm: AMX-30SA	50	50	50	850
35mm	128	128	128	128
40mm: L/70	150	150	70	70
Surface-To-Air Missile	**269**	**309**	**1,709**	**5,284**
Shahine	141	141	141	1,156
MIM-23B	128	128	128	2,048
Crotale	0	40	40	40
Stinger /FIM-92A Avenger	0	0	400	400
Redeye	0	0	500	500
Mistral	0	0	500	500
PAC-2/Patriot	0	0	0	640

Notes:

1) "?" refer to weapons that the service is believed to possess, though the exact numbers in their possession are unknown.
2) Numbers in parenthesis refer to weapons that are in storage.
3) "+" mean that the service is believed to possess at least that number.

Source: IISS, *Military Balance*, various editions including 1989-1990, 1999-2000, 2004-2005, 2005-2006.

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Saudi Land-Based Air Defenses

Saudi Arabia has extensive land-based air defenses, some under a separate Air Defense Force and some integrated into other services. The recent trends in the strength, organization, equipment holdings, and modernization of this force are shown in **Figure 7.** It is equally important, however, to note that before 2006; most of the Saudi air defense equipments were reported under the RSAF and not under its air defense force.

The Saudi Air Defense Force

The Saudi Air Defense Force had a nominal strength of 16,000 men in 2005, and some 33 surface-to-air missile batteries. Some reports indicated its total major surface-to-air missile strength included 16 Improved Hawk batteries with 128 fixed and mobile fire units, 9 Crotale batteries with 48 Crotale fire units (currently being modernized), 16 air defense batteries with 72 Shahine fire units, and 50 AMX-30SA 30 mm self-propelled guns.

The IISS reported a strength 16 Improved Hawk batteries with 128 fire units, 17 air defense batteries with 68 Shahine fire units and AMX-30SA 30 mm self-propelled guns, and 73 Crotale and Shahine fire units in static positions, and 2-4 with 640 PAC-2 launchers. It also reported a total inventory of 50 AMX-30SAs, 141 Shahine launchers, and 40 Crotale launchers. It also reported 92 M-163 20mm Vulcan anti-aircraft guns and 50 AMX-30SA anti-aircraft guns, plus 70 L/70 40mm anti-aircraft guns in storage. The Saudi ADF has also added 400 Stingers, 500 Redeye, and 500 Mistral to its arsenal. The ADF force structure development, since the Gulf War, can be seen in more details in **Figure 7**.

Most of Saudi Arabia’s Shahine units were deployed in fixed locations for the defense of air bases and key targets. All of the Shahine systems have been upgraded as the result of an agreement with France signed in 1991. These units provide short-range defense capability for virtually all of Saudi Arabia's major cities, ports, oil facilities, and military bases.

The Patriot and the IHawk

While the IHawk still plays a major role in Saudi air defense, it is an aging system, and the Patriot has become Saudi Arabia’s main land-based air defense system. Saudi Arabia now five major operational MIM-104 Patriot fire units, and brought the fifth unit on line in 2004. A six unit has been procured and is in storage while suitable manpower is trained. The U.S. deployed an additional Patriot battalion near Riyadh in 2001, but withdrew it after Iraq ceased to be a threat in 2003.

The Patriot was bought after the Gulf War, but has taken some years to come on-line. Live fire exercises began to take place in the fall of 2000, and mobile operations took some years to develop. The first mobile deployment approaching a combat exercise was a road march from Dhahran to a site near King Khalid Military City in the fall of 2000.

Both Patriot and IHAWK defenses are concentrated along the Gulf coast with some point defense of major cities and Red Sea ports and facilities. Saudi Arabia has continued to buy MSIP improvement programs for both the Patriot and IHawk, but a number of experts feel the IHawk is beginning to move towards obsolescence. Efforts to integrate the air defense command and control and information technology system for the Patriot and IHawk have not been successful,

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and some experts feel such contracts are an expensive waste. The option of modifying the C^4I/battle management systems to integrate the Patriot and Shahine seems to be understudy, but there is no way to evaluate its practicality with the data available.

Saudi officers indicate that the Air Defense Force plans to buy the PAC-3 variant of the Patriot. This provides a major upgrade of its ballistic and cruise missile defense capabilities, and ability to deal with the emerging threat from UAVs and unmanned combat aerial vehicles (UCAVs). The PAC-3 does have area coverage limitations, however, which make it usable only as a point defense system against long-range ballistic missiles with very high closing velocities like the Iranian Shahab.

Other Land-Based Air Defenses

Total Saudi Army holdings of man-portable surface-to-air missiles, as estimated by IISS, include 500 Mistrals, 400 Stingers, and 500 Redeyes. U.S. experts indicate that the Stingers and Redeyes are no longer in active service.

The number and type of antiaircraft guns currently operational is uncertain. Some reports state that Saudi Arabia has 35 35mm Oerlikon-Contraves twin AA guns with Skyguard fire control systems, 72 40mm L-70 AA guns, 53 30mm AMX-30 DCA twin antiaircraft guns, and an unknown number of 20mm Vulcan M163 guns. Other reports indicate it had had 92 M-163 Vulcan 20 mm anti-aircraft guns, 30 V-150s with Vulcan 20 mm guns, 30 towed 20 mm Vulcans, 128 35 mm AA guns, and 150 L/70 40 mm guns (most in storage).

Overall Capabilities

The end of an Iraqi threat, and the slow modernization of the Iranian air force, and steady decline of the Yemeni Air Force have all combined to greatly ease the potential near-term air defense burden on the Saudi Air Force and Army. At the same time, the Air Defense Force's Patriot units have improved Saudi Arabia's low to high-level air defense capability along Gulf coast, while providing some defense against medium-range and theater ballistic missiles.

The Saudi Air Defense Force has also made important progress in developing an air defense doctrine and plan developed to Saudi needs, and in learning how to use Saudi Arabia's radar net and existing C^4I system more effectively. It now has a limited capability to develop and modify is air defense software, and has its own programming and support center. It has a modified Mark IV identification of friend or foe (IFF) that also offers Saudi Air Force and Air Defense Force considerable security against electronic warfare.

Nevertheless, the Saudi Air Defense force needs to improve its capability for joint operations with the Saudi Air Force and Army. The fact that active U.S. air forces and army forces have left Saudi Arabia requires that Saudi Arabia develop far more effective Air Defense Force and Air Force capabilities, and C^4ISR assets, to net all of their air defense assets and use them more effectively. Both air-defense and air-land battle training should be joint as a rule, not an exception, and based on more demanding standards in peacetime than war. Joint commands and operations centers should be the major focus of all command activity.

Growing questions also exist regarding Saudi Arabia's mix of short-range air defenses (SHORADS), and how to integrate them into a common concept of joint operations. The Afghan and Iraq Wars both illustrated how effective an advanced air force can be in launching medium

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range laser and GPS-guided bombs from altitudes over 16,000 feet and outside the range of most SHORADS. At the same time, fixed and rotary wing attack aircraft operated at much more intense tempos and closer to ground forces.

Potential regional threats like Iran and Yemen currently lack the sophistication and equipment to operate effectively outside the range of most Saudi SHORADS, and the target acquisition and command and control systems necessary to locate Saudi SHORADS dynamically in combat. This may, however, change in the future. Saudi fixed and rotary wing attack aircraft already need to be able to operate in close support with ground forces and defended facilities covered by SHORADS as well as Patriots and I-Hawks.

If there are major uncertainties regarding Saudi mission requirements and capabilities they lie in two areas. One is the continuing lack of any meaningful integration of GCC and Southern Gulf air defense systems. Officers in the GCC recognized this mission need during the time it was being form in 1980. So far, however, progress consists of a wasteful technological farce. The need for real-time netting of air and ground systems, backed by region-wide deployment of AWACS and electronic intelligence aircraft and assets is almost totally ignored. The same is true of force-on-force aggressor and "red-blue" training, secure communications and identification of friend or foe (IFF), and integrating ground and ship-based sensors. The defense of offshore and island facilities, naval forces, coastal cities, and critical petroleum and infrastructure facilities cannot be conducted on a national basis. There is no strategic depth, and flight times out of Iran and Iraq at best give a few minutes warning.

The second is the prospect of Iran acquiring long-range ballistic and cruise missiles. Iran is already deploying the Shahab 3, presumably with conventional warheads. It does, however, have chemical weapons and seems to have designed its missiles to eventually carry nuclear warheads. It has acquired some long-range cruise missiles and is attempting to develop its own. Even the Patriot PAC 3 has very limited area coverage against missiles with the high apogee and closing velocity of the Shahab. Questions also arise as to whether Iranian cruise missiles will have the range and "zig-zag" capability to bypass Saudi cruise missile defense capability. Saudi Arabia must now consider both its options for eventually buying more advanced ballistic missile defenses, or having the US deploy land or sea based system, and its options (and GCC options) for more advanced cruise missile defenses.

Figure 7: Saudi Air Defense's Force Structure, 1990-2006

	1990	**2000**	**2005**	**2006**
Manpower	**4,000**	**16,000**	**16,000**	**16,000**
SAM Batteries	**33**	**33**	**33**	**33**
With 128 I Hawk	16	16	16	16
With 68 Shahine Fire units	17	17	17	17
With 160 PAC-2 Launchers	0	0	2-4	2-4
Shahine Fire Units as Static Defense	73	73	73	73
AD Guns	**?**	**?**	**?**	**1,140**

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20mm: M-63 Vulcan	?	?	?	92
30mm: AMX-30SA	?	?	?	850
35mm Oeliokon:	?	?	?	128
40mm: L/70	(150)	(150)	(70)	(70)
SAM Launchers	**269**	**309**	**1,709**	**5,284**
Shahine	141	141	141	1,156
MIM-23B I Hawk	128	128	128	2,048
Crotale	0	40	40	40
Stinger/Avenger FIM 92-A	0	0	400	400
Redeye	0	0	500	500
Mistral	0	0	500	500
PAC-2/Patriot	0	0	0	640
RADAR/AD RADAR	?	?	?	0
AN/FPS-117	?	?	?	17

Notes:

1) "?" refer to weapons that the service is believed to possess, though the exact numbers in their possession are unknown.
2) Numbers in parenthesis refer to weapons that are in storage.
3) "+" mean that the service is believed to possess at least that number.

Source: IISS, *Military Balance*, various editions including 1989-1990, 1999-2000, 2004-2005, 2005-2006.

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Saudi Missile Forces and the Possibility of Saudi WMDs

The Saudi interest in weapons of mass destruction has been the subject of far more rumor than fact. For example, many reports of Saudi nuclear activities from various Saudi opposition groups have never been confirmed, and many of their reports of visits of senior Saudi officials to Pakistan and other potential nuclear suppliers have either not occurred in the way reported or have not occurred at all.

Some relevant visits and discussions do, however, seem to have taken place with China and Pakistan. The Saudi Chief of Staff, Lt. General Saleh Mohaya, and Prince Khalid Bin Sultan, also seem to have begun discussing replacement of the CSS-2 with China in 1995.[56] Similarly, in 1999 after Pakistan's nuclear tests, Prince Sultan and other Saudi military officials toured Pakistan's nuclear weapons facilities. There was no firm evidence, however, that they ever considered buying any form of "Islamic bomb."

While there have been reports of a much more extensive Saudi nuclear program, the "evidence" advanced to date has been tenuous at best and the charges involved seem to be more political in character and directed at trying to break up the US-Saudi military relationship than inspired by any facts or actual knowledge.

The most disturbing aspect of Saudi talks with Pakistan has had nothing to do with the Kingdom, but has resulted from the fact that some estimates indicate that Pakistan's production of fissile material will begin to exceed its domestic military requirements at some point around 2005-2006. Similarly, there is no convincing data available on whether Saudi Arabia has had any discussions with China about the possible purchase of weapons of mass destruction or replacing its aging CSS-2s–which are now operated under the supervision of the Saudi Air Defense Force.

Saudi Arabia has never had any illusions about the problems Saudi proliferation would create in terms of its relations with the US, or the extent to which they would suddenly make the Kingdom a key target for Israel's nuclear forces. Saudi Arabia, however, has continued to study such options along with missile defense. Ironically, it also now faces a growing risk from Iran at a time that the potential threat from Iraq has disappeared.

Saudi Arabia cannot possibly develop and build its own weapons of mass destruction for the foreseeable future. If it did try to obtain such weapons, its options would be to acquire a nuclear weapon from nations like China or Pakistan. Buying weapons from either country would create a host of political difficulties, even if they consented. One "wild card" option is the idea of buying Pakistani nuclear weapons that could be rapidly deployed on Saudi missiles. This would not be an overt violation of the NPT.[57] However, Saudi Arabia cannot count on Pakistan. The Pakistani government is not stable; recent revelations about Pakistani involvement in the Iranian program raise additional questions; and Pakistan might well not risk the tensions with the U.S. that would arise if such an arrangement became public.

In making its choices, Saudi Arabia has two important additional options. One is to buy missile defenses. The other is to seek some form of "extended deterrence" from the U.S. against any threat by Iran. These options could be combined, and such "extended deterrence" could be part of a broader, Gulf-wide, U.S. security guarantee. They would not necessarily require a new, formal agreement with the US.

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Modernizing the CSS-2

The Kingdom does, however, have to make hard choices at some point in the future about the future of its CSS-2 missiles, and the U.S. State Department, published a report, in August 2002 that stated that Saudi Arabia held "discussions" with Pakistan regarding nuclear cooperation.[58] Some high level visits did take place by Saudi leaders to Pakistan and China in 1999 and 2000, and the Chinese Premier, Jiang Zemin, visited the Kingdom in 2000. Some have speculated that the Chinese approached the Kingdom with offers to modernize their CSS-2 that was purchased in 1988.[59]

The growing Chinese demand for oil, the visit by King Abdullah to China in January 2006, and the visit by Chinese Premier Hu Jintao three months later in April 2006 have all raised the speculation about Saudi Arabia's relations with China and the possibility of forging an "oil for missiles" deal with China.[60]

Saudi Arabia claimed that it bought the CSS-2 to "propagate peace," but it actually bought them for a number of other reasons. Its efforts to buy arms from the U.S. had reached a low point when the purchase was made, and Saudi Arabia felt the purchase would be a major demonstration of its independence. Equally, Saudi Arabia felt threatened by the fact that Iran and Iraq had long-range surface-to-surface missiles, Yemen then had the SS-21, and Saudi Arabia did not. Saudi Arabia was particularly interested in acquiring systems that could hit Tehran, while being deployed outside the range of Iranian surface-to-surface missiles.[61]

Today, however, Saudi Arabia's present CSS-2 missiles are not a meaningful response to the Iranian CBRN and missiles threat, and they have only token war fighting capability. The CSS-2 has limitations that led Saudi Arabia to examine possible replacements beginning in the mid-1990s. It is an obsolete missile that was first designed in 1971. While an improved version has been deployed, most experts still estimate that the missile has a CEP of nearly two to four kilometers, and lacks the accuracy to hit anything other than large area targets like cities or industrial facilities. Even with the improved warhead, each missile would still only have the effective lethality of a single 2,000-pound bomb. It requires large amounts of technical support and ground equipment, and takes hours to make ready for firing.[62]

It is also far from clear that the CSS-2 missile can be properly calibrated for targeting purposes, and be kept truly operational, without more frequent test firings and without test firings conducted at long ranges along the axis it would have to be fired in an actual strike. Saudi Arabia has never conducted a meaningful operational test of the CSS-8, and is incapable of conducting the tests necessary to refine the missile's targeting using the derived aim point method.[63]

The CSS-2 missiles are extremely large 70-ton systems, and have a special, large conventional warhead. They are nearly 70-ton missile/launcher systems but they are semi-mobile, and one-third are supposed to be kept armed and near-launch-ready on transporters, one-third are kept half fueled, and one-third are normally empty and being serviced. Saudi sources indicate that actual readiness rates are normally far lower.

The missiles are deployed in two battalions. One is located at the As-Sulayyil Oasis, roughly 475 kilometers south to southwest of Riyadh. As-Sulayyil will also be the site of one of Saudi Arabia's new air bases for its Tornado fighter-bombers. A second battalion is located at Al-

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Juaifer near the Al-Kharj air base south of Riyadh. A further training facility that may have a launch capability, seems to exist in southwestern Saudi Arabia at al-Liddam.[64]

Commercial satellite photos of the site at As-Sulayyil show a very large headquarter and transportation complex with 60 buildings or tents; a transportation center; a command and control complex with roughly 40 buildings and tents; a secure area; a construction area; a bunker which may be a fixed launcher site; other launch areas with bunkers for missile storage; an additional launch area, and three 150 meter-long white buildings that may be missile assembly facilities.[65] Saudi Arabia has only a limited technological base to support such programs, although it has begun to experiment with short-range artillery systems.

It is unclear whether the Saudi Air Defense Force can maintain or fire its CSS-2 missiles without Chinese technical support, and Chinese technicians are operating the missiles under Saudi supervision. Ballast Nedam, a subsidiary of British Aerospace, has recently extended the runway at the As-Sulayyil air base to 3,000 meters. There are some signs that Saudi Arabia may be deploying surface-to-air missiles to defend the facility.[66]

None of the Saudi missiles are now armed with weapons of mass destruction. Saudi Arabia is a signatory of the Non-Proliferation Treaty, and Saudi Arabia and the PRC have provided U.S. officials with assurances that the missiles will remain conventional. The Saudi government has issued a written statement that, "nuclear and chemical warheads would not be obtained or used with the missiles." U.S. experts believe that Saudi Arabia has largely kept its word, although the Saudis have refused a U.S. request to inspect the missile sites in Saudi Arabia and Saudi Arabia's visits to nations like China and Pakistan do raise questions about their future intention.[67]

There are good reasons to question the military value of such missiles, as long as they are only equipped with conventional warheads.[68] The CSS-2s deployed in the PRC are all nuclear-armed missiles. Each can carry one to three megaton warheads. They have a maximum range of about 2,200 miles (3,500 kilometers), an inertial guidance system, and a single-stage, refrigerated liquid fuel rocket motor. The version of the CSS-2 that the PRC has sold to Saudi Arabia is very different. It is heavily modified and has a special large conventional warhead, which weighs up to 3,500 to 4,000 pounds. This added warhead weight cuts the maximum range of the missile to anywhere from 1,550 nautical miles (2,400 kilometers) to 1,950 nautical miles (3,100 kilometers).

A conventional warhead of this size is more effective than the warhead on a Scud, but is hardly a weapon of mass destruction, or even an effective conventional weapon. Assuming an optimal ratio of HE to total weight, the warhead of the CSS-2 could destroy buildings out to a radius of 200-250 feet, seriously damage buildings out to a radius of 300-350 feet, and kill or injure people with projectiles to distances of up to 1,000 feet.[69] This is the damage equivalent of three to four 2,000-pound bombs, or about the same destructive power as a single sortie by a modern strike fighter.

The CSS-2s have aged to the point where they need to be replaced, and the need to find a new system is becoming steadily more pressing. Saudi Arabia does not, however, have any good short-term options for acquiring its own missile capabilities. Saudi Arabia has no capability to produce its own long-range ballistic missiles or weapons of mass destruction. The most it has done is develop an unguided rocket. In July 1997, Saudi Arabia test-fired its first domestically

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produced surface-to-surface artillery rocket or missile at the Al-Kharj complex. Defense Minister Prince Sultan stated that the missile has a range of between 35km and 62km.[70]

Pakistan's missile programs are still in development, as are those of North Korea. As a result, the Kingdom has three major choices in dealing with the CSS-2: (1) to establish a program with China to extend the life of the CSS-2; (2) to get a new MRBM, preferably a solid-fuel system like the CSS-5 which would eliminate all of the problems in using liquid fuels and the need for Chinese operators; and (3) to use Pakistan as a source of other missile. Yet, China cannot make new sales of long-range missiles without openly violating its agreements relating to the Missile Technology Control Regime (MTCR), and Russia and the other FSU states are bound by both the MTCR and the limits of the IRBM Treaty.

The Saudi holdings of the CSS-2 thus raise serious issues on several grounds:

- A costly weapons system is deployed in small numbers with relatively low lethality.
- As now configured, the missile system may do more to provoke attack or escalation than to deter attack or provide retaliatory capability. This point became clear to the Saudis during the Gulf War. King Fahd rejected advice to retaliate against Iraqi strikes because he felt that strikes that simply killed civilians would have a provocative, rather than a deterrent effect;
- On the other hand, Saudi acquisition of chemical or nuclear warheads would radically improve the value of the system as a deterrent or retaliatory weapon.

What Comes Next?

At best, the CSS-2 now acts as a low-level deterrent and a symbol of Saudi Arabia's willingness to retaliate against Iranian strikes. At worst, the missiles are a potential excuse for Iranian missile strikes, and their use could trigger a process of retaliation against which Saudi Arabia would have little real defense capability. Israel, which initially showed concern about the system, no longer seems to perceive it a direct threat. Israel has the capability to launch air strikes against the Saudi missile sites, but is unlikely to consider preemptive strikes unless radical changes take place in Saudi Arabia's political posture or regime.

The CSS-2 does, however, symbolize the risk that Saudi Arabia will buy a more capable missile and seek weapons of mass destruction. While nations like India, Iran, Israel, Pakistan, and Syria are the major proliferators in the region, Saudi possession of the CSS-2 does give other countries an added incentive and excuse to join the missile arms race, acquire weapons of mass destruction, or preempt in a conflict.

At some point, Saudi Arabia has to make hard choices as to whether it should invest in a symbolic and ineffective deterrent, buy new missiles armed with weapons of mass destruction, trust in extended deterrence by the U.S., and/or invest in areas like theater missile defense, civil defense, and counter-terrorism.

A few Saudi analysts outside government do advocate buying modern missiles and arming them with chemical, biological, or nuclear weapons. They believe that buying long-range missiles without such weapons has little purpose. It is unclear, however, that such thinkers as yet have any broad support or that Saudi Arabia really does have better options to acquire weapons of mass destruction than it does to buy missiles. It does not have the industrial base to produce biological and nuclear weapons, or to compete in producing chemical weapons. It is very difficult to purchase "turn key" production capabilities and/or finished weapons abroad, and such

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purchases might well cut off Saudi Arabia from U.S. and other Western supplies of conventional arms.

As has been noted earlier, any missile purchase or development of weapons of mass destruction would certainly seriously jeopardize US-Saudi security arrangements and could make Saudi Arabia a target for Israel. Even if Saudi Arabia could find ways to join Iran and Israel in proliferating, it is not clear whether it would reduce its vulnerability or simply raise the threshold of any attack on the Kingdom. Mere possession of weapons of mass destruction may be adequate for the purposes of prestige in peacetime, but they must be carefully structured to avoid encouraging preemption and escalation in wartime and accelerating the efforts of neighboring states to acquire even more chemical, biological and nuclear arms.

Saudi Arabia, however, can scarcely privately ignore such a major shift in the balance of power in the Gulf in its strategic planning, and measures like buying improved theater missile defense, civil defense, and counter-terrorism may well not be enough to deal with the creeping proliferation in Iran.

The U.S. has agreed to share missile early warning data with Saudi Arabia and other friendly Arab states, but it is unclear what this warning is worth. The U.S. Patriot missiles deployed in Saudi Arabia have only limited missile intercept capability against advanced Scud missiles. While the Patriot 3 should provide more effective defense against such missiles – when and if the Patriot 3 becomes available – it has only limited effectiveness against more advanced missiles with higher closure speeds. Iran is already testing such missiles, and Iraq is almost certain to develop them if it can break out of sanctions.

Developmental anti-theater ballistic missile (ATBM) U.S. systems like the Navy Standard and U.S. Army ATBM systems are designed to provide such defense capabilities – as are additional boost-phase intercept weapons – but these programs are lagging and deeply troubled. The U.S. currently has no ability to tell Saudi Arabia when it will be able to sell such weapons, and what their cost, effectiveness, and delivery dates will be.

Furthermore, U.S. efforts like the agreement to provide early warning of enemy missile launchers, and discussing the potential sale of theater missile defense systems, offer little mid-term to long-term security. Warning at best can have limited benefits in improving civil defense if it is not backed by active missile and air defense or retaliation in kind. The U.S. will not possess wide-area theater missile defenses until well after 2010, and their future cost, effectiveness, and delivery schedule is unclear. At least, at present, a determined proliferator is likely to acquire major offensive capabilities that outstrip any near-term options for defense.

As a result, Saudi Arabia may begin to believe that it needs a stronger form of deterrence, as do the other Southern Gulf states. If so, the main options for Saudi Arabia would likely be to create a major long-range strike capability that combines the assets of the Saudi Air Force with modern strike systems like cruise missiles—systems Saudi Arabia might arm with either conventional warheads or some imported weapon of mass destruction—and Saudi de facto or formal reliance on U.S. extended deterrence and counter proliferation capabilities.

As has been discussed earlier, the first option raises serious questions as to whether the Kingdom can either create conventional strike capabilities that are a credible deterrent to weapons of mass destruction or obtain weapons of mass destruction on its own. The second option requires a major rethinking of U.S. strategy as well as that of Saudi Arabia. Extended deterrence is not a

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casual affair, and it cannot be separated from efforts to develop some form of regional arms control and develop integrated missile defense, civil defense, and counter-terrorism defenses for the Southern Gulf.

NBC Defense Capabilities

At a different level, Saudi Arabia does faces the potential threat of nuclear, chemical, and/or biological (NBC) attacks. Attacks could come in direct or covert form from a power like Iran, or from terrorist movements. They could range from tiny attacks designed largely to produce media impact and temporary panic to the actual use of nuclear weapons.

Saudi Arabia developed some elements of a civil defense force during the Iran–Iraq War and expanded it during the Gulf War. It now, however, is beginning to think how it must provide NBC protection for its military and security forces, and some kind of detection, defense, and response capability against terrorism and overt or covert attack. As is the case in most countries, these are issues that Saudi Arabia is only beginning to address.

Saudi Paramilitary, Security, and Intelligence Services

Saudi Arabia's security apparatus consists of a complex mix of paramilitary and internal security forces, and an equally complex legal system for dealing with civil and security cases. This is a truly massive effort. The total internal security budget—including security, intelligence, and energy security—for 2003 topped $7 billion, in 2004 is estimated at $8-$8.5 billion, and an estimated $10 billion on in 2005.

A number of civil ministries like the Ministry of Islamic Affairs and Guidance play an indirect role in internal security because of their political impact. Others include the Ministry of Foreign Affairs; the Ministry of Communications; the Ministry of Finance; the Ministry of Culture and Information; the Ministry of Education; Ministry of Higher Education; Ministry of Justice; the Ministry of Petroleum and Mineral Resources; and the Ministry of Pilgrimage and Islamic Trusts. This kind of indirect role in internal security is typical of similar ministries in virtually every country in the developing world, as well as a number of countries in Europe.

In addition, Saudi security forces involve a mix of elements in the regular armed forces, and the National Guard, and a range of internal security and intelligence services most of which are under the Ministry of Interior.

Saudi Arabia's Main Internal Security Forces

Figure 8 shows the command structure of the Saudi internal security and intelligence apparatus is multifaceted and connected to the Kingdom's conventional military forces.

The National Guard – with its more than 100,000 troops – provides internal security under a different chain of command using both its regular forces and tribal levies. It protects the territory of the Kingdom and the approaches to its cities and critical facilities, acts as reinforcements for the regular forces, can serve as an urban security force in an emergency. It does, however, have an Intelligence Directorate that focuses on counterintelligence within the National Guard itself and plays a limited role in counterterrorism operations. As of yet, it has no foreign intelligence operations capability.

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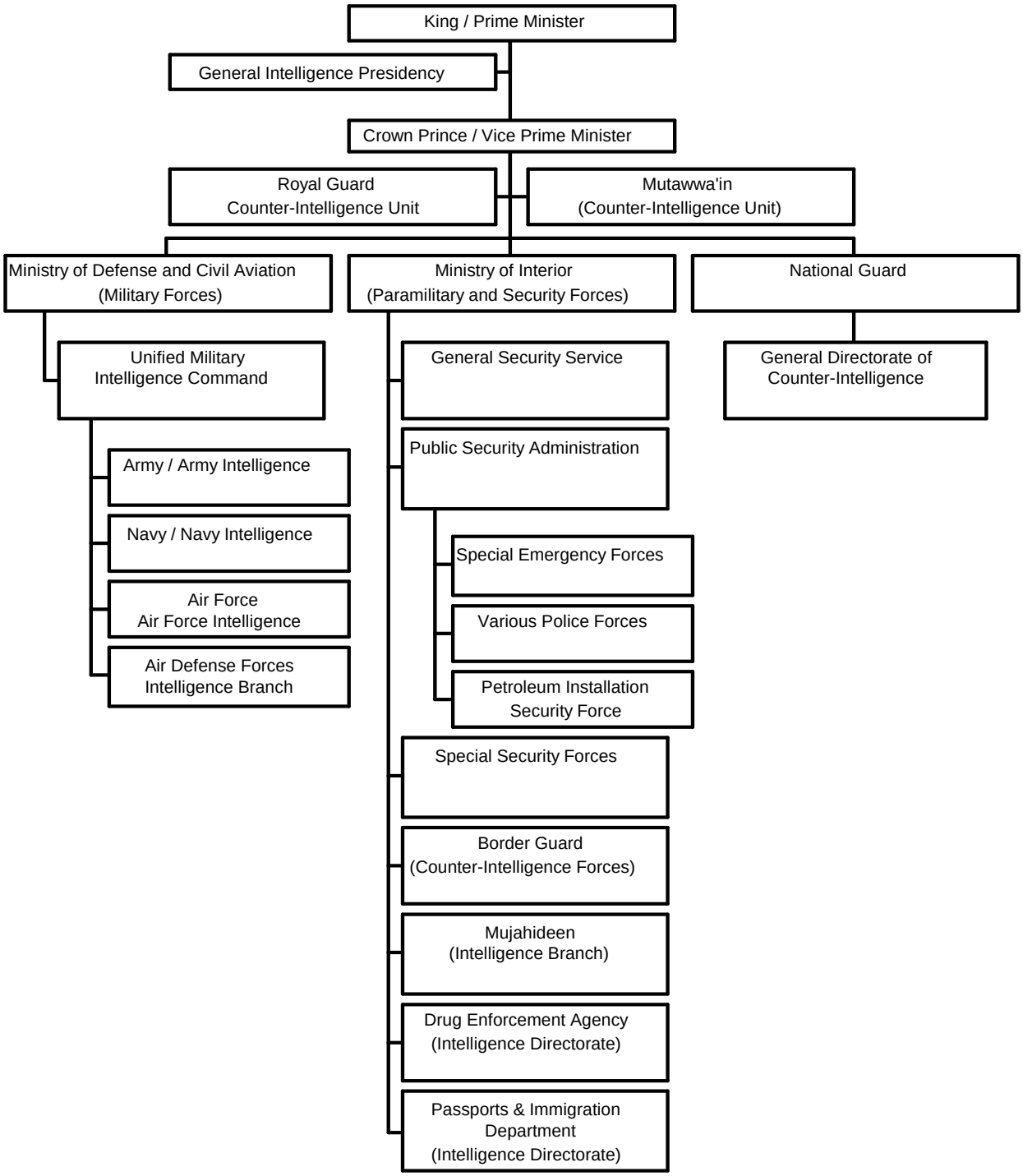
Figure 8: The Saudi Intelligence and Security Community



Source: Adapted by the authorx from Nawaf Obaid, Saudi National Security Net Assessment Project, 2005

The Pivotal Role of the Ministry of Interior

The key to the Saudi security apparatus is the Ministry of Interior. The internal security forces are centralized under Prince Nayef Bin Abdul Aziz, the Minister of Interior.[71] Prince Nayef is a

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major political power in the Kingdom. He is one of the strongest figures in the Royal family and has long played a critical role in Saudi security. His Vice-Minister is Prince Ahmad bin Abdul Aziz, whose main function is to deal with the different provinces of the Kingdom and who also plays a major role as the main force behind the General Security Service; Prince Mohammad bin Nayef is the Assistant Minister for Security Affairs and handles all the uniformed services that fall under the Ministry of Interior.

Jane's Sentinel Security Assessments outlines Saudi Arabia's main internals security services and agencies under the command of the Ministry of Interior as follows:[72]

- **The Public Security Directorate (PSD):** This directorate controls the regular police forces, which carry out security in the Kingdom's cities and villages. The control of the PSD is under the director-general of the PSD in the Ministry of Interior, but it is also true the governors exercise considerable control over the PSD in their provinces.

- **The Special Emergency Forces (SEF):** This was created after the takeover of the Grand Mosque in Mecca in 1979, and it is under the control of the PSD. The SEF have been a leading force in the Saudi counterterrorism strategy since the May 2003. It is estimate to have a total strength of 10,000 men (although other estimates put it as high as 30,000), and controls a fleet of helicopters. This force is considered to be one of the most mobile and capable of deploying throughout the Kingdom to lead the fight against terrorism.

- **The General Directorate of Investigation (GDI):** This directorate controls the Saudi domestic intelligence the General Security Service (GSS), *Mabahit.* It is in charge of domestic intelligence gathering and analysis, counterintelligence operations, criminal investigations, and lately as a counterterrorism force that tracks al-Qa'ida and other affiliated groups.

- **National Information Center:** This center is considered to have one of the most sophisticated systems in the world. This agency was created by the Ministry of Interior in Riyadh, and MoI is estimated to have a separate budget of approximately $500 billion to conduct its own military intelligence. The center links more than 1,000 terminals, and maintains comprehensive information on Saudi citizens and residents of the Kingdom. It also tracks intelligence provided by intelligence agents, informants, as well as electronic intercepts.

- **Mujahideen:** This is an independent force based in Riyadh and is under the control of the Assistant Minster of Interior for Security Affairs. It is estimated to have 3,000-5,000 men, which conduct patrols (largely at night) and lately it has been employed as part of the Saudi counterterrorism forces apparatus. The training levels and professionalism of this force are unknown.

- **Other agencies under MoI:** The ministry also has several other agencies that are indirectly responsible for maintaining internal security including the Special Security Forces, the Coast Guard, the Drug Enforcement Agency, the General Prisons Service, the Petroleum Installation Security Forces, and the Civil Defense Force. In addition, the MoI also has established a Financial Intelligence Unit (FIU) that is part of the Security and Drug Control Department, which also coordinates with the Saudi Arabian Monetary Agency (SAMA), the Saudi central bank.

As is clear throughout this book, unclassified estimates of total strengths of the Gulf States internal security services differ significantly, and no open source can know exactly the total operational strength of sensitive security services. For example, the total number for the Saudi General Security Service (GSS) is not known, and many experts have speculated about its actual size.

Figure 9 does provide a rough estimate of Saudi MoI forces manpower in 2006. These numbers show the heavy reliance the MoI places on on its police, Special Forces, and emergency troops

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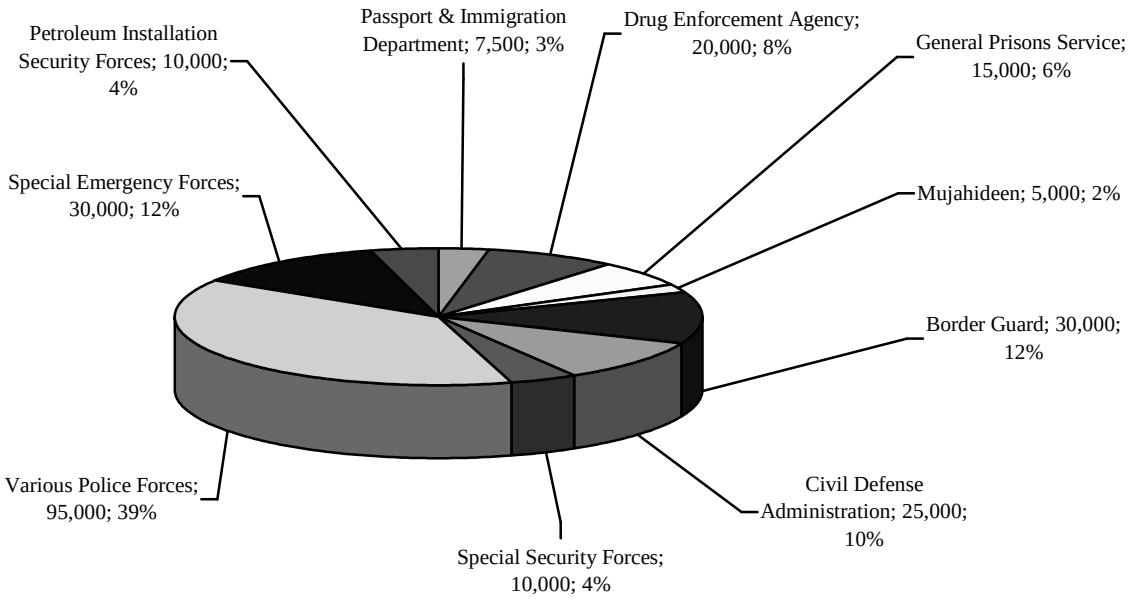
for internal security purposes, but it also shows the importance of the brooder guards, which represents 12% of the MoI total work force.

Figure 9: Saudi Ministry of Interior Manpower, 2006



Source: Estimates are based on estimated published by Anthony H. Cordesman and Nawaf Obaid, *National Security in Saudi Arabia* (Praeger/CSIS, 2005).

Notes:

1) The numbers do not include those of the General Security Service (*Mabahith*), since those numbers are classified.
2) The border guard forces include the coast guards.
3) The various police forces, the special emergency forces, and the petroleum installations security forces fall under what is called the Public Security Administration under the command of the Ministry of Interior, and it totals 135,000 men.

The Police and Security Services

The police and security forces are still somewhat traditional in character, but have been steadily modernized. Over the past two years, under the strong leadership of Prince Mohammad bin Nayef, there has been a major reorganization and development of these forces financed by huge budget increases. Early in Saudi Arabia's history there were no formal police and local and tribal authorities administered justice. During the reign of King Abdul Aziz, more modern police, justice, and internal security organizations were developed. In 1950, he created a "general directorate" to supervise all police functions. He established the Ministry of Interior in 1951, which has since controlled police matters.

Saudi Arabia has received substantial technical advice from British, French, German, Jordanian, Pakistani, and United States experts. Substantial numbers of British and French advisors served in Saudi Arabia in the past, including seconded ex-government and military personnel, but it is unclear how many have continued to serve since the early 1990s.

The police security forces are now divided into regular police (which fall under public security) and special investigative and intelligence police of the General Security Service (GSS), which are called the *mabahith* (domestic intelligence). The GSS performs the domestic security and

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counterintelligence functions of the Ministry of Interior. The GSS has a large special investigation force, something like the British CID.

There are approximately 135,000 paramilitary policemen in the Public Security Administration equipped with the latest weaponry. They are assigned to Provincial Governors, and are under the Minister of Interior. Public Security forces train at the King Fahd College for Security Studies located in Riyadh, which has the capacity for about 2,000 students. The Public Security Administration forces have a police college in Mecca. Police uniforms are similar to the khaki and olive drab worn by the army except for the distinctive black beret. Policemen usually wear side arms while on duty.

The Public Security's Special Emergency Forces have taken the lead in combating the al-Qa'ida networks in the Kingdom. They have similar specialized training as the Special Security Forces in counterterrorism and counterinsurgency operations. Because of their mobility, they act as a rapid deployment security force in case of an unexpected security threat. They number around 30,000 and are in the process of a large-scale modernization and development program. They operate basically as the defensive Special Security Force and anti-terrorist service of the Kingdom. The Special Security Force is the Saudi equivalent of a special weapons assault team (SWAT) and acts as the offensive force in the Kingdom. It reports directly to the Minister of Interior but its operational head is the Assistant Minister for Security Affairs. It was organized in response to the poor performance of the National Guard during the revolt in 1979 at the Grand Mosque in Mecca.

The force is equipped with the latest light armored vehicles, automatic weapons, and non-lethal chemical weapons. Although its core personnel have been raised to 10,000, its total final strength remains unclear as the threat level varies. Its antiterrorism units have been steadily expanded since 1990. In the past few years, enormous sums have been spent to reorganize and modernize this force. It is designed to deal with terrorism and hijacking and has SWAT capabilities and detachments in every major Saudi city and province.

The public security forces are recruited from all areas of the country and maintain police directorates at provincial and local levels. These forces, particularly the centralized Public Security Police, can be reinforced by the National Guard in an emergency or can get support from the regular armed forces. The director general for public security retains responsibility for police units but, in practice, provincial governors exercise considerable autonomy.

The focus of police and security activity has also changed over the years. Saudi Arabia is now a highly urbanized society and these formal state institutions carry out most internal security and criminal justice activity in urban areas. This has helped drive the effort to modernize the police and security forces. For example, state of the art command and control systems have been acquired and deployed and new vehicles and radio communications equipment have enabled police directorates to operate sophisticated mobile units, particularly in the principal cities. The Special Security Forces and the Special Emergency Forces have acquired a sizable fleet of helicopters for use in urban areas and have been utilized against various terrorist cells operating in the Kingdom.

The Ministry of Interior now maintains one of the most sophisticated centralized computer systems in the world at the National Information Center in Riyadh. This computer network links some 1,100 terminals, and maintains records on citizens' identity numbers and passports,

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foreigners' residence and work permits, hajj visas, vehicle registrations, and criminal records. Reports from agents and from the large number of informants employed by the security services are also entered. Officials of the GSS and GIP have authority to carry out wiretaps and mail surveillance. The Ministry of Interior also has a large electronic intelligence operation with a separate budget that is estimated at over $500 million per year.

Some security activities do, however, continue to be enforced on a tribal level in tribal areas. The King provides payments or subsidies to key Sheiks and they are largely in charge of tribal affairs. Offenses and many crimes are still punished by the responsible Sheik. The National Guard acts as a support force to deal with problems that cannot be settled or controlled by the tribal authorities.

General Security Service

The General Security Service (GSS), or "Mabahith" as it is known in Arabic, is the domestic intelligence service of the Ministry of Interior. It is the most important and sensitive service in the Kingdom. Although exact figures pertaining to the GSS are classified, informed estimates show that it has by far the largest budget of any domestic intelligence service in the Middle East. The numbers of its staff are likewise confidential.

Cooperation between the US and Saudi intelligence communities has increased since the attacks in May 2003. Shortly thereafter, the FBI began to work with the GSS in earnest and a close working relationship has developed. Although shortcomings on both sides remain, their joint efforts have contributed to major successes in the war on terrorism in the Kingdom and abroad.

Under the strong leadership of Prince Ahmad and Prince Mohammad bin Nayef, the GSS has been successful at thwarting many plots and pressuring many Saudis not to join the militants. On August 30, 2004, Prince Nayef said that he "…can say, confidently, that what happened does not exceed five or six per cent of what was foiled."[73] The GSS has remarkably improved the quality of its information gathering, the assessment of this data, and most importantly, its dissemination to troops on the ground.

GSS operations have been streamlined in order to adapt to new threats. In addition, budget increases have allowed for highly specialized training programs and acquisitions of the latest equipment, making the GSS one of the most professional intelligence services in the region and the world. Furthermore, its interrogation methods have yielded actionable intelligence that has thwarted numerous attacks in the Kingdom and abroad.

Due to this success, the senior officers of the service have become prime targets of the terrorists. There were at least two instances when they attempted assassinations against top security officials. First, in December 2003, Lieutenant-Colonel Ibrahim al-Dhaleh, of the GSS, was attacked by a car bomb. Second, there have been other attempts against Major-General Abdul Aziz al-Huweirini, the Assistant Director for Interrogations at the GSS, and the senior officer in charge of debriefing captured al-Qa'ida terrorists in the Kingdom. He was shot and injured on December 4, 2003.[74] He has since recovered and returned to his post.

The General Intelligence Presidency (GIP)

Saudi Arabia's main foreign intelligence service is the General Intelligence Presidency (GIP). Among its many responsibilities, it has a foreign security, anti-terrorism, foreign liaison

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functions, strategic analytical assessments, coordinating the foreign covert networks of the Kingdom, and ultimately foreign covert operations if need be.

The President of the GIP reports directly to the Prime Minister (the King). Although the budget of the GIP is classified, it is roughly estimated at a minimum of $500 million per year. That would make it the most funded intelligence service in the Middle East.

In theory, the head of the General Intelligence Presidency is responsible for intelligence collection and analysis, and for the coordination of intelligence tasks and reporting by *all* intelligence agencies, including those of the Ministry of Interior, Ministry of Defense and Civil Aviation and the National Guard. In practice, at the operational level, there now is no real Saudi intelligence "community."

One is in the process of being formed, however, and a real effort is being made to ensure that the various services can function in a unified manner. Since 9/11, the senior Saudi leadership has realized that intelligence sharing -- or "fusion" -- is weak, coordination is poor, and the different services are filled with personal and bureaucratic rivalries and tensions. The problems are compounded by the fact that the research departments of the services --- especially those at the GIP -- are weak, and that in general Saudi intelligence collection relies too heavily on personal contacts and briefings, rather than systematic and structured analysis.

A pure Saudi intelligence community would be comprised of the GIP, GSS, Border Guard, National Information Center, the three intelligence branches of the military (Army, Navy, and Air Force), the National Guard Intelligence Directorate, the Interior Minister's Bureau of Analysis and Studies, the Foreign Ministry's Information and Studies Center, and the National Guard's Specialized Studies Center.

The Changing Role of the GIP

Under Prince Turki Al-Faisal's leadership, the GIP was successful in dealing with many internal and foreign threats that posed a direct menace to the Kingdom. It had a long history of cooperation with US intelligence although it has (along with its sister agency, the GSS) generally opposed any Western efforts to introduce law enforcement organizations like the CIA and FBI into Saudi security issues in ways that could embarrass the Saudi government. This led to acute tensions between the two main Saudi services and their American counterparts over the investigation like the Al-Khobar bombing, and helped lead to the charges that the Saudi government covered up Iranian involvement in the bombing.

In fairness to Saudi Arabia, however, the US, Britain, and other Western countries failed to cooperate with Saudi intelligence in a number of past cases because they felt that this might violate the rights of legitimate opposition movements or raise human rights issues. The US and other Western intelligence services also turned a blind eye, or at least tolerated, Islamic extremist activity when it seemed to serve their interests in Afghanistan and Bosnia, or acted as a counter balance to Russian influence in Central Asia and paid little attention to the potential threat posed by funds and manpower coming out of the Kingdom. If Saudi Arabia was slow to see the threat of extremism and terrorism and sometimes "exported" its problems, the US, Britain, and other European intelligence and security services made equally serious mistakes in monitoring and characterizing "Islamic" movements.

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Changes in the GIP Leadership

Major developments have taken place within the GIP since September 11th. Prince Turki al-Faisal, the current Saudi Ambassador to the United States, was replaced in August 2001 by Prince Nawaf bin Abdul Aziz.

Prince Turki al-Faisal had forged the GIP into a modern intelligence service and had spent some 30 years in intelligence and had built a solid reputation for professionalism and effectiveness. He began his career as deputy director in the Office of Foreign Liaison at the age of 23. Over the years, he reorganized and consolidated the office into a full-fledged intelligence service.

He became Director of Intelligence in 1977 and it was at that time that the move toward a professional intelligence service began in earnest. Prince Turki had long been the main contact point for the US, British, French and other main Western and Arab services among others. He was also responsible for dealing with operations in Afghanistan and Central Asia since the Soviet invasion in 1979. He was also the main point of contact with the US-Saudi backed Mujahideen and the Pakistani Inter-Services Intelligence (ISI) service, with the various warring Afghan factions after the Soviet withdrawal, and with the Taliban and Osama Bin Laden (along with other Arab Mujahideen).[75]

On January 26, 2005, then Crown Prince Abdullah relieved Prince Nawaf of his duty and the head of GIP. The agency remained without a minister until October 2005, following King Abdullah's accession to the thrown, he appointed Prince Muqrin bin Abdulaziz al-Saud, the King's half brother and a former governor of Madina and Hail, to head the GIP. In addition, King Abdullah relieved Prince Saud bin Fahd of his duties as vice president of the GIP.[76]

Prince Faisal bin Abdullah bin Mohammad was appointed as a new Assistant President of the GIP in charge of administratively reorganizing the agency. He was a former Deputy Commander of the National Guard for the Western Region and brings a new administrative focus to the service, that along with the personal dynamism of Prince Abdulaziz bin Bandar, the other co-Assistant President in charge of revamping the vitally important analysis and research directorate, has led some to hope that they can put back the GIP at the center of the Kingdom's international security relationships.

The Future Role and Capabilities of the GIP

The future of Saudi internal security will not be shaped by the leadership of the General Intelligence Presidency alone, but rather by the overall effectiveness of the government and the royal family in dealing with the broader mix of political, economic, social, and demographic issues that threaten Saudi Arabia's internal security. An important fact that has been missed by most foreign assessments is that the GIP, in its bylaws, does not have the right to make arrests, rather, it can track and monitor individuals in Saudi Arabia. At the same time, the General Security Service carries out any recommendations for arrests. Hence, its role is one of an early warning advisory service, which, depending on the effectiveness of its head, can be extremely influential in Saudi security planning, or irrelevant, as is the case today.

Saudi Arabia clearly needs to do more to expand and modernize some aspects of its intelligence operations. In the past, Saudi intelligence has tended to rely heavily on interpersonal relations and human intelligence (HUMINT), supplemented by limited usage of surveillance equipment (SIGINT) and computerized records. It worked closely with the major Western and Arab

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intelligence services in some areas, and had some access to more advanced imagery and signal intelligence through such sources. Saudi intelligence did not, however, establish and organize for the kind of sophisticated domestic and foreign surveillance networks necessary to provide adequate coverage of small, dispersed Islamic terrorist groups and individual movements. It has tended to rely on information from traditional elites, and to have limited data on urbanized Saudis and Saudi young males that become affiliated with extremist movements inside and especially outside of Saudi Arabia. Surveillance of financial transfers, charitable organizations, and activities like money laundering has been particularly weak, as no such body within the GIP was set up to deal with those issues.

Most of the sophisticated networks that had been established over many years have deteriorated and hence the GIP's role in the global war on terrorism has been marginal at best. Thus, the Kingdom has had to rely heavily on only one truly professional security service, the GSS.

Border and Coastal Security

Border and coastline control is the responsibility of the Border Guard and has long been an important aspect of security operations. Smuggling is endemic, even across the Saudi border with Iraq. Saudi border guards arrested 777 smugglers crossing the border during 2001, and seized nearly three tons of hashish, more than 5,700 bottles of alcohol, more than 450 weapons, and 43,680 rounds of ammunition.[77] Since the fall of Saddam Hussein, smuggling across this border has dropped drastically. While Saudi Arabia does not announce the fact publicly, it regularly had to deal with Iraqi patrols that crossed into Saudi territory, and it is now clear that some Iraqi intelligence officers had been operating in the Kingdom prior to the Iraq war.

Saudi Arabia has taken diplomatic steps to greatly reduce its problems and tensions with Iran and Yemen, and particularly to reduce Iranian efforts to exploit Saudi Arabia's problems with its Shiites and use the Haj as a propaganda forum. The Kingdom has also, however, taken strong steps to improve its counterterrorism efforts in dealing with border and coastal security. It has improved its monitoring of foreign nationals and ability to track their movements and activities, and has steadily improved its coverage of its borders with Iraq and Yemen.

The Role of the Border Guard

The 30,000 man Border Guard covers Saudi Arabia's land and sea borders. It performs a host of patrol and surveillance missions, and can act as a light defensive screen. It is equipped with four-wheel drive vehicles and automatic weapons as well as a sizable fleet of helicopters. The Border Guard did much of the fighting with Yemen in the past, and took casualties in doing so. It still must deal with the problem of smuggling and infiltration across the Saudi borders with Yemen, Jordan, and Iraq.

Some members of the Border Guard have been implicated in smuggling by sea, but this activity is severely punished and does not seem to be any more common than in other countries. Similar problems exist along the border with Yemen, although the border clashes that used to take place between Yemeni and Saudi security forces seem to have largely ended following the settlement of the Saudi-Yemeni border in June 2000.

The main problems are now smuggling and inter-tribal violence, which are still endemic. The Yemeni border has been the main source of the weapons and explosives used in the recent terrorist attacks against the Kingdom. This border is still the main conduit by which militants

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from Afghanistan enter the country. The Saudi borders with Kuwait, Bahrain, the UAE, and Oman are stable and secure except for smuggling. The movement of alcohol and narcotics is still a problem.

The Kingdom's strategic location and large territories makes its borders vulnerable to smuggling of arms and drugs. The various rugged terrains make surveillance difficult and provide hiding places for smugglers. Furthermore, the vastness of the borders makes it easier for terrorists and smugglers to train without being notice by the authorities. The Kingdom has always been concerned with weapons and ammunition smuggling, especially since the May 2003 attacks. **Figure 10** provides the quantity of weapons and explosive the Saudi Border Guard confiscated every year. The MOI reported that the number of cases has declined in 2004 due to the use of surveillance systems at borders and coasts.[78] In the same paper, the MOI provided a break down of weapons and explosives that were confiscated in the last five years. They totaled 16,389 weapons, 14,816,111 ammunitions, 240 bombs, 1,282 materials, 355,191 digits, 343,292 wire connections.[79]

Figure 10: Border Guards Apprehension of Weapons and Explosives, 1995-2003

	Weapons		Ammunition	
	Cases	**Quantity**	**Cases**	**Quantity**
1995	135	1,777	168	9,323
1996	168	379	206	309,620
1997	172	522	253	99,837
1998	123	290	166	43,489
1999	128	450	171	242,637
2000	149	333	203	636,771
2001	182	299	250	202,346
2002	194	260	261	91,745
2003	123	340	206	326,326

Source: Ministry of Interior Annual Yearbook and the Border Guard Annual Statistical Report. Adapted by the authors from *Kingdom of Saudi Arabia's Experience in Fighting Drug and Arms Smuggling and the Relationship between Terrorism and Arms*, Table 5 and 6, a working paper submitted at the Counter-Terrorism International Conference, Riyadh 5-8/2/2005

The Option of a Border Surveillance and Defense System

Saudi Arabia began considered major changes in its border security apparatus in the 1990s. Saudi Arabia considered building a border surveillance system that would use patrol aircraft, remotely piloted vehicles, and early warning systems to detect intruders and border crossings. This would have involved a 12 kilometer-deep security zone around all 6,500 kilometers of the land and sea borders, with a mix of acoustic, seismic, radar, magnetic, and infrared sensors to detect movements of men and vehicles in the border area. It would have been supported by small manned patrol aircraft, and unmanned remotely piloted vehicles, wherever some threat from an intruder might exist.

Thomson CSF completed a $5 million feasibility study for this system in early 1990, and two consortiums—one led by E Systems and the other by Thomson CSF -- submitted bids to Saudi Arabia in May 1991. The system was not funded in part because of its cost, and in part because of the ease with which given sections could be penetrated before an effective response would be possible. Its estimated cost was around $3 billion and it would have taken several years to complete.[80]

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Actually buying and deploying such a system has been put on hold at the request of the Yemeni government. If the government does put such a system in place, it is now likely to be through the installation of a much more technically sophisticated system.

Saudi Border Guard Development Program

In 2006, the Kingdom had a 30,000 strong Border Guard force patrolling the borders against smugglers and infiltrators. The force is equipped with light arms, four-wheel-drive vehicles, helicopters, and extensive range of surveillance equipment. In October 2002, it was reported that they added to their arsenal thermal cameras, radars, and other detection systems.[81]

The Kingdom, however, has also announced plans to upgrade its border surveillance, especially on the Saudi-Yemeni borders. Ministry of Interior Kingdom of Saudi Arabia (MIKSA), is a contract to build C4I and IS&R systems on the Saudi-Yemeni border. As it is also known as the Saudi Border Guard Development Program has been under negotiations since 1994 following the signing of a MoU between Prince Nayef, the Saudi Minister of Interior, and his French counterpart, Charles Pasqua. It was reported that French President Jacques Chirac personally discussed MIKSA with Crown Prince during his state visit to France in May 2004.[82]

According to press reports, President Chirac took "charge" of the negotiations himself away from the Minister of Interior, Nicholas Sarkozy, because he felt the process was taking too long and put his diplomatic advisor, Maurice Gourdault-Montagne, in charge of the negotiations.[83] According to the French press, Mr. Sarkozy was "sidelined" because under his leadership, the French Ministry of Interior did not provide the necessary transparency and legal framework for the contract. Crown Prince Abdullah, according to the same press reports, voiced his opposition to the "payment of any commission," demanded more transparency, and asked that the contract be signed "state to state" by "highest authority" in France.[84]

Under the insistence of the Elysee, the consortium bidding has been taken away from Thales, and the French Advanced Systems Export Company, SOFRESA, which has close ties to President Chirac, has taken the lead in the negotiations.[85]

MIKSA is estimated to take up to 12 years and cost between $5 billion and $9 billion to complete. If finalized the program would:

- Build a 3,000 mile electronic surveillance and detection systems;
- Install ACROPOLE, a Communication System that was created for the French police. The system has databanks on wanted persons, stolen vehicles, etc;
- Install 400 frontier posts and barracks to house 20,000 troops;
- Train the 20,000 border guards;
- Provide 20 reconnaissance aircraft and helicopters;
- Build 225 radar stations and link them by satellite to a central command center; and[86]
- Unmanned aerial vehicles (UAVs).[87]

During then Crown Prince Abdullah's visit to Paris in April 2005, an Elysee spokesman said that "Jacques Chirac and Prince Abdullah raised these two projects (Thales and Dassault) within the framework of a wide-ranging conversation." The Elysee reiterated that nothing was signed with

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regard to MIKSA.[88] However, it was reported that Thales' CEO hinted in late April of 2005 that the program is on fast track.[89]

The Expanding Mission of the Border Guard

The Boarder Guard has been historically concerned with smuggling, but now has a growing internal security mission.[90] They are being expanded and given better equipment like very fast patrol boats. The Air Force and Navy are providing them more surveillance and patrol support, and some consideration is being given to giving the Boarder Guard surveillance helicopters while the Navy is seeking suitable maritime patrol aircraft.

It is virtually impossible, however, for Saudi Arabia to fully secure its Gulf or Red Sea coasts against smuggling and infiltration by small craft. Traffic in the Gulf and Red Sea is simply too high, the coasts are too long, and sensors cannot track movements by dhows and small craft. The Saudi navy, Border Guard, and National Guard are able to provide adequate security screening for key ports, desalination facilities, and petroleum export facilities with roughly two weeks of warning. Coverage is generally limited in peacetime.

Security and the Role of the Judicial System

The Saudi civil and criminal legal system is another key aspect of the Saudi security apparatus. It has slowly been modernized, but presents problems both in terms of both efficient internal security operations and human rights. It is traditional, religious in character, and is based on Shari'a as interpreted by Islamic practice under the Wahhabi order, which adheres to the Hanbali School of the Sunni branch of Islam.

The Shari'a courts exercise jurisdiction over common criminal cases and civil suits regarding marriage, divorce, child custody, and inheritance. These courts base judgments largely on the Quran and on the Sunna, another Islamic text. Cases involving relatively small penalties are tried in Shari'a summary courts; more serious crimes are adjudicated in Shari'a courts of common pleas. Appeals from Shari' a courts are made to the courts of appeal. The Saudi government permits Shiite Muslims to use their own legal tradition to adjudicate non-criminal cases within their community. Other civil proceedings, including those involving claims against the Government and enforcement of foreign judgments, are held before specialized administrative tribunals, such as the Commission for the Settlement of Labor Disputes and the Board of Grievances.[91]

The Judicial System and Internal Security

The judicial system works differently when it deals with internal security issues. The Saudi government is still deeply concerned about the security of the military forces – although there have been no recent cases of active opposition within either the regular military forces or the paramilitary and security forces. The military justice system has jurisdiction over uniformed personnel and civil servants that are charged with violations of military regulations. The King, the Crown Prince, and the Minister of Defense and Civil Aviation review the decisions of courts-martial and it is clear that serious cases get the direct attention of the senior leadership. Similarly, the Saudi government conducts closed trials for persons who may be political prisoners and in other cases has detained persons incommunicado for long periods while under investigation.

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The US State Department reports that there are several bodies that perform higher legal review functions:

- The Supreme Judicial Council is not a court and may not reverse decisions made by a court of appeals. However, the Council may review lower court decisions and refer them back to the lower court for reconsideration. Only the Supreme Judicial Council may discipline or remove a judge. The King appoints the members of the Council.
- The Council of Senior Religious Scholars is an autonomous body of 20 senior religious jurists, including the Minister of Justice. It establishes the legal principles to guide lower-court judges in deciding cases.
- Provincial governors have the authority to exercise leniency and reduce a judge's sentence.
- The King reviews cases involving capital punishment. The King has the authority to commute death sentences and grant pardons, except for capital crimes committed against individuals. In such cases, he may request the victim's next of kin to pardon the murderer—usually in return for compensation from the family or the King.

The "Mutawwa'in" or Religious Police

Saudi Arabia has a religious police called the "Mutawwa'in," which is a force organized under the King in conjunction with the Islamic "clergy" or Ulema. It is known in English as the Organization to Prevent Vice and Promote Virtue or Committees for Public Morality and part of the government's Department of Virtue Propagation and Vice Prevention.

It is primarily responsible for ensuring compliance with the precepts of Islam, but performs some security functions in dealing with religious extremists.[92] The Mutawwa'in enforce the public observances of religious practices, such as the closure of public establishments during prayer times. They have been known to exceed their authority with both Saudi and expatriates alike by undue harassment of both men and women in public places and trespassing into private homes.

The U.S. Department of States reported that:[93]

> The Mutawaa'in have the authority to detain persons for no more than 24 hours for violations of the strict standards of proper dress and behavior. However, they sometimes exceed this limit before delivering detainees to the police. Current procedures require a police officer to accompany the Mutawaa'in at the time of an arrest. The Mutawaa'in generally comply with this requirement. In the more conservative Riyadh district, however, there are continuing reports received of Mutawaa'in accosting, abusing, arresting, and detaining persons alleged to have violated dress and behavior standards. Mutawaa'in practices and incidents of abuse varied widely in different regions of the country, but were most numerous in the central Nejd region. In certain areas, both the Mutawaa'in and religious vigilantes acting on their own harassed, assaulted, battered, arrested, and detained citizens and foreigners. The Government requires the Mutawaa'in to follow established procedures and to offer instruction in a polite manner; however, Mutawaa'in did not always comply with the requirements. The Government has not publicly criticized abuses by Mutawaa'in and religious vigilantes, but has sought to curtail these abuses.

It also reports that the Mutawaa'in enforce strict standards of social behavior, including the closing of commercial establishments during the five daily prayer observances, insisting upon compliance with strict norms of public dress, and dispersing gatherings of women in public places. The Mutawaa'in frequently reproach Saudi and foreign women for failure to observe strict dress codes, and arrested men and women found together who were not married or closely related. In November 1998, several Mutawaa'in attacked and killed an elderly Shiite prayer leader in Hofuf for calling the prayer according to the Shiite tradition. Mutawaa'in attempts to cover up the killing were unsuccessful. The State Department reports that the government

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reportedly investigated the incident; but does not make public the results of any investigations involving Mutawaa'in personnel.[94]

The level of Mutawwa'in activity has varied over time, and is difficult to predict. The government appointed a new and more compliant leader of the religious police after a series of raids on rich and influential Saudis in 1990, but their power grew strikingly after the Gulf War, as Saudi traditionalists reacted to the presence of US and other Western forces, but seems to have peaked in the mid-1990s. The number of reports of harassment by the Mutawaa'in during the late 1990s remained relatively low in comparison with previous years, but the Mutawaa'in continues to intimidate, abuse, and detain citizens and foreigners of both sexes.

Some Saudi officials go so far as to describe the Mutawwa'in as a form of disguised unemployment for religious Saudis, and state it is sharply overstaffed in some areas. One senior Saudi official went so far as to refer to the Mutawwa'in a "religious labor union more interested in their benefits than anything else." Other Saudis are more divided in their reaction. Some feel the Mutawwa'in perform a useful function in limiting the secularization of the Kingdom. Others see it as an outdated and over-conservative annoyance.[95] Serious questions also remain about the degree to which the attitudes of organizations like the "Mutawwa'in" affected the safety of Saudi girls' schools and did or did not interfere in a school fire that killed 15 Saudi girls in March 2002.[96]

An Effective Internal Security Force?

In late November 2002, Prince Nayef was sufficiently disturbed over continuing problems with the Mutawwa'in so that he publicly took action to try to improve the conduct of the Department of Virtue Propagation and Vice Prevention. He called upon the Department to "hire well qualified people and not people of limited qualifications who act recklessly," to "gently deal with the people and avoid harshness, especially with young people." He announced a training institute was being set up, and that the Mutawwa'in would operate with better training and discipline.[97]

Prince Nayef followed through and announced a policy of curbing the authorities of the Mutawwa'in and removed their ability to interrogate suspects. In May 2006, the Minister of Interior sent a directive to the provincial governors that the role of the virtue commission will be restricted to arresting suspects and handing them over to police. Saudi officials were quoted a saying that the decision would put more coordination between the Mutawwa'in members and police, and announced that the organization is "a religious" one not a police department.[98]

In general, the "Mutawwa'in" seem to be more of a Saudi internal security problem than part of the solution. Saudis do not seem to be able to cite any examples of cases where the "Mutawwa'in" have played a role in limiting the activities of Islamic extremists and defending the core values of Islam against extremism. They cannot cite cases in which the "Mutawwa'in" played a role in defending religious values while aiding modernization and reform. To be blunt, they have been a "gentler and kinder" Taliban. They have carried out rote enforcement of Saudi religious practices while acting as a tacit endorsement of efforts to force compliance with Islam rather than persuade. As such, they often at least indirectly endorse Islamic extremism while lacking the intellectual depth, training, and experience to truly defend one of the world's great religions.

It should be noted, however, that there is another force called the "Mujahideen," whose operations are centered in Riyadh, and largely patrol it at night as a kind of religious vice squad.

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It has taken part in counterterrorism operations. This force is much more professional than the "Mutawwa'in," and is rarely seen or talked about. It is staffed by around 5,000 and is an independent service that reports administratively to Prince Nayef, the Minister of Interior, and operationally to the Assistant Minister for Security Affairs.

Saudi Arabia's Continuing Strategic Challenges

The Kingdom exists in the heart of the Middle East, and has to deal nature of external and internal threats that the other Gulf States face. While Iraq as a conventional and WMD threat has disappeared, Saudi Arabia faces the prospects of civil war in Iraq, a potentially nuclear Iran, and the ongoing threat of terrorism inside the Kingdom. As has been touched upon earlier, Saudi Arabia also faces a set of socioeconomic challenges that indirectly impact the Kingdom's prospects of stability in the coming decades.

The major risks and uncertainties the Kingdom must deal with include:

- **Counterterrorism:** The most urgent threat facing the Kingdom is that from terrorist organizations such as al-Qa'ida and other affiliated groups. Since May 2003, the Kingdom has faced an onslaught of attacks that caused many deaths and forced some to question the Kingdom's internal stability. Since the end of 2004, the Saudi security forces have won many battles against al-Qa'ida, stopped many attacks, and have put al-Qa'ida on the defensive. The threat from these groups, however, is far from over. The Saudi internal security forces are steadily improving, but the Kingdom also faces the socioeconomic, political, and regional issues that are considered the main motivators and recruiting cries for such groups. In addition, while "jointness" is an endless pursuit, the Kingdom must continue to improve jointness and interoperability not only between its conventional military services, but also between its conventional services and internal security apparatus, between its own military and the GCC, between its own counterterrorism forces and other neighboring states.

- **Dealing with Iraq's future:** Instability in Iraq poses several key threats to the Kingdom's national security. First, an unstable Iraq can be a safe haven for terrorists that require further spending on the Kingdom's part to control its border and divert assets away from its internal security need. Second, while estimates differ, Saudi fighters have gone to fight in Iraq. The challenge to the Kingdom is to deal with these fighters on their return and avoid repeating the mistakes of dealing with those who fought in the Afghan conflict against the soviets during the 1980s. Third, the Kingdom must deal with the potential of disintegration in Iraq. Sectarian violence between Shiite, Sunnis, and Kurds can force a civil war in Iraq which could push each side to demand autonomy. Three Iraq's can be damaging to the Kingdom and its neighboring GCC countries' stability. Fourth, Iran has been accused by the Kingdom, Iraqi officials, and the United States of aiding both sides of the conflict in Iraq. Iran is accused of using both its military and intelligence assets to support militias such as al-Mahdi army and the Bader Brigade as well as its "soft power" amongst the Shiites in the South to influence the future of Iraq. Saudi Arabia has a stake in curbing Iran's influence and the creation of a "Shi'ite Crescent" between Iran and Iraq that can result in further Sunni-Shiite conflict in the Gulf and beyond.

- **The risk of Iranian proliferation**: Iran's WMD and missile programs pose a different type of threat to the Kingdom. As noted in the Iran chapter, there are major uncertainties about Iran's nuclear intentions, warfighting capabilities, and the strategic implications of a nuclear Iran in the Gulf. A nuclear Iran, however, will likely tilt the balance of power in the region to Iran's favor. If Iran does acquire nuclear capabilities, the Kingdom has several options: acquire its own WMD and long-range strike capabilities, build a missile defense shield, or ask for a nuclear power (U.S., Pakistan, NATO, or China) to extend its nuclear deterrence over the Gulf. But the Kingdom has always expressed its hope that Iran's nuclear program is solved diplomatically. Saudi officials have privately pressured Iran to accept the demands of the IAEA and the EU-3 (Germany, France, and England). In addition, Saudi officials have publicly expressed that they hope that dealing with Iran's nuclear program must be discussed in a larger context that includes proliferation of WMD in the Middle East—which includes Israel's nuclear program.

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- **Yemeni instability:** Yemen has a history of instability and internal strife since the early 1960s. This instability has forced the Kingdom to get involve in Yemen's civil war during the 1960s as well as fortify its border with Yemen to curb the inflow of weapons and drugs. Given the threat from terrorism, the Saudi-Yemeni border has been a source of terrorists, weapons, and explosives to al-Qaeda. Instability in Yemen, however, is not only a question of border control. The Kingdom does not want a hostile regime in Yemen that threatens the Kingdom's national security or other Gulf States. In addition, Yemen overlooks the strategically important Bab el-Mandeb, and instability in Yemen's government can disturb the flow of trade between the Arabian and the Red Seas. Currently, Yemen's stability is tenuous, but not chaotic. There have been efforts by the Kingdom to bring Yemen into the GCC fold, help it with its internal security and intelligence need, and give it generous economic aid. These efforts are likely to continue for the foreseeable future.

- **The GCC and collective security:** Saudi Arabia's relations with other neighbors, the GCC states, have always been marked by political rivalries, but not conflict. These rivalries have taken many shapes and forms including: border disputes, diplomatic punitive measures, and at times fire exchanges across borders. Currently, the country that causes the most headache to Saudi Arabia is Qatar through its support of Al-Jazeera TV network that gives a platform to Bin Laden and other groups that appose the Saudi royal family. In addition, Saudi Arabia is now facing the potential of restarting border disputes with the UAE over the Shaybah oil field and Bureim. The Kingdom's relations with Bahrain, Kuwait, and Oman have been cordial since the end of the Gulf War in 1991. These disagreements have largely been the result of the perception by the other Gulf States of Saudi "hegemonic" ambitions over the Gulf. Saudi Arabia has little choice but to defend the smaller neighbors against Iranian aggressions and be prepared to insure internal stability through counterterrorism cooperation and joint security arrangements, as well as being willing to mobilize its armed forces to deter any attack against the GCC states.

- **Relations with the United States:** One of the results of the 911 attacks has been the souring of the Saudi-US relations. The US media and key members of congress have accused the Kingdom of supporting terrorism and repeated the questions: is Saudi Arabia a friend or a foe? In Saudi Arabia, the US invasion of Iraq, the US support of Israel, and the treatment of Arabs and Muslims since 911 have caused many in Saudi Arabia to ask whether Saudi Arabia should reconsider its close strategic partnership with the United States. To deal with these difficult questions, Saudi Arabia and the United States inaugurated "a strategic dialogue," which is being headed by the Saudi Foreign Minister and the U.S. Secretary of State. This dialogue has several working groups including: Counterterrorism Working Group; Military Affairs Working Group; Energy Working Group; Partnership, Education, Exchange, and Human Development Working Group; Consular Affairs Working Group; and Economic and Financial Affairs Working Group. This dialogue is a good first start, and it deals with the pillars of the U.S.-Saudi relations, but there is much to be done, particularly on reengaging the human-to-human interaction. In this context, both countries ambassadors (Prince Turki al-Faisal, the Saudi ambassador to the U.S., and James C. Oberwetter, the U.S. ambassador to Saudi Arabia) have been actively involved at communicating the importance of this relationship. Disagreements over Iraq, Iran, and the Arab-Israeli conflict are likely to continue, and both nations must find a way to work together to bridge the gap and find areas where they can cooperate.

- **Internal security vs. conventional military spending:** While the Kingdom's main urgent threat is that of al-Qa'ida, Saudi Arabia is not without conventional threats in the region. The main two conventional threats the Kingdom could face are Iran and Yemen. Despite their aging military weapons and lack of meaningful military modernization program in the last two decades, the two nations cannot win a war against a modern Saudi military, but they can pose a threat and preoccupy the Kingdom. In addition to settling outstanding issues, the Kingdom's military modernization has to reflect two key goals: protecting the Kingdom and the GCC states' national security and avoiding future conflicts. The Saudi military weapons systems are one of the most advanced in the region and even the world, but the challenge to the Kingdom's armed forces is to create the "right" type of force rather than a "prestigious" force, and that requires eliminating the "glitter" factor in military spending and focusing on force effectiveness, sustainability, jointness, and interoperability.

- **Reforms vs. stability:** Saudi Arabia faces an internal dilemma that most of the other countries in the region face: balancing public demands for reforms and the need to deal with conservative elements in the society.

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Saudi Arabia has embarked on a reform package that started in the mid 1990s. These reforms include economic, educational, social, and political. In recent years, Saudi Arabia held municipal elections, relaxed media censorship, modernized its educational curricula, and curbed the power of its virtue commission (mutawwa'in). The challenge for the Saudi government is to balance between the demands for realistic reforms without breaking the social cohesion of the Saudi society. This can be achieved though the implementation of "evolutionary" change that ensures stability and modernization at the same time. While the pace may not be what is demanded, it is the required pace to achieve the desirable results.

- **Managing oil wealth:** The high oil prices provided the Kingdom with a surge of oil revenues and inflow of capital that has resulted in record high budget surpluses, a boom in the Saudi stock market, and new military spending. Saudi officials have expressed their desires not to repeat the mistake of the 1980s, when overspending caused mismanagement and resulted in wasteful spending. As noted earlier, the Kingdom's ability to channel this capital into areas to ensure and improve Saudi internal and external stability will be one of the Kingdom's key challenges in the coming years. Efforts in the Ministry of Interior, the Ministry of Oil, and the Ministry of Defense to provide transparency and educate both officials as well as the Saudi public about the challenges ahead have started, and the challenge is to ensure such efforts continue.

- **Energy security:** Saudi security foiled an attack against one of its largest oil facility at Abqaiq on February 24, 2006. The news caused oil prices to jump more than $2 a barrel. Terrorists present a new kind of threat in terms of their willingness to suddenly change strategies and tactics to attack energy facilities. This threat not only presents a threat to the physical security of key oil facilities, but it also adds to the "security premium" in the global oil market. There are no "bullet proof" security systems for energy facilities. Perhaps the weakest link in the Kingdom's energy infrastructure is its estimated 11,092 miles of pipeline. The Kingdom, therefore, faces the challenge of dealing with the changing nature of threat and any future cover or overt attacks against its oil facilities.

- **Meeting the global energy demands:** Saudi Arabia faces also another type of challenge that impacts not only the security of its own energy facilities, but global energy security. The surge in the global oil demand caused by high demand in Asia and the ongoing refining bottlenecks in the United States pose another type of challenge: Saudi Arabia must provide a cushion to a tight global oil market. In 2006, Saudi Arabia's oil production capacity was estimated to be near 11.0 million barrels a day, and the Kingdom has announced plans to increase it to 12.5 million barrels per day by 2009 and eventually to 15 million barrels per day. In early 2006, the only meaningful spare capacity was that of Saudi Arabia—1.5 million barrels a day. None of the other large oil producers have the capability to increase their production capacity in the near term, and that makes the Kingdom the guarantor of the global oil supply in case of supply disruption in other part of the world. This challenge requires massive investment in Saudi energy infrastructure, adapting the latest technological capabilities, and insuring the safe flow of energy supply through the Strait of Hormuz.

- **Demographic time-bomb:** Saudi Arabia is facing a youth explosion coupled with high unemployment and a struggling Saudization program. Saudi Arabia is providing the incentives and the job training to Saudi citizens to become more competitive in the job market, and has been pursuing an aggressive nationalization program since the early 1990s. Yet, progress does not match the need. Estimates for Saudi unemployment range from 8%-25%, and given the youth explosion forecasted for Saudi Arabia, the Kingdom is adding hundred of thousands of new job seekers every year.

- **Economic diversification:** The Saudi economy has been dominated by its oil and petrochemical industry for the past three decades. Since the 1980s, and more aggressively since the mid 1990s, the Kingdom has attempted to diversify its sources of income and employment. Most of these efforts involved partial privatization of key industries such as electricity, telecommunications, and the petrochemicals. While most of these efforts have started, it is too early to know their full impact.

- **The impact of an emerging Saudi private sector:** Historically, the majority of the Saudi economy has been controlled by the government or largely depended on oil revenues. In 2006, it is estimated that only 40% of GDP came from the private sector while the rest from the public sector. In addition, it is estimated that petroleum sector accounts for roughly 75% of budget revenues, 45% of GDP, and 90% of export earnings. The Kingdom is trying to build a private sector that help in the spread of wealth and improve the standards of living of the Saudi population. Some of these efforts include privatization campaigns, the

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> liberalization of sectors such as tourisms and the financial markets, and building a Saudi stock market. Some of these efforts are not without problems. For example, the Saudi stock market reached all time high at the end of 2005 only to face a 40% correction in early 2006—causing many in the middle-class to lose their money and demand for further control by the government over the capital market.

These challenges are not new and are not mutually exclusive to Saudi Arabia. In fact, most of the Middle East and for that matter most of the developing world is struggling with the same challenges. The strategic importance of the Kingdom, however, amplifies these challenges.

During the past several years, Saudi Arabia has started to deal with these challenges. The accession of King Abdullah to the thrown in August 2005 settled one key uncertainty that western scholars have argued about for several years: the succession process in Saudi Arabia. The peaceful succession has shown the economic, social, and security risk in the Kingdom far outweigh political reforms.

Terrorism and Counterterrorism

Al-Qa'ida is scarcely the first internal threat that Saudi Arabia has faced. The Saudi monarchy has had to deal with a long series of internal challenges from Islamic extremists since the time of the Ikhwan in the 1920s, as well as from secular movements supported by other Arab states. These struggles were particularly serious during the peak of Nasserism and Pan Arabism in the 1950s, and the first major Islamic backlash from oil wealth and modernization in the late 1970s.

These internal security challenges decreased during the period during 1980-1990 (following the Grand Mosque takeover in 1979 until the Gulf War in 1990), largely because of the Kingdom's oil wealth, rapid growth, and a focus on internal development. They became a resurgent problem after the Gulf War because of the rise of new extremist movements hostile to any US or Western military presence on Saudi soil. After the mid-1990s, the Saudi government increasingly came under direct and indirect attacks by such Islamic extremist groups. As a result, the Saudi government slowly strengthened its internal security and counterterrorist programs. It also cooperated with the US in a number of investigations including al-Khobar Towers, the attack on the Saudi National Guard Headquarters, and the attack on the USS Cole.

Saudi Internal Security Before "9/11"

The Saudi reaction to Islamic extremist or "deviant" threats was relatively limited, however, until the events of "9/11." The senior leadership quietly put pressure on the Ulema. It arrested a wide range of extremists, and publicly condemned terrorism. It exploited the fact that the Saudi clergy is funded by the government and that there are no Madrassas in the Kingdom that provide religious education separate from the state educational system.

The Saudi Ministry of Islamic Affairs (MOIA) was first organized for the purpose of religious administration, but it has always had an internal security element as well. It has been used to provide both carrots and sticks for internal security purposes. In fact, MOIA was created after the Gulf War, when it became apparent that many hard-line Islamists opposed any Western presence on Saudi soil, and was slowly stepped up in the 1990s when Islamic extremists became more active.

The Ministry of Interior and the General Intelligence Presidency took steps to strengthen their counterterrorist and security operations. They arrested extremists within the Kingdom, and continued to monitor the activities of outside-based opposition and pressure foreign

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governments. After Osama Bin Laden emerged as an open opponent of the monarchy in the mid 1990's, Saudi intelligence stepped up its fight against these extremists. The security services increased their monitoring of the activities of hard-line Saudi opposition groups overseas that attacked the government, exploiting divisions in their ranks, co-opting or bribing elements within them, and putting pressure on foreign governments to end their activities.

Saudi security did not focus on Al-Qa'ida and bin Laden alone. It dealt with two main groups that threatened the internal security in the Kingdom. First, Sunni extremists led by the Egyptian Islamic Jihad, its affiliated groups, and what is left of the Muslim Brotherhood. Second, Shiites groups, supported by Iran, that were angry at the perceived mistreatment of their fellow Shiites in the Eastern province, but they also resented the fact that the Mecca and Medina are under Sunni control.

The disagreement with the presence of US forces on Saudi soil was only that—a disagreement. However, it was taken a step further on November 13, 1995 when the American mission to train the Saudi National Guard was bombed leaving 6 dead and 60 injured. Then on June 25, 1996, a truck bomb ripped Al-Khobar towers, where US military personnel were staying, killing 19 and injuring 500.

Saudi Response to "9/11"

On one level, the events of 9/11 served as a wake up call to the Saudi government. On another, Saudi society and some officials reacted by going into a state of denial. The royal family, most of the Ulema, and business leaders in Saudi Arabia condemned the attacks on September 11th. Saudis, like everyone in the world, were horrified, and it was brought home by the fact that there were many Saudis on those planes, and that Bin Laden himself was a Saudi.

The Saudi government issued a statement condemning the "regrettable and inhuman bombings and attacks…" that "contravene all religious values and human civilized concepts; and extended sincere condolences to the families of the victims, to U.S. President George W. Bush and to the U.S. people in general." The Saudi statement reiterated the Kingdom's position condemning all forms of terrorism, and its ongoing cooperation with the international community to combat it. Many senior members of the royal family also issue their own statements condemning the attacks. For example, the Minister of Foreign Affairs, Prince Saud Al-Faisal, argued during the Islamic Conference meeting, on October 11th, that terrorism harmed the Islamic world, impairs just Islamic causes, and cited that terrorism and violence never advanced the Palestinian cause.

Senior Saudi religious and legal figures condemned the attacks with equal speed. Sheikh Abdul Aziz Al-Sheikh, the Grand Mufti of Saudi Arabia and Chairman of the Senior Council of Ulema stated on September 15th, "The recent developments in the United States constitute a form of injustice that is not tolerated by Islam, which views them as gross crimes and sinful acts." In addition, the Chairman of the Supreme Judicial Council, Sheikh Salih Al-Luheidan, stated on September 14th "as a human community we must be vigilant and careful to oppose these pernicious and shameless evils, which are not justified by any sane logic, nor by the religion of Islam." Since that time, leading Saudi officials and clerics have repeatedly condemned the attack on the World Trade Center and the Pentagon, and other terrorist activities.[99]

Yet, a considerable portion of the Saudi public remained in denial. They either did not accept the fact that so many Saudis were involved in the "9/11" atrocities, or they found conspiracy theories to put the causes and blame outside Saudi Arabia. They became preoccupied with trying

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to counter charges in the Western media about their "sect of Islam," their society, and their schools that led young Saudis to become extremists without objectively examining what was actually happening. The government was less worried about internal terrorism than external threats. Their focus was mainly political and diplomatic and little was done to boost internal security. This attitude change a year and a half later—when the first major terrorist on Saudi soil attack occurred.

While the priority for Saudi internal security activity changed after the attacks on the World Trade Center and the Pentagon on September 11, 2001, the Saudi government initially did more to try to improve relations with the US, deal with terrorism outside the Kingdom, and counter the damage to its image than it did to strengthen the operations of the Saudi security apparatus.

What Saudi Arabia was still slow to understand, until major terrorist attacks began to occur in the Kingdom in May 2003, was that Saudi Arabia faced truly serious internal security issues as well as the need to deal with terrorism inside the country. The apparent lack of a significant number of cells and the comparatively low levels of activity in Saudi Arabia led the Kingdom to focus on such terrorism largely in terms of external, rather than internal, threats.

Saudi intelligence and security services paid too little attention to the growing and highly visible ties between hard-line Pakistani extremists in the Pakistani ISI and religious schools, and the impact of Saudi-financed activities in Pakistan and Central Asia and the number of young Saudi men associated with Osama Bin Laden and Al-Qa'ida. Discussions with Saudi officials indicate that they had surprisingly little understanding of the difference between legitimate Islamic organizations in Central Asia, China, and the Far East and highly political action groups that used Islam as an ideological weep.

They paid too little attention to the fact that such groups were committed to the violent overthrow of governments in their region, which strongly opposed both modernization and reform, and which were broadly anti-Western in character. They also failed to monitor Islamist extremist "missionary" and charity groups operating in Europe. Even though such extremist groups, particularly the neo-Salafi ones, showed little of the pragmatic tolerance and moderation common to mainstream Wahhabi practices in the Kingdom, they often took on an extremist character particularly in the United Kingdom and Germany.

The Saudi security services failed to fully appreciate the threat posed by the flow of Saudi money to Palestinian groups like Hamas, and Palestinian Islamic Jihad, and other hard-line or violent Islamic elements in countries like Egypt, and failed to detect a significant flow of arms, explosives, and terrorist supplies into Saudi Arabia from neighboring countries like Yemen.

The Saudi government was slow to understand the fact that so many young Saudis were directly involved in "9/11," as well as in the overall membership of Osama Bin Laden's Al-Qa'ida, reflected the fact that Saudi security efforts had failed to come firmly to grips with its Islamic extremists at many levels.

One key problem was that the Saudi intelligence community relied too much on human contacts and informers and signals intelligence, rather than active counterterrorism efforts in the field. It also remained weak in dealing with the financial aspects of intelligence and internal security, which helps explain why it failed to properly monitor of the flow of money to Saudi charities, religious organizations, and individuals in financing extremist groups – other than those that posed a direct threat to the rule of the Saudi royal family.

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In fairness, such monitoring is not easy. Saudi banking rules are relatively strict in terms of tracking and identifying individual accounts, but little effort was made before September 11th to track the flow of money inside or outside the country to extremist causes and factions. It should be noted however, that Saudi organizations and individuals have hundreds of billions of dollars of privately held money in Western and other foreign banks. Effective surveillance of such holdings is difficult, if not impossible.

The problem is further compounded by easy access to the financial institutions of other GCC countries, like the UAE. Many Gulf countries have financial institutions that make cash transfers extremely easy, which tolerate high levels of money laundering, smuggling, and narco-trafficking, and which have often been far more careless in allowing the flow of money to extremist causes than Saudi Arabia has. The leaders and citizens of countries like Kuwait and the UAE have also been as careless in their donations to "charities" as Saudis.

The Impact of May 2003

As was the case in the US before September 2001, it was not until the threat of terrorism truly came home to Saudi Arabia that the Kingdom fully understood the seriousness of the threat and the nature of the challenges it faced. As the chronology below– which is largely adapted from work by the National Council on US-Arab Relations – shows, Saudi Arabia should have seen what was coming. Nevertheless, it failed to do so until terrorists carried out a brutal attack on several housing compounds in Riyadh on May 12, 2003.

The attackers carried out four suicide bombings on compounds housing many Western residents. The bombing resulted in 34 dead, including 7 Americans and 7 Saudis, plus 200 wounded. From that point onwards, Saudi Arabia found itself fighting a repeated series of terrorist attacks on its own soil, and having to deal with more terrorist cells with far larger stocks of arms and explosives than it had previously estimated. The Saudi government also found that it was dealing with serious infiltration problems, particularly across the Yemeni border.[100]

This time, the Saudi authorities took the challenge seriously, and implemented many steps to fix their internal security apparatus, reform parts of their educational system, and develop a system of tracking and regulating charities.

Saudi Counterterrorism Efforts since May 2003

Since May 12, 2003, attacks in Saudi Arabia by the terrorist organization have caused the death of 144 Saudi nationals and foreign residents and 120 militants.[101] Saudi officials have argued that the attacks that have occurred account for only a fraction of the attempted attacks inside the Kingdom. For example, the Saudi Foreign Minister, Prince Saud Al-Faisal, claimed that the Saudi security forces have prevented 52 terror attacks in the country since the May 2003 attacks. Al-Faisal also added that the Saudi counterterrorism forces killed 120 terrorists and arrested more than 800 suspects between May 12, 2003 and January 2006.[102]

The attempted attack on Abqaiq oil facilities in the Eastern province in February 2006 was the first major terrorist assault in the Kingdom since December 29, 2004—more than a year before, which is seen by many as evidence to the fact that Saudi counterterrorism efforts have been steadily improving. Others see the delay as al-Qa'ida waiting for more "spectacular" targets. Like all security efforts, the Saudi counterterrorism forces have made improvements in many

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areas. But the enemy is adapting their tactics and so must the Saudis adapt the strategy against them.

Saudi Arabia issued two most-wanted lists. In December 2003, it published a list of 26 wanted terrorists, of which the Kingdom killed or captured all but one. The second list was issued in June 2005 of 36 wanted terrorists. The al-Qa'ida statement following the attempted attack against Abqaiq in February 2006 identified the attackers as Mohammed Saleh al-Ghaith and Abdullah Abdulaziz al-Tweijri. This was subsequently confirmed by DNA tests by the Saudi authorities.

While most-wanted lists are hardly the best metric for measuring counterterrorism strategy success, the Saudi security forces have been successful at both identifying dangerous elements of al-Qa'ida and killing or capturing them. According to the Ministry of Interior spokesman, Mansour Al-Turki, there were only two terror suspects at large from the second most-wanted list that was released June 2005 of known suspected terrorists believed to have been in the Kingdom, which implies that the rest (20) have either fled the Kingdom or that they have been capture or killed by the Kingdom.[103]

While "al-Qa'ida in the Arab Peninsula" may well be on the defensive, the asymmetric and terrorist threat to the Kingdom is certainly not over. The al-Qa'ida statement that claimed responsibility for the attack against Abqaiq also threatened more attacks against other Saudi oil facilities. On Monday February 27, 2006, Saudi security forces shot five militants and arrested one in a shootout with members of al-Qa'ida who were suspected of being involved in the Abqaiq attack.

Western counterterrorism officials claim that the Kingdom's strategy against al-Qa'ida has been effective, and many counterterrorism experts believe that the Saudi efforts deserve recognition. For examples, the Spanish Counterterrorism Prosecutor, Baltasar Garzon, said of the Kingdom's strategy: "The Saudi anti-terrorism program is the best in the world right now." Jean Louis Bruggiere, the French Counterterrorism official also said that "I must say, it appears to be impressive what [the Saudis are] doing--yes."[104]

Saudi officials have expressed hope and confidence about their strategy against terrorism. They have also shown realism about the nature of threat and the fact that they may face it for many years to come. In November 2005, Crown Prince Sultan bin Abdulaziz al-Saud was quoted as saying "Can we wipe out (terrorism) 100 percent? No, but I confirm to you that with the vigilance of security forces, intelligence agents and especially the Saudi people we might be able to end terrorism, God willing, within the next two years in the Kingdom of Saudi Arabia….But (to end it) completely with all its meanings, no one in the world can prevent deviants." [105]

Some experts have argued that given the failure of al-Qa'ida to destabilize Saudi Arabia, they may turn their attention to "softer targets," not necessarily in the Kingdom, but against oil installations of neighboring Gulf States. As upcoming chapters will show, it is unclear if the Gulf countries' internal security and intelligence capabilities can withstand the type of assaults and intensity level that the Kingdom has experienced since May 2003.

al-Qa'ida's in Saudi Arabia

The al-Qa'ida Organization in Saudi Arabia has doe some damage to the Kingdom's economy and has killed many innocent people. It has scored a kind of victory in that it has forced the

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government to make massive expenditures on internal security, and has created a general climate of insecurity in the Kingdom.

This has had little impact on the day-to-day life of ordinary Saudis. It has, however, made many foreign workers leave, has forced foreign diplomats and businessmen to spend much of their time in secure compounds, and has reduced foreign investment. Almost inevitably, the end result has also fueled exaggerated fears about the Kingdom's internal instability. While the al-Qa'ida attacks have brought Saudi and US officials together in cooperating in counterterrorism measures in the many areas, the resulting fears have helped to widen the distance between ordinary Saudis and Americans created by 9-11.

Nevertheless, al-Qa'ida has been ineffective in achieving its main goals for a number of reasons. First, it was unsuccessful in its recruitment efforts; second; it failed to articulate a viable alternative to the existing government; and third, it lacked funding and was forced to channel resources into the one existing cell—thus unable to establish other independent cells. Sir Sherard Cowper-Coles, the British ambassador to Saudi Arabia, was quoted as saying that "the good news is they've conducted a really pretty effective counterterrorist campaign. They've disrupted the al-Qa'ida network here. They've taken it down, and the terrorists are on the back foot."[106]

Despite the popular notion of al-Qa'ida as a hydra that can constantly grow new heads, there are indications that that the organization has not been able to recover from government attacks. At its peak, Saudi al-Qa'ida claimed between 500-600 members scattered among the cells. Of these, roughly 250 were diehards. By the end of 2004, between 400-500 militants had been captured or killed, including all of the leaders--this is in addition to the thousands of sympathizers who were arrested and interrogated, most of whom have been freed.

Al-Qa'ida underestimated the efficacy of Saudi intelligence and security forces, and their ability to adapt to new types of threat and attack. While ordinary police were not equipped to deal with new threat, Saudi intelligence was able to accurately identify those militants who comprised the original 26 most wanted list as leaders of al-Qa'ida relatively quickly and the security services were able to hunt many down and disrupt most of the cells they headed.

Most importantly, the organization could not win popular support. While it was able to exploit popular feeling and anger on some issues such as the Arab-Israeli issue, it could not win significant support for its actual activities from either Saudi people or the Saudi clergy. Above all, its emphasis on violence failed to resonate with the people. Saudis were shocked by the initial attacks, and those that targeted Muslims and Arabs further alienated and diminished support for the organization.

Nevertheless, Saudi Arabia is at a critical juncture in its fight against terrorism. The threat is unlikely to disappear for years to come. Al-Qa'ida can draw on Saudis in Afghanistan, Pakistan, Yemen, and Central Asia, as well as other members of al-Qa'ida who may be able to enter Saudi Arabia. The Iraqi and Yemeni borders present serious problems in terms of infiltration,

Saudi Arabia has hundreds of miles of porous border. In the last year, Saudi border guards have detained nearly a million people attempting to gain illegal entry into the Kingdom and seized more than 10 tons of drugs and 2,000 weapons. Some 30,000 men were detained in the Yemeni border area in July 2004 alone. In all, nineteen thousand smuggling attempts were foiled and 8,000 smugglers arrested.[107]

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The Yemeni border is particularly hard to secure. Much of it is in mountain areas or open desert that is very difficult to secure. Some tribes exist across the border and some towns straddle it without any barriers. Smuggling not only is a way of life, it is sometimes the key economic activity, Saudi security officers speculate that much of the more than 1.3 tons of explosives used in the attacks on the Ministry of Interior in late December 2004 came from across the Yemeni border,

As has been touched upon earlier, the Iraq war has also posed new security challenges for Saudi Arabia, and while relatively few Saudi young men who have joined the Sunni insurgent groups in Iraq are not clearly tied to recruitment by Al-Qa'ida, most have been recruited by Islamist extremists.

Saudi Petroleum Security Apparatus

The Kingdom has taken precautions in securing pipelines, oil fields, and other energy terminals. As note earlier, the Saudi security budget for 2005 was $10 billion, including $1.5 billion on energy security (in 2004, the total security budget was estimated to be $8 billion, including $1.2 billion for energy security). Surveillance from helicopters and F15 patrols operate around the clock, as do heavily equipped National Guard battalions on the perimeter.[108] Oil fields and processing plants, however, are large area targets and redundant facilities ensure that an attack on one would not cause a serious disruption in the entire production system.

At any given time, there are an estimated 25,000 to 30,000 troops protecting the Kingdom's infrastructure. Each terminal and platform has its own specialized security unit, comprised of 5,000 Saudi Aramco security forces, and an unknown number of specialized units of the National Guard and Ministry of Interior. The Coast Guard and components of the Navy protect the installations from the sea.[109]

Ministry of Interior security units guarding Saudi energy infrastructure include: representatives from the Special Security Forces, Special Emergency Forces, the General Security Service (domestic intelligence), regular forces of the Public Security Administration (police and fire fighters), the Petroleum Installation Security Force (PISF), and specialized brigades of the Saudi Arabian National Guard (SANG), Saudi Royal Navy, and the Coast Guard.

Saudi Aramco also has built advanced communication centers to manage emergency and supply disruptions in its pipelines and processing hubs. For example, in November 2002, Aramco inaugurated a new Abqaiq Area Emergency Control Center (ECC). According to Aramco, the ECC houses 14 workstations, which control radio and telephone communication systems as well as link this to the Shaybah field, export stations, and pipeline control hubs.[110]

Asymmetric Threat to Energy Security

Terrorists present a new kind of threat in terms of their willingness to suddenly change strategies and tactics to attack energy facilities. This threat not only presents a threat to the physical security of key oil facilities, but it also adds to the "security premium" in the global oil market.

Until recently, extremist groups had generally avoided energy targets, or had not made them critical priorities. This changed dramatically when the insurgency became serious in Iraq; since then, key al-Qa'ida leaders such as Bin Laden have threatened attacks on oil facilities. In a tape that was posted on an extremist website, Bin Laden asserted that, "Targeting America in Iraq in

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terms of economy and loss of life is a golden and unique opportunity... Be active and prevent them from reaching the oil, and mount your operations accordingly, particularly in Iraq and the Gulf."[111] Bin Laden's deputy, Ayman Al-Zawahiri, also urged similar attacks. On December 7, 2005, a statement attributed to Al-Zawahiri called on the "mujahideen to concentrate their attacks on Muslims' stolen oil, from which most of the revenues go to the enemies of Islam while most of what they leave is seized by the thieves who rule our countries."[112]

Abu Muzab Al-Zarqawi, the leader of al-Qa'ida in Iraq, made similar statements urging attacks against energy facilities in the Gulf and Iraq. Insurgents in Iraq have made oil facilities one of their targets. The Institute for the Analysis of Global Security estimates that there have been 299 attacks on Iraqi oil infrastructure and personnel between June 2003 and February 12, 2006.[113] These attacks continue to constitute a threat and some of them have caused a complete shutdown of oil exports from Iraq.

Rebel groups in Nigeria have also attacked energy installations and disrupted oil exports. Four days before the attack on Abqaiq, the Movement for the Emancipation of the Niger Delta (MEND) claimed responsibility for attacking an oil facility and a naval vessel, and for kidnapping oil workers. This caused Shell to shut its operations and production of a fifth of Nigerian oil output, approximately 0.45 million barrels a day. Interestingly, rebel leaders used rhetoric similar to that of al-Qa'ida. MEND claimed that they were fighting a "total war" to control the oil wealth of the Niger Delta.[114]

Attempts against Saudi oil facilities continue to worry the global energy market and the Saudi leadership. Following a siege and a raid against extremists in Dammam, Saudi security forces discovered more than 60 hand grenades and pipe bombs, pistols, machine guns, RPGs, two barrels full of explosives, and video equipment. The Saudi Minister of Interior, Prince Nayef al-Saud, was quoted as saying that the al-Qa'ida cell had planned to attack Saudi oil and gas infrastructure, but Prince Nayef added, "There isn't a place that they could reach that they didn't think about," and insisted that al-Qa'ida's ultimate goal has been to cripple the global economy.[115]

Shortly after the attacks against Abqaiq, al-Qa'ida claimed responsibility. In a statement posted on its website, al-Qa'ida in the Arab Peninsula said that the attack was "part of a series of operations that al-Qa'ida is carrying out against the crusaders and the Jews to stop their plundering of Muslim wealth." Al-Qa'ida dubbed the attack "Operation Bin Laden Conquest," and claimed that the attackers managed to storm the compound.[116]

U.S. and Saudi officials, however, confirmed that the attackers were stopped from entering the compound and praised the Saudi security forces for foiling the attack. The U.S. ambassador in Riyadh James C. Oberwetter said in a statement that, "The Saudi government and Saudi Aramco deserve considerable credit for what they have done in recent years to enhance the security of oil facilities throughout the kingdom…I know firsthand the robust security systems that are in place there. When they were needed, those systems worked, and the facility at Abqaiq was fully protected."[117]

Assessing the Saudi Security Forces Performance at Abqaiq

While early reports are often unreliable, the Saudi counterterrorism and petroleum security forces seem to have largely contained the attack against the facilities at Abqaiq and minimized

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the damage. Tactically, the operation and the Saudi response had a number of characteristics and lessons:

- Two suicide bombers tried to drive two cars packed with explosives into the Abqaiq compound on Friday February 24, 2006 at 3:10 pm Saudi time. The time is significant given that most of al-Qa'ida attacks in the Kingdom have happened during the night to keep an element of surprise, prevent detection, and delay the response by Saudi forces.

- The tactic of using vehicle-borne suicide bombers is also significant. It has certainly been used by al-Qa'ida in the past to attack targets in the Kingdom. For example, the attack against three compounds on May 12, 2003 demonstrated similar tactics. The attackers used four cars that were packed with explosives and had heavy assault rifles. After spraying gunfire and killing the guards at the gates, they drove an explosive rigged car inside the compound where it was detonated.

- In the case of Abqaiq, the facility was far more protected than the residential compounds in Riyadh were. Abqaiq reportedly had at least three layers of security. The goal of such frontal assaults is to weaken the first layer of defenses, penetrate it, and get closer to the center of the area. The Saudi security forces engaged the two approaching cars when they approached the first gate. The first car, reportedly, slammed into the gates, exploding, and injuring the guards, who eventually died in the hospital.

- The second car used the hole in the fence to enter the compound. It was then engaged by Saudi forces at the second tier of the security perimeter, approximately 1.0 mile away from the closest facility. This was probably done through firing directly at the cars with large caliber machine guns mounted on the armored personal carriers of the Saudi Arabian National Guard (SANG) unit at the gate or by an elite counterterrorism squad from the Special Emergency Forces. The explosives in the cars detonated and caused damage to facilities near the gate, but the damage was largely outside and impacted only pumping and processing stations at an adjacent the pipeline. This may have been prevented by strengthening the first layer of the security perimeter to prevent the breach, but Abqaiq covers approximately 1.0 square mile. This would have meant that the second layer of security was very close to the first and that even the first perimeter was breached, the damage to the facility would be limited given the distance from the center of Abqaiq.

- Press reports have claimed that the attackers wore Saudi Aramco uniforms and used cars painted in the company's colors. This does not, however, imply that the cars were actually those of Aramco. Al-Qa'ida previously used cars in attacks similar in appearance to those used by Saudi internal security forces. Subsequent investigations have shown that the cars were painted by the terrorists in order to breach security checkpoints.

- The terrorists were killed before they could get out of the cars and cause further damage. It is unclear if the Saudi security forces directly killed the assailants or the explosions of the cars actually killed them. Regardless, the important fact is that the attackers were stopped from using automatic weapons, grenades, or suicide belts to kill workers or attack facilities inside the compounds. While such assaults may have little lasting damage to the facilities it could have caused far more to the "security premium" in the global oil market than a $2 per barrel jump in the oil price, if the attackers were successful at breaching the security at Abqaiq.

- The attempted attack most likely happened after surveillance by the attackers. One of the hallmarks of al-Qa'ida is its surveillance capabilities. In addition, early reporting from the Kingdom indicated that the Saudi security forces were expecting an attack in the Eastern province, which may have come from Saudi counterintelligence monitoring of al-Qa'ida. Preparation, enhanced by warning, also explains the success of Saudi forces in foiling the attack.

- As noted earlier, most large attacks by al-Qa'ida took place during the night. The fact that the attack against Abqaiq happened on a Friday afternoon (the Muslim day of prayer) may signal that al-Qa'ida was changing tactics, but it also shows that the Saudi security forces were on alert, adapted to this shift, and responded accordingly.

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- Saudi Arabia issued two most-wanted lists. In December 2003, it published a list of 26 wanted terrorists, of which the Kingdom killed or captured all but one. The second list was issued in June 2005 of 15 wanted terrorists. The al-Qa'ida statement following the attempted attack against Abqaiq identified the attackers as Mohammed Saleh al-Ghaith and Abdullah Abdulaziz al-Tweijri. This was subsequently confirmed by DNA tests by the Saudi authorities. This shows that the Saudi authorities have been successful at both identifying the most dangerous elements of al-Qa'ida, and at tracking them, but it also shows that these two could have been far more dangerous if they were successful at storming the compound. In addition, while the success rate of capturing of killing those who are on the most wanted lists is impressive, the death of the two attackers at Abqaiq leaves six terrorists from both most-wanted-lists at large.

- According to the Saudi Ministry of Interior (MoI), the cars carried two tons of ammonium nitrate (one ton in each car) as well as unspecified quantities of high explosives including RDX, PITN, and Nitro Glycerin. These are large quantities of explosives were most likely smuggled into the Kingdom either through the Saudi-Yemeni (906 miles) or the Saudi-Iraqi (506 miles) border. This highlights the importance of border security. Saudi Arabia has spent billion of dollars on securing its border with Iraq and Yemen with thermal imaging, border guards, 20-foot tall berms, and barbed wires. These precautions, however, cannot stop every infiltrator. Cooperation between Saudi Arabia with the Iraqi and Yemeni authorities, however, can limit penetration of terrorists, explosives, and weapons.

- If the attackers were not stopped and managed to storm the gate, they could have reached major facilities and the damage may have been more severe. The extent of the damage is not yet fully known. The MoI claimed that the damage was "limited to a small fire which was brought under control." Other reports have claimed that the explosion set fire to a segment of the pipeline, but that it was easily restored and returned to operation shortly thereafter.

- Another equally important lesson is that while oil fields are large areas, they are hard targets and the damage from a car or a suicide bomb is limited to the vicinity of the attack, particularly given that there is much redundant infrastructure. While fires can be set in many areas of a working field, including at oil wells, fires do not produce critical or lasting damage. Unless wells are attacked with explosives deep enough in the wellhead to result in permanent damage to the well, most facilities can be repaired rapidly.

It is important, however, to distinguish between attacking the Abqaiq oil field and the Abqaiq facilities. The attackers did not reach the Abqaiq oil field, and were not successful at attacking key processing facilities. They were, however, successful at adding more uncertainty and risk to an already volatile global oil market.

It is equally important to note that the attack against Abqaiq should not be seen as a turning point in either Saudi stability or the global energy market. Rather, it is evidence that al-Qa'ida and other extremists groups will stop at nothing to disturb the global economy and international peace. It also signals that al-Qa'ida is changing tactics to attack an area that will garner most attention and inflict most damage on the Saudi leadership, the U.S., and the international community.

Some have claimed that the attack on Abqaiq was an act of "desperation" by al-Qa'ida, while others questioned the Saudi ability to protect its energy infrastructure. It is, however, all too clear that the Saudi counterterrorism strategy, intelligence, and internal security forces are getting progressively more effective. The Saudi response to the attempted attack against Abqaiq was a victory for the Saudi counterterrorism forces. They were successful in both limiting the damage and containing the impact of the attack.

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The Uncertain Future of Iraq

While no one can fully predict the future of Iraq or quantify the likelihood of each outcome, Saudi defense and strategic planners in must be prepared to deal with the followings set of scenarios for the future of Iraq:

- **Scenario 1: A stable Iraq that is friendly to its neighbors:** The hope is that Iraq emerges as a stable country with a representative government to all the Iraqi groups. In this case, Iraq can reestablish its places as a powerful member of the Arab League and becomes an asset in the region economically, politically, and militarily. Iraq could also regain its place as a balance to Iran or as an intermediary with Iran's Shiite leadership. At best, this can be an example for the region. This would be considered the "best" case scenario for the Saudi Arabia's national security.

- **Scenario 2: Stable Iraq with a conventional threat:** If Iraq emerges out of this conflict as a stable country with a moderate government; it still could present a threat if it builds its armed forces and present a conventional military threat to Saudi Arabia and the Gulf States. This could restart the arms races in the Gulf. Given the internal dynamics in the Kingdom, this can divert money from being spent on internal security, energy infrastructure modernization, and social programs. At best, Iraq can become a military power that balances the power of Iran. At worst, Iraq can become an aggression conventional military power that threatens its neighbors.

- **Scenario 3: Iraq-Iran Shiite block:** Iraq can also develop into a Shiite-Islamist dominated republic that is allied with Iran against its Sunni neighbors, and divide the Arab and Islamic world into Shiite vs. Sunni blocks. With Iran's nuclear ambitions, it may present a strategic threat that can have lasting instability in Bahrain, Saudi Arabia Jordan, and Kuwait. It can also have ramifications beyond the Gulf. This can pull Lebanon, Syria, and Pakistan into this split and the "clash within a civilization" may become a self-fulfilling prophecy. At best, this can develop into a low-intensity conflict in many of these countries. At worst, it could develop into a regional war with no certain outcome.

- **Scenario 4: Emboldened regional insurgency:** Insurgents in Iraq are of diverse groups, and assessment of their total strength and composition is unclear. Judging from recent attacks, they are becoming more emboldened and lethal. Groups such as that of Abu Musab al-Zarqawi have carried attacks in Jordan. Some of the attackers in Saudi Arabia have also been traced to Iraq. The attacks have been limited, but a prolonged insurgency--that expands its base of fighters and tactics--can spillover into neighboring states and threaten their stability. At best, this can create a class of the Iraq conflict's alumni that are integrated into their societies. At worst, these alumni can return to lead the same level of insurgency into their home countries.

- **Scenario 5: Disintegration in Iraq into mini states:** Attacks by Sunni groups against Shiites, Shiites revenge attacks, the allegation of torture by the Iraqi Ministry of Interior, Kurdish ambition of autonomy, and Iran's involvement with radical Shiite groups are some of the forces that are pulling Iraq's cohesion apart. If Shiites in the south or Kurds in the north do demand autonomy, it may become difficult to sustain the union and sovereignty of Iraq. This could draw Iran in to defend the Shiites, Saudi and Jordan to stand by the Sunnis, and Turkey to stop the creation of Kurdistan. At best, Iraq disintegrates into three states that are peaceful and not a threat to their neighbors. At worst, it could develop into a long civil war that draws Iraq's neighbors into the conflict.

The hope for Iraq, its neighbors, and the United States is that the first scenario best describes the future of Iraq. A stable Iraq that is able to overcome the insurgency, develops its economy, and become a vibrant member of the region can have lasting influence on the region. Iraq may develop into a stable democracy that can lead other Middle Eastern countries into developing representative governments and instill the sense of economic, political, and social reforms that are much needed in the region.

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This is, however, wishful thinking and more of a hope than a strategy that contingency plans must be based on. This is the type of best case scenario that rarely happens, and when it does, there is little that can be done. The same is true with worst-case scenarios; they are meaningless because there is little that can be done to prepare for them.

The level of uncertainty in the conflict, the lethal effectiveness of the insurgency, and the failure of Iraq's factions to truly unite is diminishing the possibility of this scenario from becoming a viable option in the near future. Neighboring states cannot base their defense, strategic, and diplomatic planning on a remote possibility with little consequence.

Iraq as a Conventional Military Threat to Its Neighbors?

If the government in Baghdad develops into a moderate and peaceful entity in peace with its neighbors, Iraq can return to its role as a balancing power to Iran without the threat of WMD's. Furthermore, the conventional threat can be deterred by strong Saudi-Jordanian-GCC relations and good Iraqi-neighboring countries relation.

The Iraqi security forces are becoming more effective, but they lack the heavy weaponry and the manpower that Iraq had during the Gulf War. It may take many years for Iraq to rebuild a conventional army that can threaten the neighboring states. It will take 5-10 years to train an Army that can reach beyond its borders, that can sustain a long war, and that has the command and control to be an effective fighting force. The armed forces of Jordan, Turkey, and Saudi Arabia are certainly capable to deterring a conventional threat from Iraq in the short to mid term.

Furthermore, high oil prices can give the Gulf States the ability to increase their defense spending, and build their military forces to deal with this threat. Iraq's civil needs are more and the Iraqi oil sector is far behind the developments needed to increase its oil export revenues for the government to afford high defense spending. If an arms race does occur, Iraq may have a hard time reestablishing important civil projects, especially in the energy and physical infrastructure that it will not have much spare money to spend on procurement and defense needs.

The last three scenarios are medium to worst-case scenarios that could have wider implications on the regional balance of power and on important strategic sectors such as energy. They raise many serious questions that have no obvious answers, but they deserve careful attentions. These questions are driving neighboring countries to be more vocal, anxious, and possibly active to at least preparing for those worst case-scenarios. Most of their planning and adjustments are just occurring, and it may take years before any meaningful analysis can take place of this change.

The Creation of a "Shiite Block" in the Gulf?

The first of these "worst-case" scenarios is a widening of the Shiite-Sunni sectarian divisions beyond Iraq and the creation of a new Shiite block between Iran, Iraq, and other Shiite dominated countries to alter the balance of power in the Middle East.

The Shiite-Sunni rift has been a major pillar in determining the balance of power in the region since the Shiite spilt from the Sunni Islam in 680 AD. Scholars of Islamic theology have often argued about the religious differences of the two sects. From a strategic and a security point of view, it is a question of demographics. As it has been all too clear in the case of Iraq, the sectarian compositions of countries determine alliances, influence the political dynamics of each country, and impact internal stability.

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It is worth noting that the majority of Shiites are not Arabs. Scholars differ on the reasons behind this, but the most often used is that early Persian converts to Islam felt marginalized for not being Arabs by the Umayyad Caliph, and that they found a hospitable environment in Shiite Islam for their hatred of the Umayyad. Regardless of the reason, the majority of Shiites are non Arabs and the majority of Arabs are Sunnis.

Globally, Shiites are roughly 15% of the total 1.2 billions world Muslims.[118] Shiites represent 89-90% of Iran's population, 60-65% of Iraqis, 60-70% of Bahrainis, 30% of Yemenis, 25-30% of Kuwaitis, 15% in the UAE, 10-15% of Saudis, and 12% of the total GCC native population.[119] The only two countries with majority Shiite population are Bahrain, Iraq, and Lebanon. The majority of Bahraini Shiites are seen as emigrants from Iran or Persians. Iraq and Lebanon are slightly different. The Shiites in those two countries are mixed between Arabs and Persian emigrants. It is also equally important to note that Iraq is the birthplace of Shiite Islam, more specifically the battle of Karbalah in 680 AD. Iran also became central in the history Shiite Islam through battles with the Sunni dominated Abbasid Empire and the Ottoman Turks.

This was especially true following the Iranian Revolution in 1979. The Islamic Republic of Iran under the leadership of Ayatollah Khomeini saw itself as the defender of Shiite Islam and attempted to spread its "Shiite revolution" to the rest of the Middle East, especially the Southern Gulf. Iran's declared goal was to remake the Gulf in its own image, and then spread their influence throughout the Middle East. This made Saudi Arabia, Iraq, and Kuwait the major players in limiting the Iranian influence in the Gulf.

Historically, the Iranian efforts to destabilize the Gulf can be summarized as follows:

- **Support violent proxy groups:** Iran has been a major supporter of Hezbollah, Hamas, and Islamic Jihad. They also supported indigenous groups such as Saudi Hezbollah. This group claimed responsibility for the bombing of Saudi petrochemical plants in 1988 and the assassination of Saudi diplomats in 1989. In addition, it has been accused of the al-Khobar Towers bombing in 1996 that killed 19 US personnel.

- **Delegitimize the governments of the Gulf:** The Iranian leadership made concerted efforts to convince the Muslim world that Saudi Arabia was not fit to control the Saudi holy lands of Mecca and Medina. In July 1987, Iranian pilgrims rioted in the Holy city of Mecca causing the death of 400 people. In addition, in 1989, two bombs exploded in Mecca in an apparent retaliation against the Saudi systems of quotas that restricted the number of Iranian pilgrims. One person was killed and sixteen were injured.[120]

- **Support Shiite minorities:** Following the revolution, the Shiite population in Saudi Arabia, Bahrain, and Kuwait, to mention a few, became more vocal in demanding equality. For example, in December 1979, Saudi Shiites rioted in the city of al-Qatif demanding a share of the oil revenues. These riots developed into violent clashes in which the Saudi National Guards were mobilized. Five people were killed in the clashes.[121] Iran has also supported Bahraini Shiite groups such as the Islamic Front for the Liberation of Bahrain (IFLB), based in Tehran. The IFLB is seen as being behind the attempts to topple the Bahraini government in 1982. The IFLB and other Shiite groups were accused of riots during the 1980s and 1990s that developed into violent clashes with the Bahraini security forces.[122]

These efforts were rebuffed by Arab efforts to curb the growth of the Iranian influence in the Middle East. This was in part what led to the Iran-Iraq War (1980-1988), the creation of the Gulf Cooperation Council, and the military build up of the Gulf States. While the Gulf was the center of the Iranian efforts, Lebanon and Syria were also influenced by Iran through the support of proxy groups. For example, the Iranian Revolutionary Guard established Hezbollah in 1982 in Lebanon, which was seen as part of the Iranian efforts export the "Shiite Revolution."[123]

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The Iranian efforts to export the "Shiite Revolution," however, largely subsided following the death of Ayatollah Khomeini and the end of the Iran-Iraq War in 1988. During the 1990s, Iran reestablished diplomatic relations with other Gulf countries, generally restrained from supporting violence (with the exception of their alleged involvement in the 1996 al-Khobar bombing), and settled many of it border disputes with its neighbors. This was also due to the fact that the military threat to Iran from Iraq largely disappeared following the end of the Gulf War in 1991. Iraq was largely contained in the Southern and Northern No-fly Zones, the sanction regime was containing Saddam Hussein, and that Saudi Arabia and Kuwait stopped supporting Iraq militarily and financially.

Saudi views on Iran's Role in Iraq's Internal Affairs

The main anxiety of Iraq's neighbors in recent months has centered on Iran's influence in internal and the disenfranchisement of Iraqi Sunnis. There fear centers on a shift in the balance of power in the region. In the words of Hassan Barai, a Jordanian analyst, "the Shiite majority in Iraq constitutes a Trojan horse to carry Iranian influence across the region."[124]

As noted earlier, an important pillar in the balance of power in the region has been the Sunni-Shiite divide. The Arab countries fought a war to stop Iran from gaining strong influence in the Gulf. Saudi Arabia led the fight to contain the "Shiite revolution" from spreading into the Gulf. The topping of Saddam Hussein did not only remove another major deterrent to Iranian's influence, but it may have given Iran more support to expand its influence and shift the balance of power in the region. Iraq will become the first major Arab country that is ruled by Shiites.

The first regional leader to articulate Iraq's neighbors concerns was King Abdullah II of Jordan In December 2004 that there is a "Shiite Crescent" forming between Iran and Iraq and could extend to include Syria and Lebanon, and that Iran is working for a Shiite dominated "Islamic republic in Iraq." The King has also said that Iran's Revolutionary Guards were helping the militant groups fighting the US in Iraq. He was quoted as saying:[125]

> It is in Iran's vested interest to have an Islamic republic of Iraq.
>
> If Iraq goes Islamic republic, then, yes, we've opened ourselves to a whole set of new problems that will not be limited to the borders of Iraq. I'm looking at the glass half-full, and let's hope that's not the case. But strategic planners around the world have got to be aware that is a possibility.
>
> Even Saudi Arabia is not immune from this. It would be a major problem. And then that would propel the possibility of a Shiite-Sunni conflict even more, as you're taking it out of the borders of Iraq.

Saudi Arabia has always made its position clear of preserving Iraq's sovereignty. The Kingdom, however, has not been openly critical of the US policy in the post-war Iraq, at least not at the Foreign Minister level, but this changed. The Saudis expressed their concerns about Iran's role in a Shiite dominated Iraq when Prince Saud al-Faisal said, "We fought a war (the Gulf War) together to keep Iran out of Iraq after Iraq was driven out of Kuwait. Now we are handing the whole country over to Iran without reason."[126]

Iraqi Shiites also objected to Prince Saudi al-Faisal's comments and accused the Kingdom if interfering in Iraq's internal affairs. On October 2, 2005, Iraq's interior minister and a member of the Supreme Council for the Islamic Revolution in Iraq, Bayan Jabr, said that Iraqis are not going to wait for a "bedouin riding a camel" to tell them how to rule themselves. He also went on to say that the Kingdom should fix its own internal sectarian problems. "There are problems within the kingdom of Saudi Arabia ... there are more than four million Shiites in the kingdom who are

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considered as third-class citizens," Jabr added.[127] Bayan Jabr later retracted his statements by saying that his comments were taken out of context.

Much of the analysis has focused on how the Iraq War has strengthened the aspiration of Saudi Shiites. This is only part of the issue. While Saudi Shiites have historically objected to government actions curtailing their religious freedom, the national dialogue started by King Abdullah has worked in making Shiite part of his efforts to bolster National Dialogue and many Shiite leaders have expressed their satisfaction of the efforts by King Abdullah for more inclusive Saudi society. While Saudi Shiites have always that they deserve more rights in the Kingdom, since the early 1990s, they have expressed their demand in a peaceful way. According to the Crisis Group, "While sectarian tensions arguably are higher than at any time since 1979, there appears little risk today of violent sectarian confrontation, but that is no reason for complacency."[128]

Most experts believe that Saudi Shiites feel Saudi first and Shiite second, so while the Kingdom cannot afford to be complacent about the role of Shiite in their society, there concern is hardly focused on internal issues. It is, however, concerned with the larger balance of power in the Gulf. The Saudi leadership has focused it concern with the shifting dynamics of Iraqi internal politics and the role Iran plays in it. The Saudi foreign minister also added that "Iraqis are complaining of interference by Iran. If there is indeed such interference, especially in provinces neighboring Iran, that would be quite serious." These comments prompted the Iranian Foreign Minister, Manouchehr Mottaki, to cancel a planned visit to the Kingdom on October 5, 2005. In addition, the Iranian foreign ministry spokesman responded by saying "The Islamic Republic of Iran does not expect such remarks from its friends at such a sensitive time in the region and considers them surprising and irrational."[129]

Saudi Arabia and Iraq's other Sunni neighbors were less concerned with the interim government of Iyad Allawi. Prime Minister Allawi has distanced himself from Iran and he has been seen as secular nationalist, who would not tolerate Iranian influence. To many experts, this is not the case of the government of Prime Minister Ibrahim al-Jaafari, who is seen as closely allied with the Iranian regime. Ibrahim al-Jaafari is the head of the pro-Tehran Islamic Dawa Party, who spent two decades in exile, mainly in Iran. During the 1980s, the Dawa Party was accused of cross-border suicide attacks in Baghdad. It has also been reported that, Ibrahim al-Jaafari was behind an assassination attempt against the emir of Kuwait. Prime Minister al-Jaafari has denied any involvement.[130]

In spite of these serious allegations, the al-Jaafari's government is not the problem in itself, but regional powers are concerned with the trend in Iraqi politics. Religious Shiites are becoming more prominent in Iraqi politics, and regional powers are concerned with another Shiite theocracy in an Arab country. A Saudi official was quoted as saying "The constitution will given Iranians or pro-Iranian Iraqis an open hand in seven provinces in the south, to bring them together into an autonomy which will create a Shiite republic... There are Iraqis who see the Iranians as their leaders."[131]

Iraqi Shiites, however, have expressed concerns over how other Arabs have treated them as Shiites first and Iraqi second. Iraqi Shiites argue that they are not following Iran, that they are proud of their Arabism, and that they are Iraqi first and Shiites second. They have complained about the silence Sunni leaders in the Arab world treated attacks against the Shiites and have accused Iraqi Shiites as having their main loyalty to Iran and not to Iraq's future. Bayan Jabr was

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quoted as asking "Why do the Arabs not embrace us and open the doors for us instead of circulating these rumors?" [132]

Regional Insurgency: The Potential Spillover Effect

Another worst-case scenario is if the Iraq insurgency spills over into neighboring states. This depends largely on knowing the true current nature of insurgency and potential developments in its strength and composition. The likelihood of this scenario also depends on the motivation of insurgents, their capabilities of carrying attacks outside Iraq, and the neighboring states ability to stop the spillover. In addition to the threat from the Iraqi insurgency, there is also the radicalization of the region's youth to join the fight in Iraq or become easy recruits for transnational terrorist organizations such as al-Qa'ida.

The main strategic implication to Saudi Arabia is the threat to its internal stability. The impact on internal stability can either occur from: a strengthened Iraqis insurgency that takes its fights to other Middle Eastern countries, an increase in recruits for existing terrorist organization, or a combination of both can increase the terrorist threat by many folds.

As noted earlier, Saudi Arabia has been dealing with al-Qa'ida since the attacks of May 2003. Their internal security apparatuses have been adapting to this change in the nature of threat, but the uncertainty surrounding the Iraqi insurgency compounds this problem.

There have been many studies on the composition, strength, and effectiveness of the Iraqi insurgency. No one fully knows the exact strength, the composition, or the affiliation of each insurgent group. There is, however, a general categorization that describes the overall nature of the insurgency. On the Sunni side, there are Iraqi Sunni nationalists, former Baath party elements, foreign volunteers, and al-Qa'ida and its affiliated groups in Iraq. There are also Kurdish and Shiite militias that at times have played minor parts in the insurgency.[133]

While all of the Iraqi insurgency is a threat in its own, the most urgent threat for Saudi Arabia are the foreign fighters, especially those who came from Saudi Arabia.

The Threat from Foreign Fighters

While the exact strength of foreign fighters is a debatable topic, their lethality is not disputed. They are committed to violence, they are well trained, and they have shown their danger through their tactics. As the Major General Rick Lynch, a spokesman for the Multi-National Forces-Iraq said that "….the foreign fighter element tends to be the most ruthless. They're the ones that are willing to participate in horrendous acts of violence against innocent civilians. So even though the number of foreign fighters may indeed be small, their impact is very, very large."[134] Lynch also added that while the Iraqi nationalists were behind the improvised explosive devices (IED), 96% of suicide bombers are foreign volunteers.[135]

Estimates on the number of foreign fighters in Iraq range widely is the subject of much debate in the US, Iraq, and the neighboring states. Bayan Jabr, the Iraqi minister of interior, said in an interview with *Asharq Alawsat* that "The number of Arab terrorists was between 2,500 and 3,000 three months ago (in August 2005), but they are no more than 900 now (October 2005)." According to Bayan Jabr, the numbers declined because some fighters were killed while others decided to go home.[136] This number largely tracks with estimates done by Nawaf Obaid in September 2005. "The Saudi National Security Assessment Project has made its own estimate, and concludes there are approximately 3,000 foreign fighters in Iraq."[137] This also tracks closely

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with other US estimates, which put the fraction of foreign fighters at 4-10% of insurgents in Iraq, which are estimated to be 30,000.

Another important area of debate is the composition and the national origin of these foreign volunteers. There are at least five different estimates of the breakdown of the foreign fighters in Iraq:

- According to the Multi-National Forces-Iraq, the US military detained 376 foreign volunteers between April and October 2005. Major General Rick Lynch reported that: 78 (20.7%) Egyptians; 66 (17.6%) Syrians; 41 (10.9%) Sudanese; 32 (8.5%) were Saudis; 17 (4.5%) were Jordanians; 13 (3.5%) Iranians; 2 (0.5%) British, 2 (0.5%) Indians, 1 (0.3%) French, 1 (0.3%) Israeli, 1 (0.3%) Danish, 1 (0.3%) Irish, 1 (0.3%) American, and 120 (31.9%) from other states.[138]

- The Iraqi Human Rights Minister, Bakhtiyar Amin, said that in July 2004, there were 99 foreign fighters in Iraqi prisoners. He said that: 26 (26%) were Syrians, 14 (14%) were Saudis, 14 (14%) were Iranians, 12 (12%) were Egyptians, 9 (9%) were Sudanese, 5 (5%) were Yemenis, 5 (5%) were Palestinians, 5 (5%) were Jordanians, 5 (5%) were Tunisians, 1 (1%) was Lebanese, 1 (1%) was Moroccan, 1 (1%) was Turkish, and 1 (1%) was Afghani.[139]

- Nawaf Obaid of the Saudi National Security Net Assessment Project estimated the breakdown of the 3,000 foreign volunteers in September 2005 as follows: 600 (20%) were Algerians, 540 (18%) were Syrians, 510 (17%) were Yemenis, 450 (15%) were Sudanese, 390 (13%) were Egyptians, 350 (12%) were Saudis, and 150 (5%) were from other states.[140]

- Reuvan Paz examined the national origin of 154 fighters in Iraq that were killed in March 2005 and found that: 94 (61%) were Saudis, 16 (10.4%) were Syrians, 13 (8.4%) were Iraqis, 11 (7.1%) were Kuwaitis, 4 (2.5%) Jordanians, 3 (1.9%) were Lebanese, 2 (1.2%) were Libyans, 2 (1.2%) were Algerians, 2 (1.2%) were Moroccans, 2 (1.2%) were Yemenis, 2 (1.2%) were Tunisians, 1 (0.6%) was Palestinian, 1 (0.6%) was from the UAE, and 1 (0.6%) was Sudanese.[141]

- Murad Al-Shishani examined the "Salafi-Jihadist" structure in Iraq in December 2005. He concluded that: 200 (53%) were Saudis, 49 (13%) were Syrians, 30 (8.0%) were North African, 30 (8%) were Iraqis, 23 (6%) were Jordanians, 15 (4%) were Kuwaitis, 8 (2%) were Yemenis, 4 (1%) were Egyptians, 4 (1%) Palestinians, and 15 (4%) were from other states.[142]

These studies have different methodologies, sample sizes, and time-frames. The first two are official estimates that based their numbers on the people who have been detained, and so there is a selection bias and have a small sample size. The Saudi National Security Net Assessment Project estimate is the most comprehensive, and has the largest sample size. In addition, according to its authors, it was based on regional intelligence reports, but it also bases its assessment on "interrogation" reports. The last two studies were based on analyzing extremists' websites, and there is an obvious selection bias and small sample size. The Paz and Al-Shishani's studies depended on the names of people who died being posted on these websites. Another obvious problem is that they also underestimate the number of Iraqis. The first two do not include the number of Iraqis, and as noted earlier, the US estimates that nearly 90% of the insurgents are Iraqis.

Regardless of the shortcomings of these estimates, the studies present a good benchmark of the breakdown of foreign fighters and the diversity of the Iraqi insurgency. In addition, regardless of the total number of foreign fighters and their breakdown, the majority of countries in the region have some nationals in Iraq. Then Iraqi Minister of Interior, Bayan Jabr, said in October 2005 that Iraqi intelligence found a letter from one of al-Zarqawi's lieutenant, Abu Azzam. "In it, he called on al-Zarqawi to start sending fighters back to their countries after having gained

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experience in booby traps, explosions, assassinations, killings, preparation of explosive charges, kidnapping, and other crimes."[143]

Many experts believe that foreign volunteers in Iraq are a real threat to their home countries. They are being trained in asymmetric warfare, suicide bombing, and explosive building. Countries in the region have expressed their concerns about the "home coming" of these fighters, and have said that they are preparing for the worst. For example, the Saudi Minister of Interior, Prince Nayef bin Abdulaziz al-Saud, said that the Saudi fighters in Iraq can be more dangerous than those who came back from Afghanistan. Prince Nayef was quoted as saying "We expect the worse from those who went to Iraq…They will be worse and we will be ready for them."[144]

The Threat of A Fragmented Iraq?

Perhaps the most threatening outcome in Iraq is disintegration of the country into mini states following a bloody civil war. The implications to stability in the Gulf of a civil war and disintegration in Iraq are enormous. The Saudi Foreign Minister, Prince Saud al-Faisal, said that if the conflict does inflame into a civil war, "I don't see how the Arab countries will be left out of the conflict in one way or another."[145]

Besides the security implications of an Iraq in the image or Iran, Saudi Arabia has expressed its concerns about the plight of Sunnis in Iraq. Recently, the Kingdom has expressed its concerns about disintegration in Iraq. During a visit to Washington, Saudi Foreign Minister, Prince Saud al-Faisal was quoted by the *New York Times* as saying, "There is no dynamic now pulling the nation together… All the dynamics are pulling the country apart."[146] These comments reflect wide fear in the region of the instability in Iraq and the possibility of the conflict spilling over into neighboring countries.

Saud al-Faisal said he served on a council of Iraq's neighboring countries--Jordan, Syria, Turkey, Iran and Kuwait as well as Saudi Arabia--"and the main worry of all the neighbors" was that the potential disintegration of Iraq into Sunni, Shiite and Kurdish states would "bring other countries in the region into the conflict." [147]

The most comprehensive study on this subject and the Saudi prospective on this issue was done by Nawaf Obaid of the Saudi Arabia National Security Net Assessment Project in April 2006. In the study, Obaid summarizes the stakes for Saudi Arabia as follows:[148]

> Iraq is at a crossroads and faces a myriad of challenges, including economic, social and most importantly, security issues. The 2003 US invasion opened a Pandora's Box of deep-rooted sectarian tensions as well as rival communal interests. It also ignited a tinderbox of violence brought on by an insurgency that is proving difficult to contain and even harder to eradicate.
>
> To, the country has seen no respite from violence, which has targeted US and Iraqi forces and terrorized civilians with almost daily bombings, drive-by shootings, kidnappings and assassinations. A civil war may well be inevitable. Such a development would have the gravest implications for the entire region, especially Saudi Arabia, which shares its longest international border with Iraq.
>
> The importance of a stable and cohesive Iraq to Saudi Arabia cannot be overstated. Saudi Arabia has a vested interest in preserving the integrity of Iraq and safeguarding the rights of Sunnis in a country dominated by Shi'ites.
>
> Although the recent elections represent a milestone in the country's move towards democracy, they have done little to foster a sense of unity among Kurds, Sunnis, and Shi'ites, the three principal communities in Iraq.

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> On the contrary, they have served to emphasize communal differences. … the election results fell primarily along ethnic lines …. The new government appears to be unable or unwilling to resolve these disparities, but this situation must be addressed if the political process is to move forward with any legitimacy. Whether the new government can meet the test is still uncertain.
>
> The Kurds, who have long enjoyed the privileges of living in a semi-autonomous state, are unlikely to be willing partners in a government that, when fully functional, might offer them considerably less. Since the US invasion, the Kurds have demonstrated a tendency to use their dominance in the provinces that comprise the Kurdish area in a manner that gives them a distinct advantage over other ethnic groups in the region. The soft ethnic cleansing now underway in Kirkuk is a prime example of this.
>
> Pervasive interference from Iran further complicates the situation. Iran's influence over the post-Saddam government in Iraq has been significant, and the most predominant Shi'ite parties in Iraqi politics have long enjoyed the sponsorship of Tehran. Iranian levers of influence include a broad network of informants, military and logistical support of armed groups, and social welfare campaigns. Most importantly, Tehran has sought to influence Iraq's political process by giving support new various parties, in particular, to the SCIRI.
>
> For their part, the Sunnis, who occupied positions of power under Ba'athist rule, may find it difficult, if not impossible, to reconcile their now subordinate status in the new Iraq. Basic issues of governance, such as the nature of the central government and the role of Islam, will be points of contention for many years to come. Finally, although they constitute only a fraction of the insurgency, foreign fighters will continue to remain a seriously destabilizing force in the country.
>
> There may, however, be several policies that may assist in mitigating the grave situation that has been created in the country. These include: The development of a comprehensive national strategy which takes into account the possibility of a civil war; improving communications between Saudi Arabia, the Arab world, and the United States regarding the extent and strength of the insurgency; and neutralizing Iranian interference. When the security situation allows, the Saudi leadership should also work to strengthen its diplomatic ties with Iraq and cultivate relationships with its religious and political leaders. …

The Threat from Iran

Iran is a nation with a mixed record in terms of Gulf and regional security. It no longer actively seeks to export its religious revolution to other Islamic states. It reached a rapprochement with Saudi Arabia and the other Southern Gulf states in the late 1990s. It has since avoided further efforts to try to use the Pilgrimage to attack the Kingdom, or to exploit Shi'ite versus Sunni tensions in Saudi Arabia and other Gulf countries like Bahrain. Iran maintains an active presence in the Gulf, conducts large scale-exercises, and maintains an active intelligence and surveillance presence in both the Gulf and neighboring states. It has avoided provocative military action, however, and there is no evidence of active hostile attacks on Southern Gulf targets or US targets since the Al Khobar bombings.

On the other hand, Iran no longer seems to be evolving towards a more moderate regime. It deals at least low levels with outside terrorist groups. It actively supports the Hezbollah in Lebanon and hard-line groups like Hamas and the Palestinian Islamic Jihad in attacking Israel. Iran is also well aware that Sunni and Shi'ite tensions are rising throughout the Islamic world, driven in part by neo-Salafist extremist and terrorist groups like Al Qa'ida.

Iran is a far less modern military power in comparative terms than it was during the time of the Shah, or during the Iran-Iraq War. Nevertheless, it is slowly improving its conventional forces, and is now the only regional military power that poses a serious conventional military threat to Gulf stability. Iran has significant capabilities for asymmetric warfare, and poses the additional threat of proliferation. There is considerable evidence that it is developing both a long-range

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missile force and a range of weapons of mass destruction. It has never properly declared its holdings of chemical weapons, and the status of its biological weapons programs is unknown. The disclosures made by the IAEA since 2002 indicate that it is likely that Iran will continue to covertly seek nuclear weapons.

Iran could deliver chemical, biological, or nuclear weapons on any of its fighter-bombers, use covert delivery means, or use its missiles. It could use its Scuds and some types of anti-ship missiles to deliver such warheads relatively short distances. Its Shahab-3 missiles could probably reach virtually all of the targets in Gulf countries, including many Saudi cities on the Red Sea coast and in Western Saudi Arabia.

As has been discussed earlier, Iran's Shahab-3s are probably too inaccurate and payload limited to be effective in delivering conventional weapons. This does not mean that conventionally armed Shahab missiles would not use terror weapons, or weapons of intimidation, but they could only have a major militarily impact–even against area targets–if they were armed with warheads carrying weapons of mass destruction. Moreover, Saudi Arabia faces the possibility of an Iranian transfer of weapons of weapons of mass destruction to some anti-Saudi extremist group or proxy. These currently do not seem to be probable scenarios, but Saudi Arabia is worried.

Key Iranian Threat

In addition to the direct security threat Iran's WMD program poses to the Kingdom, potentially, Iran can also use its nuclear capabilities to alter the strategic balance in the Gulf in the following key strategic areas:

- **The UAE islands:** Following Britain's withdral from the Gulf in 1971, Iran gained controlled over three Islands: the Greater Tunbs, the Lesser Tunbs, and Abu Musa. Since then, the UAE and Iran have argued over the ownership of the islands. The GCC have supported the UAE's position, but since the Iranian-GCC relations improved in the late 1990s, the Gulf countries have avoided confrontation.

  These islands are enormously important to and national pride to the UAE and the Gulf at large. While no military confrontation has taken place, the UAE has increased its demands. A military intervention by the GCC is unlikely, but if the does attempt to gain control over the three islands, the Arab League will have little option but to back the Emirates. A nuclear Iran and an Iraqi-Iranian block may complicate this even further. An Iraq that is allied with Iran will complicate an Arab league response diplomatically. Furthermore, a nuclear Iran will limit the effectiveness of any conventional response.

- **Shiites in the Gulf:** A noted earlier, since the revolution in 1979, Iran has demanded more freedom and political participation of Shiites in the Gulf States. Iranian support emboldened Shiites in the Gulf. At times, it developed into violent protests and clashes with security forces. Iranian support to Shiites in the Gulf, and their support of proxy groups such as Saudi Hezbollah and Bahraini militant groups subsided following the reestablishment of diplomatic relations between Iran and Saudi Arabia in 1997. A nuclear Iran can have far more power and fewer constraints against supporting such proxy groups.

  There is always the danger that WMDs can get in the hands of terrorist organizations. A smuggled dirty bomb or a nuclear weapon into one of the Gulf countries can inflict a lot of human and economic damage. It cam destabilize key energy producers and disrupt energy exports for days if not months.

- **Oil policy and OPEC Quota:** An Iran-Iraq block can create a block within OPEC. This can have important implications on the supply of oil. The cartel already suffers from the incentives of its members to overproduce, but a new block that is hostile to other OPEC members can imply that OPEC quota to go either way. In December 2005, Iran had a production capacity of 3.95 million barrels a day (11.5% of OPEC's total production) and Iraq had approximately 1.7 million barrels a day (4.9% of OPEC's total production). Iran and Iraq together represent nearly 15% of OPEC's total production (capacity), and a block within OPEC means that they have the second largest weight after Saudi Arabia.

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OPEC influence on the global oil market can diminish, and with the tightness of the oil market, this can have implications on the international energy market and the health of the global economy. An oil embargo by the two countries together can take off the market 15% of the world oil supply in addition to Iran's Gas production. This could send oil prices even higher and put a lot of strains on the

- **Restart an arms race:** The Middle East is the largest arms importing region in the world. Following the Iranian revolution, the Gulf was the center of arms race between Iran, Iraq, Saudi Arabia, and the Gulf States. Much of the money that was spent on defense could have been spent on internal investment that are much needed to upgrade infrastructure, reform educational systems, and modernize health care. The impact of defense overspending was felt most during the 1990s when oil prices were at all time low. Currently, oil prices are high and countries in the Gulf can afford to spare some of their surplus oil revenues to spend on procurement and arms purchases, but this will also take way money from important civil and energy projects, and internal security spending to deal with the threat of al-Qa'ida.

Iran and Iraq have always been the wild card in the Gulf, and these areas of uncertainties are hardly new to the region, but they are compounded by a potential Iranian-Iraqi Shiite alliance. This can increase the odds of escalation of these uncertainties into diplomatic nightmares or even military conflicts.

These risks cannot be separated from the threat of extremism—the main threat facing many of the countries in the Middle East and North Africa. The alliance, in itself, does not exacerbate the terrorist threat, but it compounds the uncertainty and makes tradeoffs between internal security and conventional defense spending harder.

Saudi Reaction to Iran's Nuclear Program

The Saudi leadership has been clear about the consequences of a nuclear Iran. The Saudi Foreign Minister, Prince Saud al-Faisal, was quoted as saying that that a nuclear Iran "threatens disaster in the region." The Kingdom, however, has stressed that the problem of proliferation goes beyond Iran's ambition. The Saudi Minister of Interior, Prince Nayef al-Saud, argued that Iran's nuclear program "has peaceful aims." Prince Nayef added that the problem is not with Iran's ambition, but with the double standard in the West's position toward Israeli nuclear capabilities. He said that the "This puts a question mark not only before the Arabs but also before the whole world...and this gives justification for every country to think of having nuclear weapons."[149]

Saudi leaders have also stressed the need for a more comprehensive counter proliferation strategy that must include Israel's nuclear arsenal and the overall problem of WMD proliferation. For example, the Saudi Foreign Minister, Prince Saud al-Faisal, argued that "Iran is always mentioned but no one mentions Israel, which has [nuclear] weapons already…We wish the international community would enforce the movement to make the Middle East a nuclear-free zone."[150]

Senior Saudi officials have said that Saudi Arabia has examined its options for responding to Iranian nuclear threat, including an effort to acquire its own nuclear weapons, but has rejected such an option. Experts, however, argue that a nuclear Iran would lead the Kingdom to reexamine its strategic and military postures in the region to deal with a shift in the balance of power in the Gulf and protect is neighboring GCC states.

As for their response to a nuclear-armed Iran in the Gulf, they have three options: acquire their own WMD and missile capabilities to deter Iran; develop a missile defense shield; ask the US or Pakistan to extend their nuclear deterrence to include them.

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Saudi Arabia and Iran's smaller Gulf neighbors can respond with accelerated efforts to deploy theater missile defenses—although such systems seem more likely to be "confidence builders" than leak proof. It would almost certainly lead the US to consider counter-proliferation strikes on Iran, and to work with its Southern Gulf allies in developing an adequate deterrent. Given the US rejection of biological and chemical weapons, this raises the possibility of creating a major US theater nuclear deterrent, although such a deterrent could be sea and air based and deployed outside the Gulf. If the US failed to provide such a deterrent and/or missile defenses, it seems likely that the Southern Gulf states would be forced to accommodate Iran or seek weapons of mass destruction of their own.

Collective Security and Relations with the GCC

The Gulf Cooperation Council (GCC) was formed to strengthen coordination operation, coordination, and eventual integration between its six member states in all fields. The GCC was created to meet collective security threats from an aggressive Iran and to respond to strategic threats from the Soviet invasion of Afghanistan.

Since its inception in 1981, the GCC countries have faced grave challenges: the Iran-Iraq war (1980-1988), the Iraqi invasion of Kuwait (1990), and the US-led invasion of Iraq (2003). These problems were compounded by political rivalries, border disputes, high economic volatilities, and external players such as the US, Iraq, and Iran.

While the nature of threat in 2005 is different from what it was in the 1980s and 1990s, the significance of the GCC has only increased. Now more than ever, member states are facing monumental challenges, and the GCC is an important venue to tackle them. Iraq is the most obvious of these challenges and that requires immediate attention.

The 1990s proved to be a difficult period for the council and its member states due to low oil prices, high defense spending, constant border disputes, and diplomatic wars over third party alliances. In recent years, disputes between the GCC members reached an all time high. The disputes tended to focus on two areas, namely, territorial disputes and foreign policy. Qatar and the UAE have voiced their concerns over Saudi "hegemonic" ambitions over the Gulf, and Saudi Arabia has accused other GCC states of weakening the union by signing defense and economic deals with outside powers such Bahrain's Free Trade Agreement (FTA) with the US.

The UAE has recently raised long-standing border issues against Saudi Arabia. The issue revolves around a border settlement that dates back to 1974, when an opaque agreement settled a border dispute between Saudi Arabia and the UAE. The agreement settled a 25-kilometer strip of land that connected the UAE to Qatar as well as the ownership of the Shaybah oil field.

With the passing of Sheikh Zayed of the UAE, who believed it would be dishonorable to revisit the 1974 agreement,[151] the UAE's leaders have become increasingly assertive over this issue, signaling their intent to address this topic anew. A map published in the 2006 edition of the official UAE Yearbook "shows the UAE extending westward as far as Qatar, across territory currently controlled by Saudi Arabia."[152]

This development comes amidst the growing rift between Saudi Arabia and Qatar mentioned above. The fear that closer ties between Qatar and the UAE may undermine Saudi Arabia's strategic preeminence in the GCC is widespread. The Dolphin project, which seeks to connect Qatar, the UAE and Oman in a natural gas grid, is another example where closer ties between

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Qatar and the UAE may be made at the expense of Saudi Arabia. This territorial revisionism, which would bring the UAE's borders up to Qatar's, could form the cornerstone for a closer association between the two countries, and take Saudi influence off the picture.

Despite past disagreements and while each state face different obstacles and may require different approaches to solving such problems, in broad terms the members face the same strategic challenges. Member states face a real choice: reform the council or become irrelevant. The challenge in Iraq provides an opportunity to overcome past disputes and fragmentations. The council has to speak with one voice and most importantly, it must act as one body in the economic, military, counter-terrorism, and foreign policy realms.

Counterterrorism Cooperation

It is clear that the number one threat to the Gulf is of Islamic extremism and asymmetric warfare. Saudi Arabia has been battling terrorist within the Kingdom since the May 2003 bombing in Riyadh. Saudi counterterrorism capabilities and intelligence are getting stronger. Saudi officers from the special security and other ministry of interior forces have had a lot of experience in fighting terrorism and urban warfare.

Saudi forces have proven to be effective and adaptive to the threat. While the terrorist threat is everything but over, the Kingdom seems to have been able to contain the damage terrorists could inflict on the Kingdom's nationals, residents, and infrastructure.

Al-Qa'ida has made its strategy clear. They need to gain control of a state with modern financial and military capabilities to continue to their struggle against other Arab governments in the region. Their attempt to do this in the Kingdom has proven to be a failure. The Gulf States seem to be the obvious choice. They are oil rich and have modern military weapons and of close proximity to their number one target, Saudi Arabia.

As will be discussed in details in other chapters, there have been some indications of extremists in countries such Kuwait, Qatar, and the UAE. There have, however, been limited terrorists' attempts and attacks in these countries. If al-Qa'ida does turn its attention toward the Gulf States, the question is: can the Gulf States deal wit the same level of violence in their own country?

The Gulf States have cooperated on the bilateral levels for many years. Due to political reasons and rivalries, in the past, there was limited multilateral cooperation and sharing of intelligence. In recent years, the Gulf States increased cooperation in the areas of intelligence sharing, joint exercises, and training missions. On October 3, 2005, the Saudi Council of Ministers endorsed the GCC counterterrorism pact. The agreement urged members to integrate their counterterrorism efforts.[153]

Bahrain has also expressed interest in creating a Joint Gulf Counterterrorism Center. The center will act to formalize the sharing of intelligence, coordination of counterterrorism activities, and exchange of expertise. Saudi Arabia also proposed the creation of a similar center, but at the international level. At the International Counterterrorism Conference held in Riyadh in February 2005, King Abdullah recommended the creation of an international center to coordinate counterterrorism efforts. The Kingdom has made the proposal to the UN General Assembly in September 2005.[154]

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These are important tactical and intelligence reforms that will help the Gulf States fight terrorists and stock attacks before they occur. Counterterrorism efforts, however, have to adapt a comprehensive strategy that involves economic, political, and social reforms.

Part of this comprehensive strategy is an educational and media campaign to counter the extremists' messages. This involves training programs for clerics and improving the dialogue with religious minorities.

In addition, economic reforms are as important as any counterterrorism effort. For all the talk of political reform, economic progress and dealing with the unemployment problems are more important than any election or "democratic" movements. The goal is to limit the pool of recruits for extremists. The "youth explosion" caused by large population growth is complicating labor policies and counterterrorism efforts. Creating wealth and productive private sector can employ many young men and take them off the list of possible recruits.

Military Cooperation

The best way of dealing with these challenges is not reforming the internal structure of the Saudi armed forces alone, but rather doing so in the context of more effective efforts to develop collective security. The lack of effective military cooperation between the Kingdom, other moderate Gulf states, and its Arab neighbors outside the Gulf presents major problems for Saudi Arabia that are not easy to solve. Saudi Arabia cannot turn to the rest of the Arab world for meaningful military support.

The failure of the Damascus Declaration, 1992, to give Saudi Arabia any credible guarantee of Egyptian and Syrian reinforcements was the result of far more than Arab politics and Egyptian and Syrian demands for money. Neither Egypt nor Syria is organized to project effective combat forces. They lack most of the technological advantages of US and Saudi forces, and they are not equipped and trained to provide the Saudi Air Force and Saudi Army with the mix of interoperable capabilities they need. Although they are Arab and Muslim, they also are states with separate interests, regional ambitions, and strategic objectives that often differ from those of Saudi Arabia.

Saudi Arabia badly needs to strengthen its cooperation with the countries of the Gulf Cooperation Council. So far, however, there has been more progress in political and economic areas than in military areas. Efforts to create a GCC-wide C^4I system for air defenses are making progress, but they are still in the early stages of development, and the GCC has only made serious progress in a few areas of military exercise training like air combat and mine warfare. The GCC's longstanding failure to agree on effective plans for cooperation, interoperability, and integration has left the military role of the GCC a largely symbolic one. The GCC will only play a major role in regional security once it can develop integrated air defenses, develop integrated mine warfare and maritime surveillance capabilities, an ability to deal with Iranian surface and ASW forces, rapid reaction forces that can actually fight, and the ability to defend Kuwait and Easter Saudi Arabia against land attack.

Saudi Arabia needs to look beyond its own military modernization program and take tangible steps to expand military cooperation with the GCC. Even if this is not possible on a GCC-wide basis, Saudi Arabia must focus on finding ways to strengthen the defense of its northern border area and Kuwait.

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The Kingdom needs to deter attacks on smaller Gulf powers like Bahrain and be able to help it safeguard its internal security. It needs to be able to show it can aid any GCC state in an emergency. Its current force levels are adequate for this mission, but need readiness, mobility, and sustainability.

Socioeconomic Challenges

In addition to these external challenges and threats, the Kingdom faces another type of internal challenge. The health of the Saudi economy, and coming to grips with the Kingdom's problems with education, Saudization, youth employment, and demographics, are the true keys to security. So is a level of political progress that expands the role ordinary Saudis can play in government, and making further reductions in sources of social unrest. Even the best counterterrorist operations can only deal with the small fraction of the Saudi population that is violent extremists. True stability is based upon popular support.

As has been discussed in virtually every chapter, however, Gulf security also requires a broad process of continuing evolutionary reform of each country's political, economic, and social systems, not just reform of the their military, internal security, and intelligence services.

In his first speech to the Shura Council, King Abdullah asserted that "We can't remain rigid and the world around us is changing." King Abdullah, however, reiterated in the same speech that the shape of reforms should be debated through national dialogue so that the Kingdom can "meet the desires of society and be in harmony with Islamic sharia (law)."[155]

There is little evidence of any serious split between members of the royal family and Saudi ministers over the broad need to move forward on socioeconomic. There have been many debates and disagreements over how fact to move and in what areas. There is a clear need to find a better balance between moving too slowly, the risk of revolutionary or destabilizing change, and the clear need to evolve.

Economic Reforms

The Saudi economy is experiencing an economic boom that it has not seen since the oil boom of the 1970s. Saudi Arabia joined the World Trade Organization, saw massive investment flow into its energy sector, and experienced a stock market bubble. At its peak during February 2006, Saudi Arabia's stock market capitalization reached over $800 billion. Despite a massive correction, which shed more than $300 billion, it still represents approximately 45% of region's market capitalization.

This unprecedented growth has been welcomed by the Saudi government and the public. But the Kingdom's economic situation is not without challenges. Between 1982 and 2000, the Kingdom was running high budget deficits due to low oil prices, mismanagement, and high defense spending. **Figure 11** shows that the year 2000 was the first year Saudi Arabia enjoyed a surplus, and since that year, with the exception of 2001, the Saudi budget has enjoyed surpluses.

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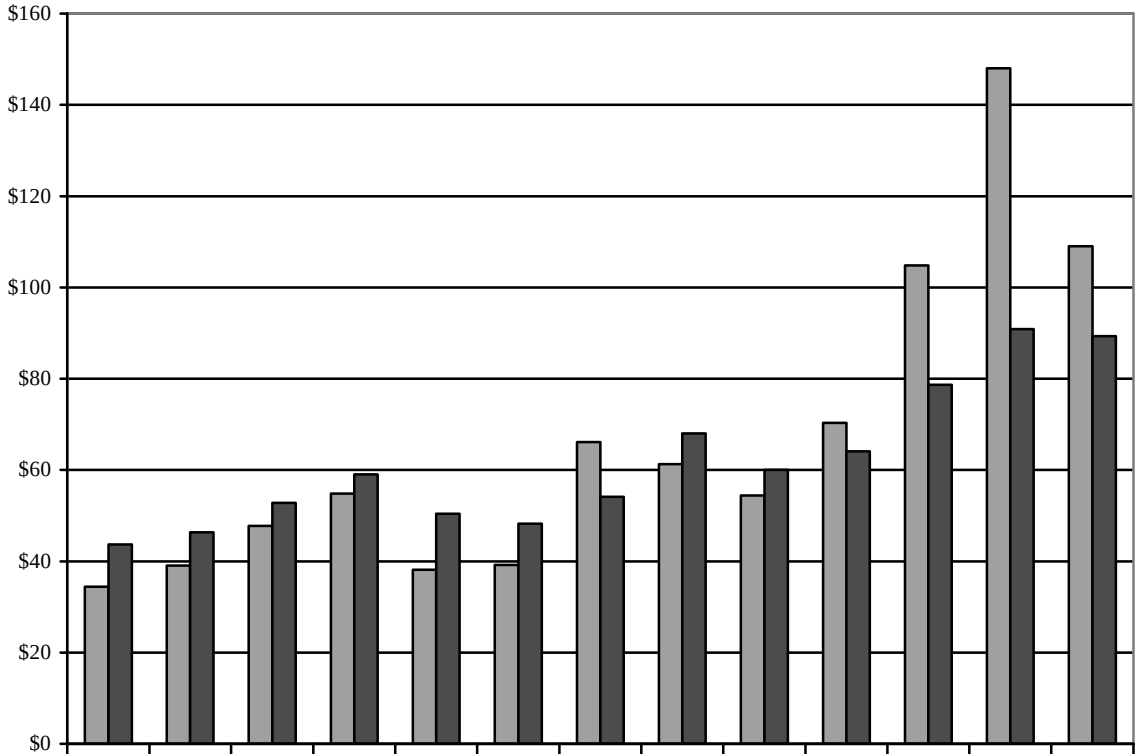
Figure 11: Saudi Arabian Budget Balance, 1994-2006



	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006*
Revenue	$34.4	$39.1	$47.8	$54.8	$38.1	$39.2	$66.1	$61.3	$54.4	$70.4	$104.8	$148.0	$109.0
Expenditures	$43.7	$46.4	$52.8	$59.0	$50.4	$48.3	$54.1	$68.0	$60.0	$64.1	$78.7	$90.9	$89.3
Balance	-$9.3	-$7.3	-$5.0	-$4.2	-$12.3	-$9.1	$12.0	-$6.7	-$5.6	$6.3	$26.1	$57.1	$19.7

Source: Brad Bourland, *Saudi Arabia's Budget Performance*, Saudi American Bank, various editions, available at http://www.samba.com.sa/investment/economywatch/index.htm
Note: The budget numbers from 2006 are based on SAMBA's December 13, 2005 projections.

The largest contributors to the budget surpluses the Kingdom is enjoying are high oil prices coupled to increased Saudi oil production. For example between 2001 and 2004, the price per barrel of oil increased by roughly 108%. In addition to high oil prices, according to the EIA, global demand for oil increased from 78.0 million barrels per day (MMBD) in 2001 to 82.4 MMBD in 2004, which also pushed Saudi production to increase from 8.7 MMBD in 2001 to 10.37 MMBD in order to meet this surge in demand. Due to these market forces, the EIA estimates that Saudi oil export revenues, in constant 2005 dollars, were $65 billion in 2001 compared to $117.8 billion in 2004, representing roughly an 81% increase.[156]

These trends are projected to continue through 2006 and 2007. As **Figure 11** shows, Saudi Arabia is projected to have a budget surplus of approximately $19.7 billions. Although these projections were based on an estimated oil price of $35/barrel and an estimated Saudi oil production of only 9.5 million barrels per day. In fact, the EIA estimates Saudi oil production to increase from 10.97 MMBD in 2005 to 11.28 MMBD in 2006. This increase in production would result in an increase in Saudi oil export earning from $150 billion 2005 to $159 billion in

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2006 and a projected $145 billion in 2007, which would result in much higher budget surpluses—assuming no major increases in government expenditures.

These budget surpluses have been used in two key areas: paying down the debt and investing in key areas that were underfunded during 1990s.

Saudi domestic debt reached all time high in 1999 when it reached 119 percent of GDP ($116 billion). It has since declined to 51 percent of GDP ($161 billion) in 2005 and an estimated 41 percent of GDP in 2006 ($126 billion). The Saudi American Bank estimated that the Saudi government used $37 billion of its 2005 budget surplus to pay down its domestic debt.

In addition to paying its public debt, the Kingdom has announced preliminary plans on how it will spend the rest of its budget surplus. The following are key projects that have been announced by the Saudi government:[157]

- $8 billion to increase salary of government employees (15% raise).
- $10 billion allocated for development and maintenance of services and infrastructure, including:
  - $2.13 billion for the building of public housing projects.
  - $1.86 billion for construction of new desalination plants.
  - $1.33 billion for construction of new highways and roads.
  - $1.2 billion for street maintenance and drainage system.
  - $1.06 billion for construction of new schools.
  - $1 billion for the construction of university campus construction.
  - $800 million for construction of primary health care facilities.
  - $666 million for construction of new vocational training institutes.
- $4 billion allocated for Saudi Export Program Initiative.
- $3.46 billion to increase the capital of the Saudi Industrial Development Fund.
- $1.2 billion to increase the capital of the Saudi Real Estate Fund.
- $800 million to increase the capital of the Saudi Credit Bank.
- $4 billion to increase the minimum social security payment.

Many of these projects will finance areas that were under funded for extended periods of time during the periods of high budget deficits throughout the 1980s and 1990s. While it is too early to tell how these projects will be implemented, it is clear that this level of increase in government spending is likely to spur further economic growth in the Kingdom.

Despite these promising trends, the Saudi economy remains highly dependent on oil. There already has been considerable diversification in the Saudi economy. The oil sector provided 35% of GDP in 2004 compared to 65% of GDP in 1974, although these figures are misleading because petrochemicals and other petroleum-related products are not included in petroleum sector and the growth of the service and manufacturing sectors is heavily linked to petroleum products and revenues.

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In addition, the Kingdom must deal with the consequence of its stock market correction, deal with realistic reforms to encourage private sector growth, and must deal with over arching problem of unemployment. Economic reforms and citizen participation in the boom are as important as any counterterrorism or security measure that Kingdom can take to ensure the Saudi public support to the Kingdom's reform plans.

Addressing the Demographic Pressures and Unemployment

Demographics have already made employment a critical issue, and the problem will grow steadily for at least the next quarter century because of existing population momentum. During the period 1980-2000, the Saudi population increased from 12 million to 20 million. In 2002, the Saudi labor force was 3.15 million people, and the official unemployment figure is 9.6%.

The latest census of 2004 found that the population is 22,673,538 people. Of those people, 16,529,302 are Saudis and 6,144,236 are expatriates. The number of foreign labor is approximately 2 million less than earlier expected. Furthermore, only 15% of foreign workers fall in the category of skilled workers. Most of them work in agriculture, cleaning, and domestic service.[158]

The official unemployment estimate severely undercounts the number of Saudis that need jobs and does not attempt to estimate non-productive jobs or disguised unemployment. The real unemployment figure is probably as high as 25%, and probably distinctly higher among Saudi young men. The figure also makes no serious allowance for the number of women who would seek work if the opportunity was provided, and whose productivity is need at a time when more women graduate from secondary school and universities than men and do so in more practical subjects. The truth is that the Kingdom has a major unemployment problem even in a time of booming oil revenues, and it is growing more rapidly when as many as 350,000 workers enter the work force every year. [159]

In January 2005, following an employment campaign in the Kingdom, the Ministry of Labor announced that the number of Saudis males who did not have a job and were seeking one totaled 180,500. While the Minister of Labor argued that this number should be adapted as the official unemployment number, its not very reliable. It is unclear what methodology the employment campaign used. Further, such campaigns tend to have a self-selection bias, which makes any deductive conclusion about the actual number of unemployed invalid.[160]

Saudi Arabia has enacted some reforms in its approach to this problem that include: job training, Saudization, job creation, women employment, and the creation of a fund to help Saudi citizen achieve economic independence. The Kingdom's efforts in economic liberalization, diversification, and privatization are also seen as key steps in creating as steps to create more private sector jobs for young Saudis.

The Kingdom has augmented these reforms with the creation of the National Program for Training and Employment to prepare Saudis entering the job market to be more competitive especially against a cheap foreign labor force. In addition, on July 8, 2004, Saudi Arabia announced the creation of a 'Centennial Fund' to help Saudi workers—men and women—set up small and medium business enterprises. The fund was also paired with Saudi General Investment Authority in order to assist entrepreneurs translate their ideas into viable businesses.

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Saudi Arabia has also invested in increasing women's participation in the work force. Estimate by the Work Bank put the increase in women's participation in the work force increases by 640% since the 1960s.[161] In 2002, 15% of the Saudi labor force, 465,000, were Saudi women, who were part owners in 22,000 businesses including: accounting, banking, computer training, automotive, and many high tech sectors.

The fact remains, however majority of private sector jobs are filled by cheap foreign labor force in the Kingdom. Saudi nationals compromise 65% of the 7 million-man labor force—but only 5% of the private sector jobs.

The Kingdom has set a goal to increase the share of Saudi nationals in the work force to 70% by 2010. To increase the share of nationals in the labor force, the Ministry of Labor chairs the board of the General Organization for Technical Education and Vocational Training and Manpower Development Fund. The Fund aims at preparing Saudi youths to compete against cheap foreign labor through covering the expenses of job training.

Furthermore, Saudi Arabia has set specific goals for Saudiizing many sectors including the retail sector, taxi drivers, jewelry shops, etc. in addition to opening new sectors such as tourism. By 2006, the Kingdom hopes to restrict commercial activities in up to 25 sectors, and study is underway to add at least 10 more categories, Ghazi Al-Gosaibi, the Minister of Labor, said. According to the Kingdom's official statistics, 80% of accounting and translating jobs have been Saudiized, as of early 2005. While once a sector is Saudiized, new foreign labor is prohibited from entering the Kingdom, but those who are on job are stay until their visa expires and they train those who are taking their spot.[162]

The demographic challenge to the Kingdom, however, is just starting. **Figure 12** shows the age distribution of the Saudi population in 2006. Several characteristics are striking. More than a third of the Saudi population is of an employment age (29-64). What is concerning, however, is that another third of the population is also of an age to enter the job market. Even more concerning is that 38 percent of the Saudi population is under the age of 14. This would mean that in the next two decades, the Kingdom will see a large inflow of into the job market.

Figure 12: Saudi's Demographic Distribution, 2006

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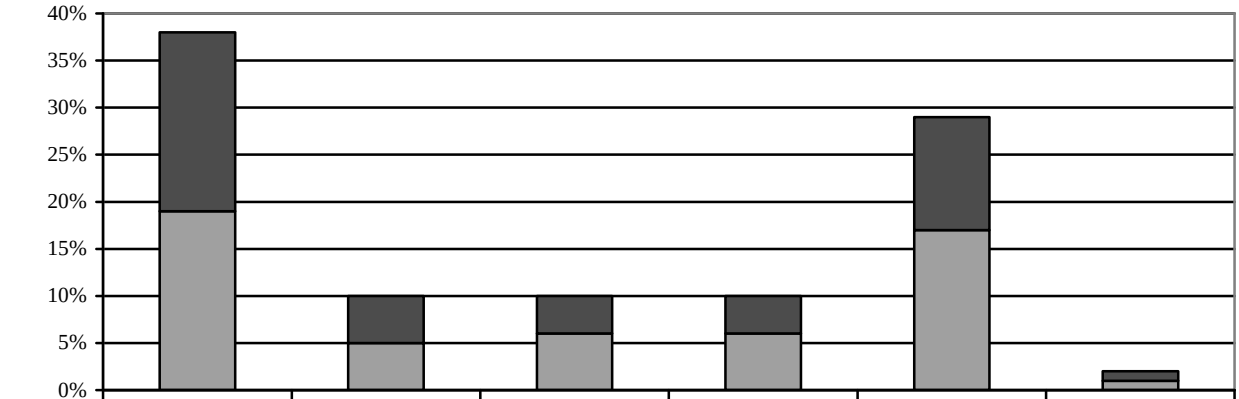

	0-14	15-19	20-24	25-29	30-64	65+
Female	19%	5%	4%	4%	12%	1%
Male	19%	5%	6%	6%	17%	1%
Total	38%	10%	10%	10%	29%	2%

Source: IISS, *Military Balance 2005-2006.*

As will be all too clear in the other chapters, all the countries in the Gulf and for that matter the Middle East and the developing world face the same general demographic trends represented by a youth explosion. The importance of demographic for Saudi Arabia and the other Gulf States, however, go beyond the need for demographic controls. A young and unemployed citizen of the Gulf is a prime target for recruiting by extremist organizations such al-Qa'ida.

Prospects for Saudi Stability

These challenges seem insurmountable for any nation to deal with. But is also true that most nations in the region and the world deal with similar challenges. The strategic importance of Saudi Arabia, however, makes dealing with these challenges all the more important.

Some uncertainties are hard to control. For example, while the Kingdom can peripherally influence the outcome in Iraq through forgiving Iraq's debt, encouraging national reconciliation in Iraq, pressuring the Sunnis, and strengthening its border security, the future of Iraq will be shaped by security on the ground and by the Iraqi government and public. The Kingdom, however, must prepare to deal with all contingencies to insure its national security.

Another uncertainty that the Kingdom has little control over is the threat from Iran's nuclear program. In this case, one again, the Kingdom must prepare for all possibilities, insure that it has the military capabilities to defend against the potential of a shift in power in the Gulf, and defend its friends in the Gulf. It must seriously consider its "potential" response to declared nuclear Iran, a "bomb in the basement," or even a "bomb in the fog."

These regional challenges would require the Kingdom to reconsider its defense posture in the region and address deficiencies in its force structures. This must also involve limiting or eliminating the "glitter" factor in its defense spending and focusing on improving jointness and interoperability between its conventional military services and most importantly with its internal security services.

In addition, the Kingdom must also work to improve jointness and interoperability with its neighboring GCC states. Despite petty political rivalries and insecurity complexes by the other

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Gulf States, the Kingdom has little choice but to keep the GCC together. Instability in any of the smaller Gulf states can not only invite Iran's interference, but now the possibility of a safe haven in the Gulf for al-Qa'ida might be too close to comfort for Saudi Arabia. The GCC must be strengthened to deal with real-world challenges facing the council in the areas of counterterrorism and military transformation.

In addition to the regional challenges, the fight against al-Qai'da in the Kingdom is not over. The attempted attack against Abqaiq in February 2006 and the Saudi security forces performance mad it all too clear that the Kingdom take the threat seriously and that al-Qai'da is on the defensive. But it also made all too clear that terrorist organizations will stop at nothing to disturb Saudi stability and the global economy.

The Saudi counterterrorism strategy, however, must also be comprehensive. Dealing with youth dissatisfaction, implementing meaningful economic diversifications and social reforms, and addressing the demographic and unemployment pressures are as important as any tactical victory against al-Qai'da.

Finally, despite western analyses about the prospects of Saudi stability, the Kingdom has proven to be capable of dealing these challenges. The peaceful succession of King Abdullah to thrown in August 2005 opened a new page. Many changes are taking place in Saudi Arabia's foreign, economic, trade, oil, and defense policies. It is too early to predict the results of these changes. But since 911 and more particularly since the attacks of May 2003, the Saudi leadership have expressed to their citizens and the West that they understand what needs to be done on their part to deal with these challenges.

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According to the census, which started Sept. 15, put the Kingdom's total population at more than 22 million. The department added that there are 8,285,662 male Saudis, who represent 50.1 percent of the total Saudi population while the number of Saudi females is 8,243,640.According to the last census taken in 1992, the population of Saudi Arabia amounted to 12,304,000 Saudis and 4,625,000 foreigners. Riyadh and Jeddah had populations of more than two million each.

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