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Saudi National Security and the Saudi-US Strategic Partnership:

Part One: The Civil & Economic Aspects of Security

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Working Draft: Revised April 29, 2010

Saudi Economics and National Security

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Economics and the Global Economic Crisis

Saudi Economic Policy

- **Countercyclical and Shaped by SAMA;**
- **Avoid budget deficit strains;**
- **Emphasize free market, and diversification;**
- **Except for petroleum resources;**
- **Give priority to internal stability, and particularly to employment, education, and social services;**
- **Seek to spread national investment and employtment through tools like economic "cities."**
- **Fully fund counterterrorism.**
- **Fund strong defense.**
- **Improve controls on possible financing of terrorism.**
- **Tightly control foreign labor**

Saudi Economic Risks

- **Impact of Global Financial Crisis;**
- **Future oil/hydrocarbon prices and revenues;**
- **Cost/uncertainties in expanding and sustaining hydrocarbon production.**
- **Inflation: Officially over 8%, Now double digit;**
- **Food prices and supply;**
- **Poor income distribution, comparatively low per capita income**
- **Peg to dollar: *revenue impacts, inflation, food costs, etc*..**
- **Need for Saudization; diversification, job creation: Unemployment at least 12%, 25% for 20-29 age group. Undereployment much higher.**
- **Capital cost imposed by expanding population, past underinvestment, demographics, and job creation.**

Trend in Saudi Economy & Budget: 2010

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Scale of Current government projects

Source: NBK

Saudi Moves Towards Recovery: 2010

•Saudi Arabia posted its first budget deficit in 2009 in eight years as government revenues fell by over 54% to SAR505bn.

•Despite increased spending, the actual deficit of SAR45bn fell short of the budgeted SAR65bn, thanks to a rebound in crude oil prices. The average YTD OPEC basket oil price was significantly higher than the USD44 assumed in the 2009 budget.

•Driven by higher government spending, the Kingdom's economy expanded by a real 0.15% in 2009. In the face of a sharp oil sector contraction due to restricted quotas and lower prices, growth was largely driven by the non-oil sector which
•expanded by 3.0%.

•The government sector with 4.0% growth was a particularly important source of resilience while the private sector expanded by 2.5%.

• For 2010, the government projects revenues of SAR470bn, 14.6% higher than the SAR410bn budgeted in 2009. Spending is set to expand by 13.7% to SAR540bn from SAR475bn. The deficit is set to broadly match this year's figure at SAR70bn, or $18.7 billion) as the Arab world's largest economy focuses on development and job creation.

•The oil price remains the key risk for the Saudi economic outlook in 2010. OPEC now expects a 0.8% increase in total crude oil consumption to 84.93 mb/d in 2010.

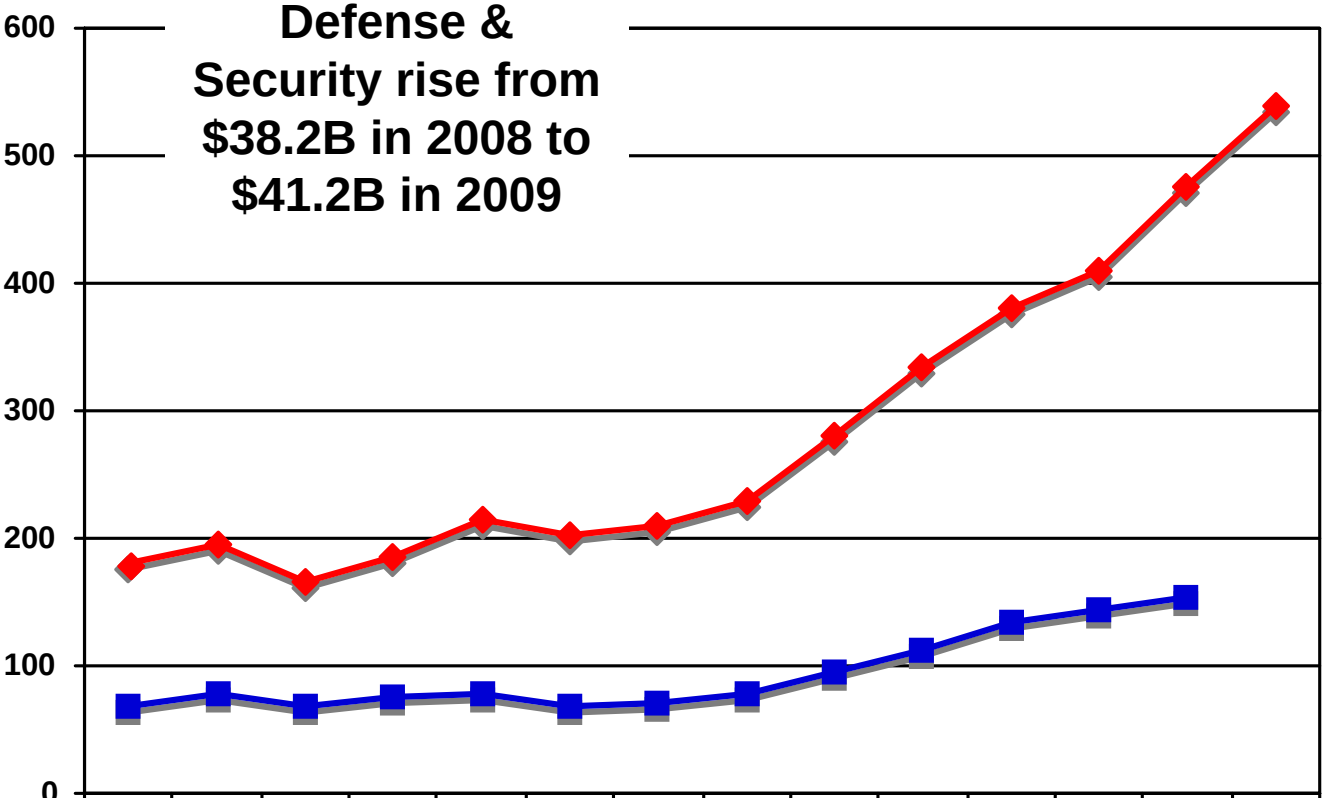
Saudi Arabia macroeconomic indicators

	2005	2006	2007	2008	2009*	2010e
Real GDP Growth (%)	6.1	3.2	3.4	4.5	0.1	3.8
Hydrocarbon	7.8	-0.8	0.5	5.0	-5.9	4.3
Non-hydrocarbon	5.2	5.1	4.7	4.3	3.0	3.6
Inflation (%)	0.7	2.4	4.0	9.9	4.4	5.0
Current account balance (% of GDP)	29.3	27.8	24.9	29.2	5.5	0.7
Fiscal balance (% of GDP)	18	21.2	12.4	34.1	-3.3	5.5

Source: NCB Capital, SAMA, Saudi Ministry of Finance, SAMBA

Saudi Budget Projections: National Security vs. Total

(In Billions of Current Riyals)



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total Budget	181	196	165	185	215	202	209	230	280	335	380	410	475	540
Defense & Security	68	78	69	75	79	68	70	78	95	111	133	143	154	

Source: SAMA, 2008

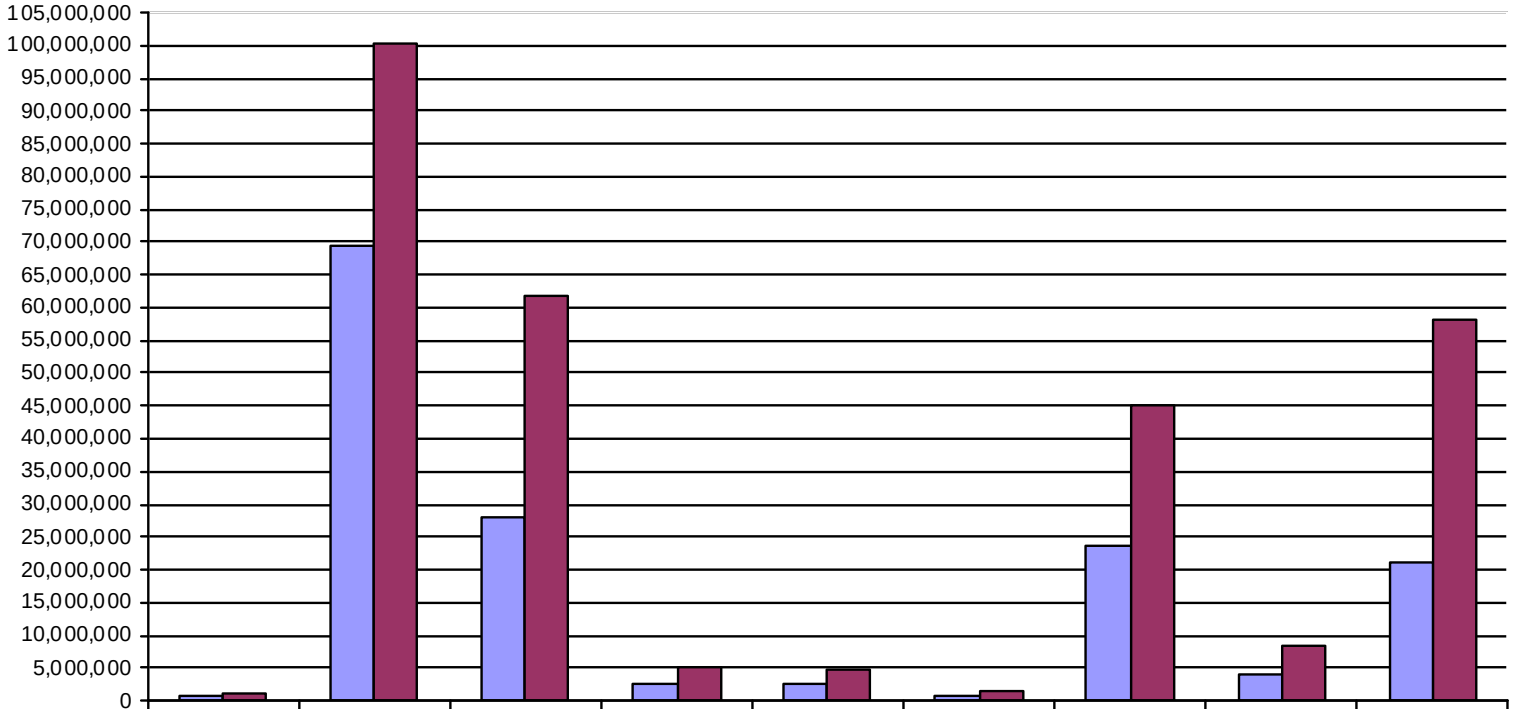
Demographics and Income

Economics and Demographics

- **Generation of demographic pressure on the labor force enters critical period: 30-40% at 14 years or younger.**
- **Too little competitiveness, too much dependence on foreign labor. Chronic "un" and "under" employment.**
- **Unpredictable scale of global economic crisis pressure: All of North Africa, Levant, Iran and Iraq, and:**
  - **Bahrain, Oman, parts of UAE, Saudi Arabia (?)**
  - **End to bubble economics in the Gulf**
  - **Pressure from Yemen and the Horn**
- **Educational issues; work ethic, job pull: "Lost generation?" "Alienation" and extremism?**
- **Income distribution and equity.**

Total Population of Gulf States: 2005 vs 2050

(UN Data)



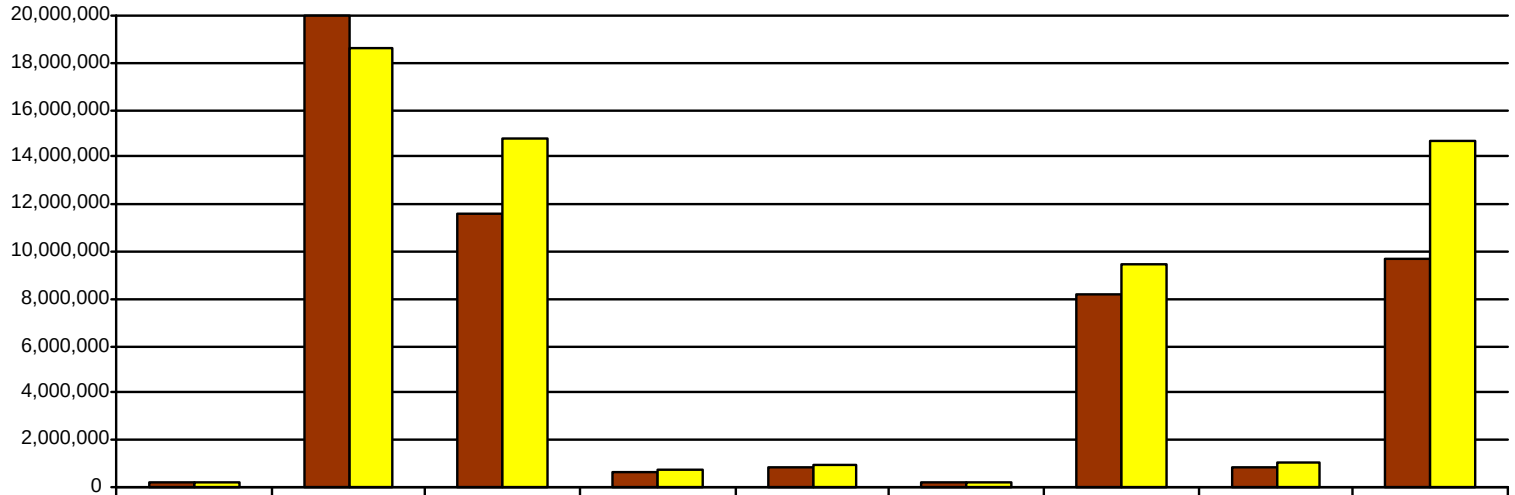
	Bahrain	Iran	Iraq	Kuwait	Oman	Qatar	Saudi Arabia	United Arab Emirates	Yemen
Population 2005	724,788	69,420,607	27,995,984	2,700,000	2,507,042	796,186	23,612,360	4,104,291	21,095,679
Estimaded Population 2050	1,173,037	100,173,596	61,941,632	5,240,174	4,638,971	1,333,342	45,030,295	8,520,789	58,008,932

Note: Estimates for 2030 and 2050 are based on median variant projections

Source: Adapted by Anthony H. Cordesman from the United Nations Population Division's annual estimates and projections

Population of Gulf States Ages 0-14 Years: 2005 vs 2050

(UN Data)

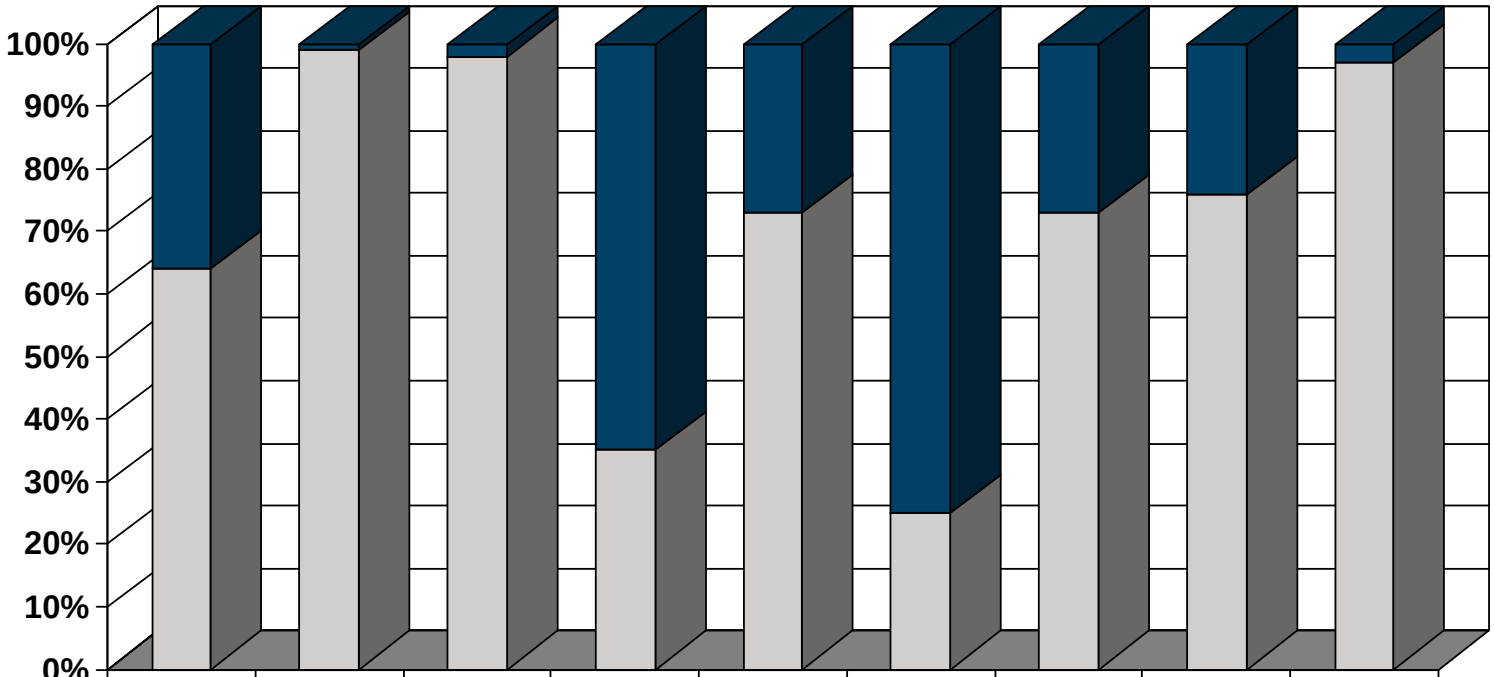


	Bahrain	Iran	Iraq	Kuwait	Oman	Qatar	Saudi Arabia	United Arab Emirates	Yemen
2005 0-14 Years	190,282	19,961,111	11,606,097	641,476	847,128	173,122	8,153,785	814,637	9,678,072
2030 0-14 years	184,402	18,611,541	14,809,245	784,342	967,926	205,625	9,415,064	1,074,180	14,691,100

Note: Estimates for 2030 and 2050 are based on median variant projections

Source: Adapted by Anthony H. Cordesman from the United Nations Population Division's annual estimates and projections

Native vs. Foreign Population of Gulf States: 2010
(Percent)



	Bahrain	Iran	Iraq	Kuwait	Oman	Qatar	Saudi Arabia	UAE	Yemen
Expatriate	36	1	2	65	27	75	27	24	3
Native	64	99	98	35	73	25	73	76	97

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Ethnic and Sectarian Divisions in Gulf States

•Bahrain: 64% Native Arab (majority Shi'a); 36% Expatriate, of which 13% Asian, 10% other Arab, 8% Iranian, 1% European. Muslim (Shia and Sunni) 81.2%, Christian 9%, other 9.8% (2001 census)

•Iran: 51% Persian, 24% Azeri, 8% Gilaki/Mazandarani, 7% Kurd, 3% Arab, 2% Lur, •2% Balouch, 2% Turcoman. Muslim 98% (Shia 89%, Sunni 9%), other (includes Zoroastrian, Jewish, Christian, and Baha'i) 2%

•Iraq: 75-80% Arab (55% Shi'a, 45% Sunni), 20-25% Kurd, 5% Turcoman, Assyrian, Chaldean or Other. Muslim 97% (Shia 60%-65%, Sunni 32%-37%), Christian or other 3%.

•Kuwait: 35% Native; 65% Expatriate, of which 35% other Arab, 9% South Asia, 4% Iranian, 17% Other

•Oman: 73% Native 27% Expatriate (Arab, Baluchi, South Asian (Indian, Pakistani, Sri Lankan, Bangladeshi), African; Ibadhi Muslim 75%, other (includes Sunni Muslim, Shia Muslim, Hindu) 25%

•Qatar: 25% Native Arab; 75% Expatriate (of which, 18% Indian, 18% Pakistani, 10% Iranian, 14% other). Muslim 77.5%, Christian 8.5%, other 14%.

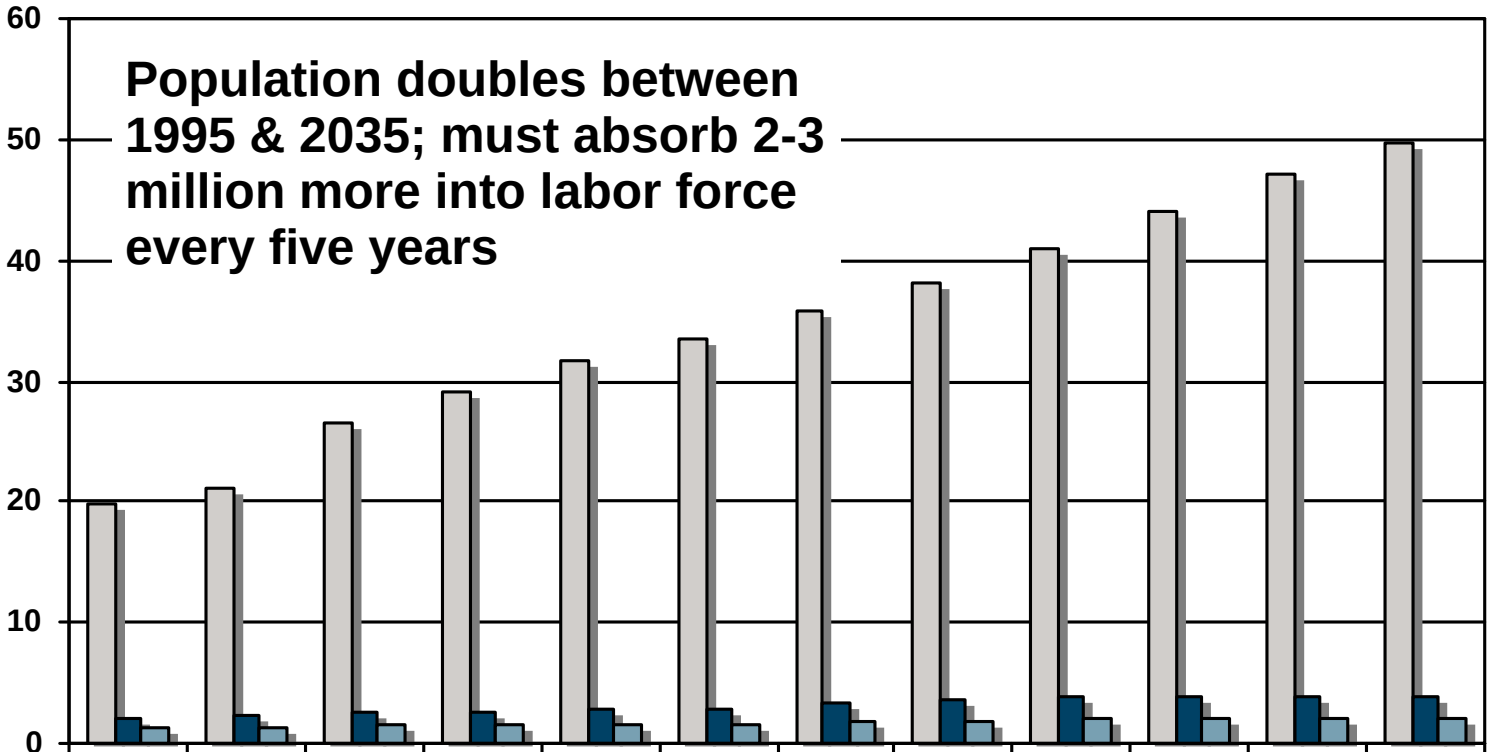
•Saudi Arabia: 73% Native Arab (of which 10% Bedouin, 6% Native Shi'a); 27% Expatriate, of which 20% Asian, 6% 0ther Arab, 1% African & less than 1% European. Muslim: "100%"

•UAE: 20-24% Native; 76-80% Expatriate (of which 30% Indian, 20% Pakistani, 12% other Arab, 10% Other Asian, 2% UK, 1% Other European. Muslim 96% (Shia 16%), other (includes Christian, Hindu) 4%

•Yemen: Predominantly native Arab; but also Afro-Arab, South Asians, Europeans. Muslim including Shaf'i (Sunni) and Zaydi (Shia), small numbers of Jewish, Christian, and Hindu

Adapted by author from IISS, *Military Balance* and CIA *World Factbook*

Saudi Population Pressure: 1995-2050



	1995	2000	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050
Total	19.9	21.1	26.4	29.2	31.6	33.6	35.7	38.2	40.9	44	47	49.8
Age 20-24	2	2.2	2.6	2.7	2.8	2.9	3.3	3.6	3.8	3.8	3.8	3.9
Male 20-24	1.2	1.3	1.5	1.5	1.5	1.5	1.7	1.9	2	2	2	2

Source: US Census Bureau, IDB data base, The 4th Saudi Census began this year, but results are not yet available. Saudi data do not provide similar projections, but some Saudi data indicate the population of the Eastern Province rose from 762,000 in 1974 to 2,575 million in 1992, 3.36 million in 2004, and 3.54 million in 2007. Some experts feel Saudi Arabia exaggerated its data in the past to disguise its lack of population relative to nations like Iran. Others feel Saudi sampling has been relatively accurate, at least since the 3rd census.

Saudi "Youth Bulge"

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are needed to see this picture.

- **29, 207,000 total population**
- **Population growth rate = 1.8 % annually, down from 3.5% in 1995**
- **824,000 births in 2010.**
- **50% of population is 19 years of age of younger.**

Shi'ite Demographics (Dated)

TOTAL POPULATION : 23,118,994 (Native Saudi : 16,854,157, Foreign : 6,264,837)

EASTERN PROVINCE : Total Population : 3,360,157
Native Sunni : 1,541,379
Native Shi'a : 914,765
Foreign : 944,013
The two main regions in the Eastern Province where there are the largest concentrations of native Twelvers Shi'as are the governorship of Qatif and Al Hassa.

- In Qatif, with a population of 474,573 in 2005, there is an estimated 87% Shi'a majority. There is a small community of mainly foreign workers that make up 59,808 of the registered inhabitants of the governorship. The Qatif governorship includes all the overwhelming Shi'a major urban cities such as Qatif city, Saihat, Safwa, Awamiyah and Tarut.
- In Hasa, with a population of 908,366 in 2005, there is an estimated 40% to 45% Shi'a minority. The capital and the largest city by far of the governorship is Hufuf with a population of over 302,841 in 2005. It is a predominantly Sunni city. There is also a small community of foreign workers.
- In the urban triangle of Dammam (the capital of the Eastern Province), Al Khobar and Dhahran, there is also a small Shi'a community that is estimated to have grown to just over 100,000 in 2005 between the three cities.

NAJRAN PROVINCE : Total Population : 419,457

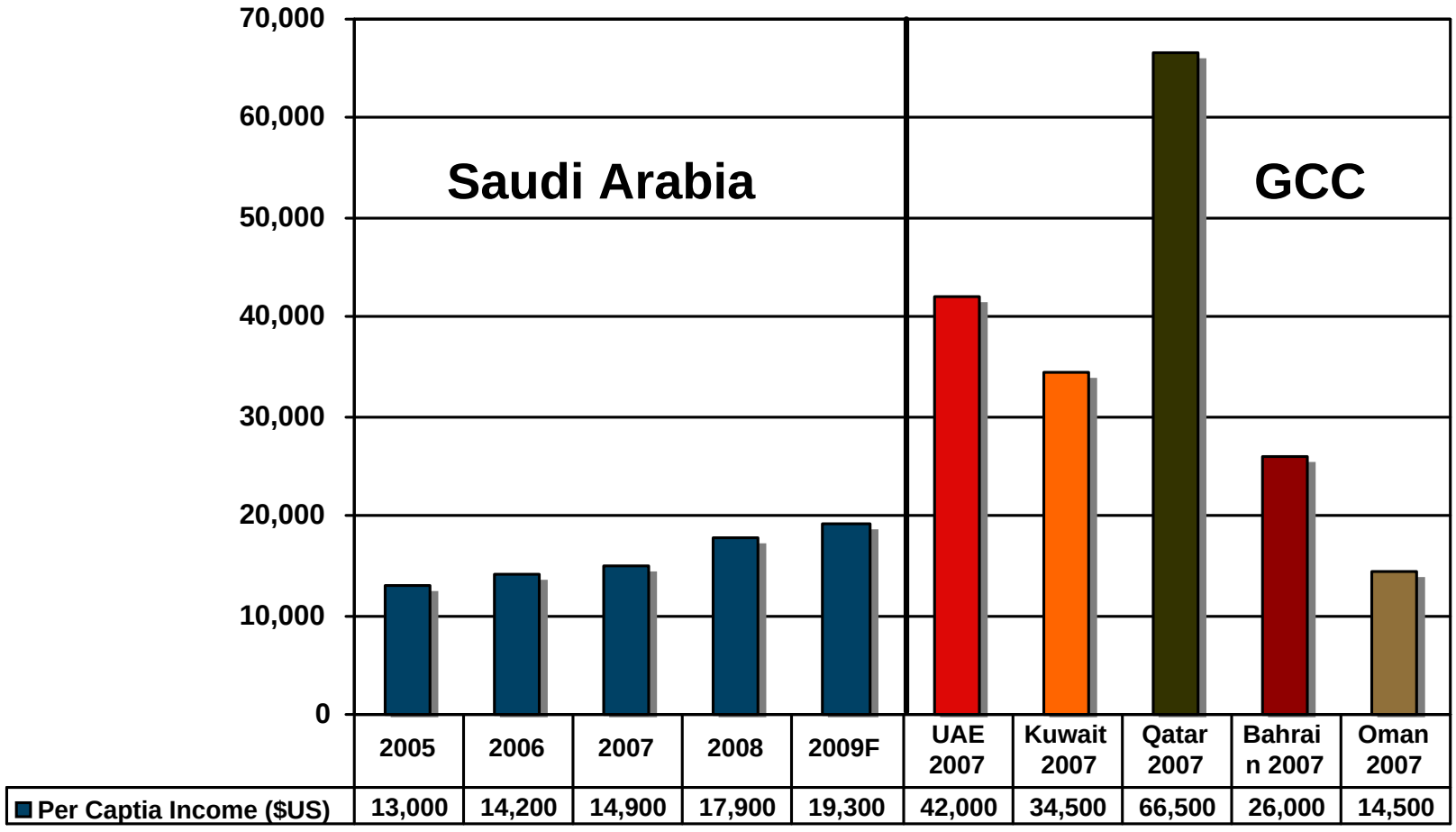
Native Sunni : 124,457
Native Ismaeli : 224,776
Foreign : 70,224
In Southern Province of Najran, with a population of 419,457 inhabitants in 2005, there is an estimated 55% Ismaeli majority. Although a small community with a distinct history revolving around a tribe (Bani Yam), the Ismaelis form a clear majority in Najran.

MADINAH PROVINCE : Total Population : 1,512,076
Native Sunni : 1,207,690 (Minimum Estimate)
Native Shi'a : 80,000 (Average Estimate)
Foreign : 224,386
In the Province of Madinah, with a population of 1,512,076 inhabitants in 2006, there is an estimated 90% Sunni majority. There is a sizeable community of foreign workers that make up 224,386 of the registered inhabitants of the Province. There is a small native Shi'a Twelvers Community in Madinah city that numbers between 50,000 to 75,000. There is also a village outside Madinah city that is populated by a 5,000 to 7,500 native Shi'a twelvers community.

TOTAL SHI'ITE POPULATION :
1) Eastern Province = 914,765
2) Najran Province = 224,776
3) Madinah Province = 80,000 (Average Estimate)
4) Other = 100,000 (Average for small displaced Shi'a communities around Kingdom)
TOTAL 1,319,541 (represent 8% of the native Saudi population base, and 6% of the total population base in the Kingdom for the year 2005-2006.

Source: Nawaf Obaid

The GCC Per Capita Income Challenge: 2008 (Pre-Financial Crisis)



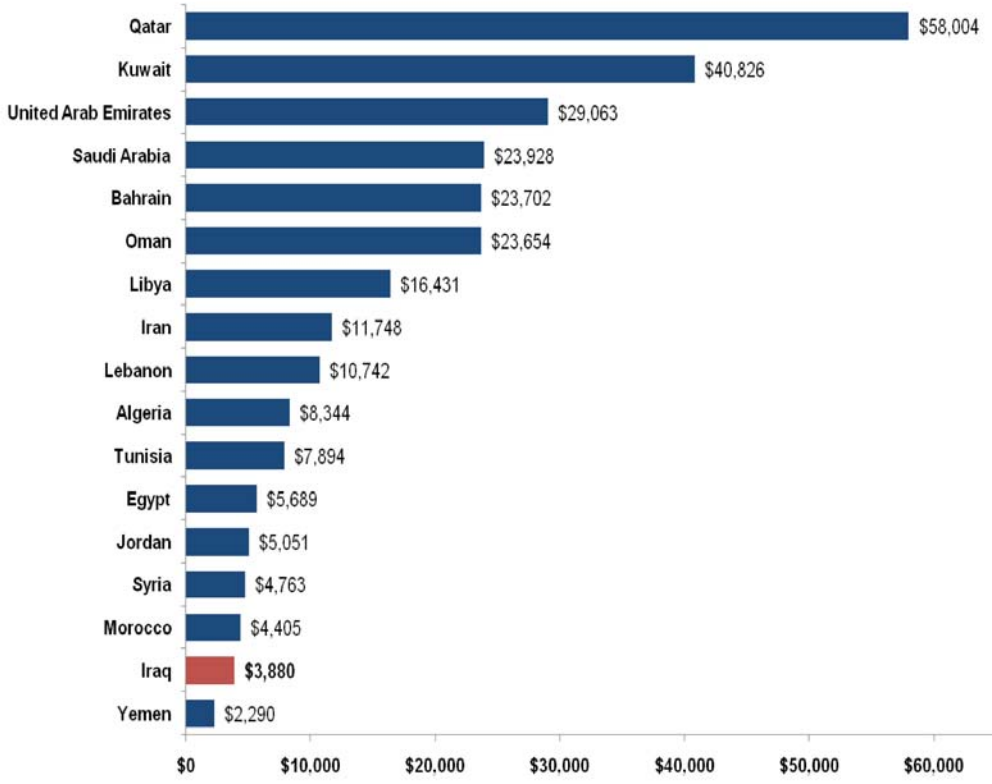
	2005	2006	2007	2008	2009F	UAE 2007	Kuwait 2007	Qatar 2007	Bahrain 2007	Oman 2007
Per Captia Income ($US)	13,000	14,200	14,900	17,900	19,300	42,000	34,500	66,500	26,000	14,500

Source: SAMBA, June 2008

Key Disparities in the GCC States

Increase in oil wealth is matched by major growth in non-oil sector, but major problems remain:

- **Income distribution**
- **Differences in per capita income**
- **Dependence on foreign labor**



Country	Global Ranking
Qatar	3
Kuwait	6
United States	10
UAE	21
Bahrain	28
UK	32
Israel	49
Saudi Arabia	59
Oman	60
Libya	79
Iran	87
Turkey	92
Lebanon	98
World	101
Algeria	126
Egypt	135
Jordan	139
Syria	142
Iraq	161
Gaza Strip	165
West Bank	167

Source: CIA World Factbook, March 2010.

Economics and Energy Exports

Basic Economic Realities Do Not Change. *But Oil Revenues Do* - I

- **GDP in PPP was $581.3 billion in 2009. Was $584.8 in 2008 and $560.2 in 2007.**
- **Oil-based economy with strong government controls over major economic activities.**
- **Possesses more than 20% of the world's proven petroleum reserves, ranks as the largest exporter of petroleum, and plays a leading role in OPEC.**
- **Petroleum sector accounts for roughly 80% of budget revenues, 45% of GDP, and 90% of export earnings**
- **High to moderate oil prices boosted growth, government revenues, and Saudi ownership of foreign assets in 2004-2008, while enabling Riyadh to pay down domestic debt in spite of economic crisis.**
- **Organization of the Petroleum Exporting Countries (OPEC) earned $573 billion in net oil export revenues in 2009, a significant decrease from previous peaks. Saudi Arabia earned the largest share of these earnings, $154 billion – but earned 194 billion in 2007.**
  - **But, per capita oil income was $5,366 versus $25,206 for Qatar, $17.078 for Kuwait, $10,857 for UAE.**
  - **Iraq was only $1,297; Iran $820.**

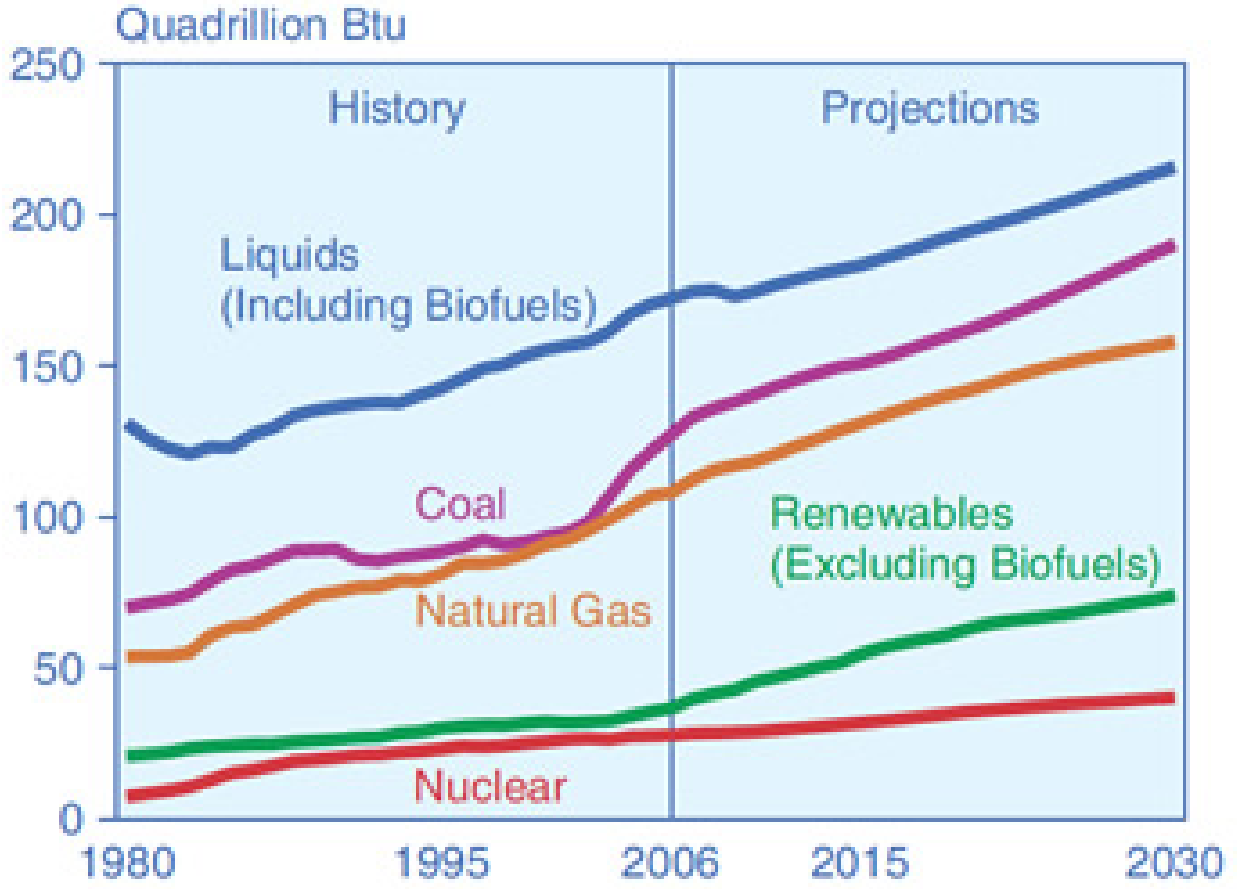
Source: CIA, World Factbook, 2010

Basic Economic Realities Do Not Change. *But Oil Revenues Do* - II

- **28.7 million people; some 5.6 million foreign.**
- **Roughly 6.9 million workers: about 80% foreign.**
- **Ppp per capita income was $20,300 in 2009. Roughly same as 2007 ands 2008.**
- **Encouraging private sector growth - especially in power generation, telecommunications, natural gas exploration, and petrochemicals - to lessen the kingdom's dependence on oil exports and to increase employment opportunities for the swelling Saudi population,**
- **Some 38% of are youths under 15 years old; mean age is only 22.**
- **Unemployment is high (11.6-25%), and the large youth population generally lacks the education and technical skills the private sector needs. Riyadh has substantially boosted spending on job training and education, infrastructure development, and government salaries.**
- **Government is establishing six "economic cities" in different regions of the country to promote development and diversification. Spends 6.8% of GDP on education – 28th in world.**

Source: CIA, World Factbook, 2010

EIA:World Energy Use: 1980-2030



Sources: **History:** Energy Information Administration (EIA), *International Energy Annual 2006* (June-December 2008), web site www.eia.doe.gov/iea. **Projections:** EIA, World Energy Projections Plus (2009).

Source: EIA-IEO 2009

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Trends in Gulf Oil Revenues: 1975-2011

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are needed to see this picture.

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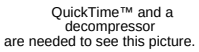
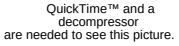
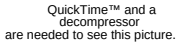
Source: Adapted from Energy Information Agency (EIA), Department of Energy, *OPEC Revenues Fact Sheet*, March 2010,

Trends in Per Capita Gulf Oil Revenues: 1975-2011

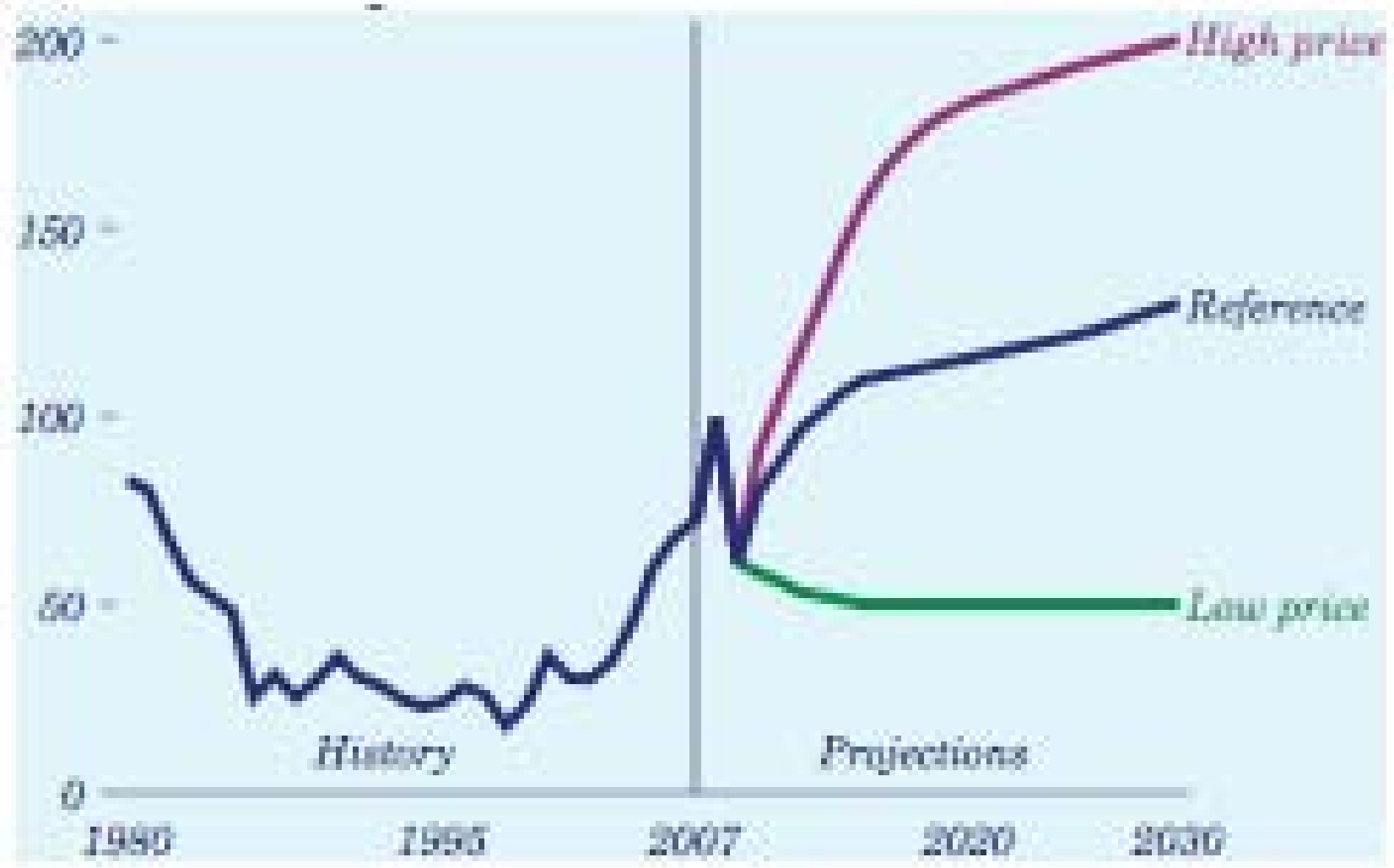






Source: Adapted from Energy Information Agency (EIA), Department of Energy, *OPEC Revenues Fact Sheet*, March 2010,

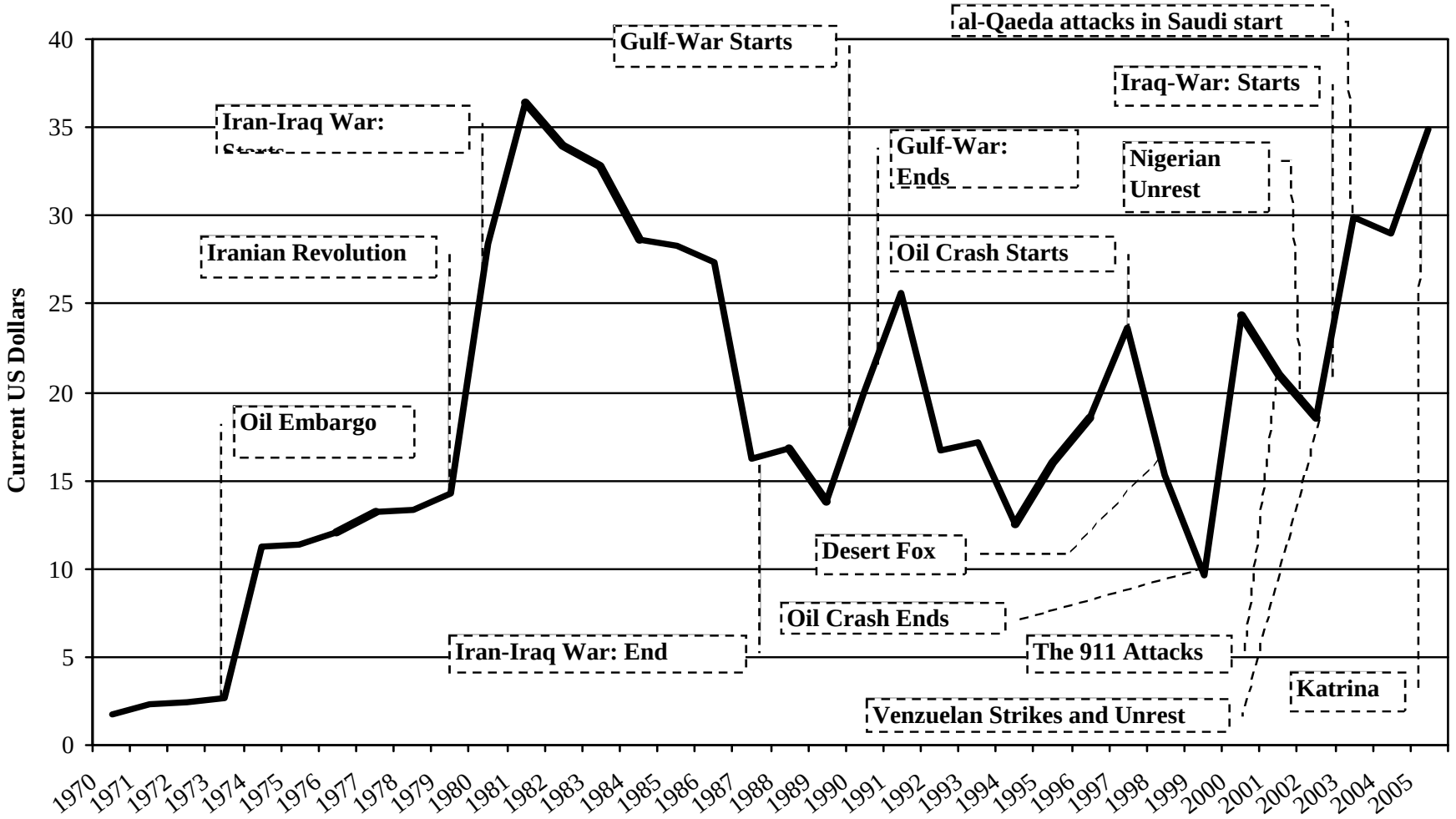
EIA Estimates of Future World Oil Prices



Source: EIA-IEO 2009

History of Oil Shocks: Pre-$100 Oil

Overtimes: more incidents, more frequent volatility, higher risk of asymmetric attacks, and more geopolitical uncertainties.

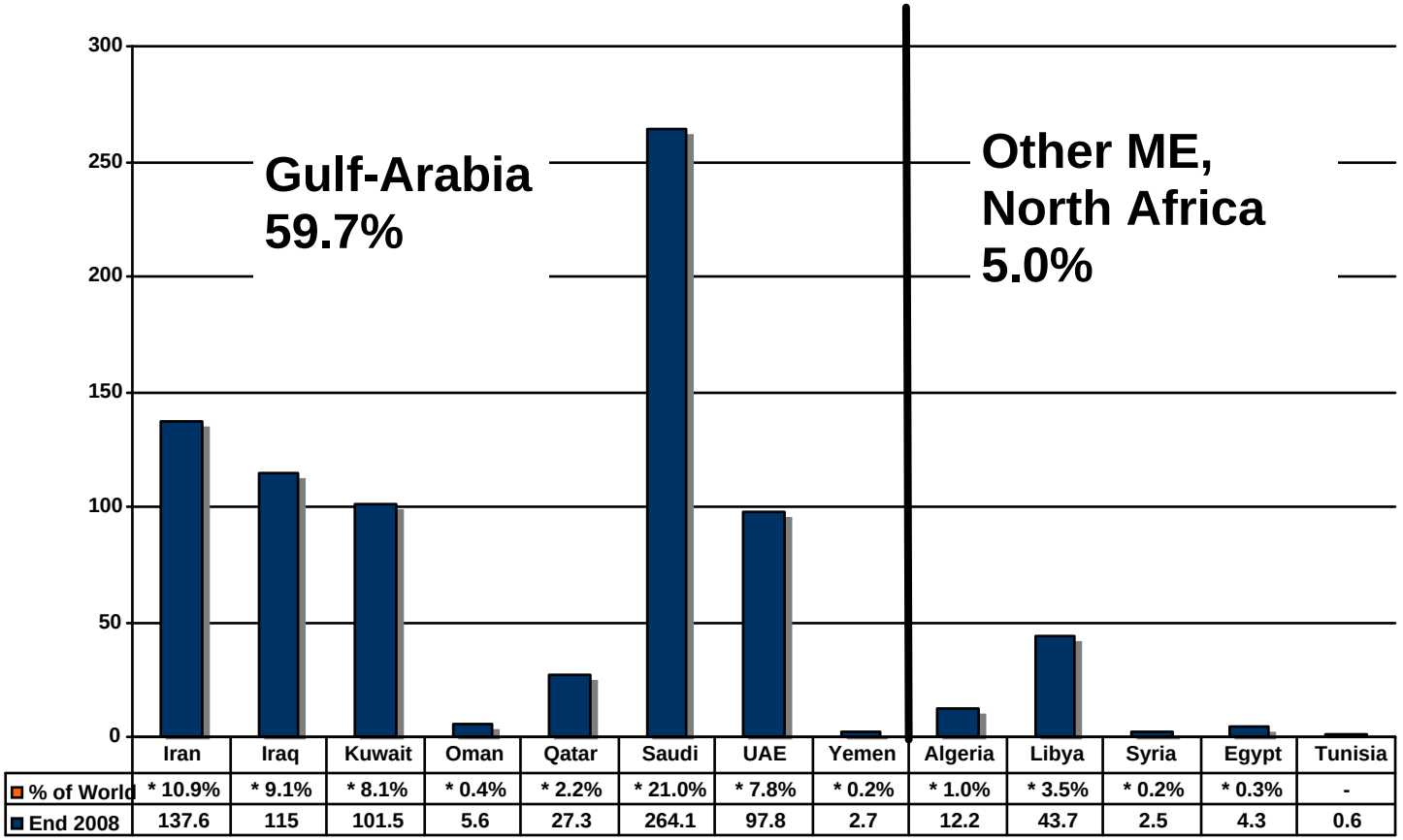


Source: EIA, "Crude Prices by Selected Type 1970-2005," http://www.eia.doe.gov/emeu/aer/txt/ptb1107.html.
Note: These prices are averages of several types: Saudi Light, Iranian Light, Libyan Es Sider, Nigerian Bonny Light, Indonesian Minas, Venezuelan Tia Juana light Mexico Maya, and UK Brent blend

None

BP Projection of Proven Oil Reserves By Gulf and MENA Country:

In Billions of Barrels Per Day

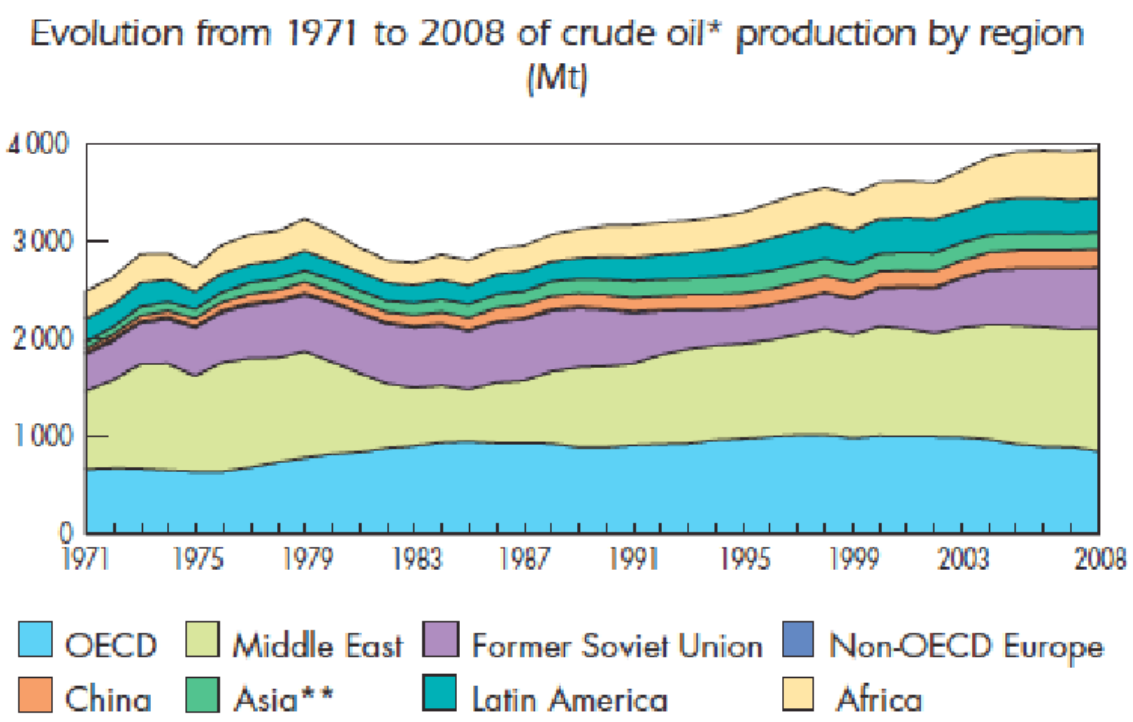


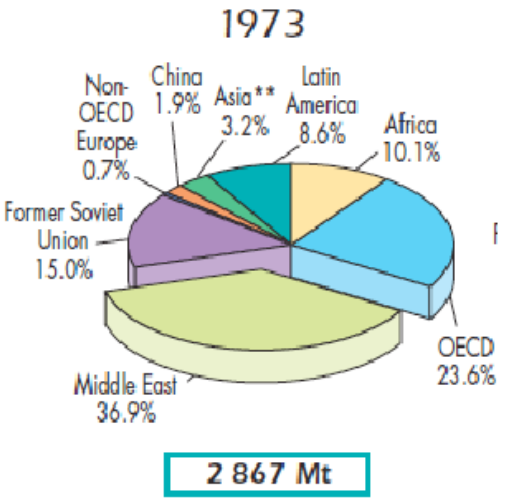
	Iran	Iraq	Kuwait	Oman	Qatar	Saudi	UAE	Yemen	Algeria	Libya	Syria	Egypt	Tunisia
% of World	* 10.9%	* 9.1%	* 8.1%	* 0.4%	* 2.2%	* 21.0%	* 7.8%	* 0.2%	* 1.0%	* 3.5%	* 0.2%	* 0.3%	-
End 2008	137.6	115	101.5	5.6	27.3	264.1	97.8	2.7	12.2	43.7	2.5	4.3	0.6

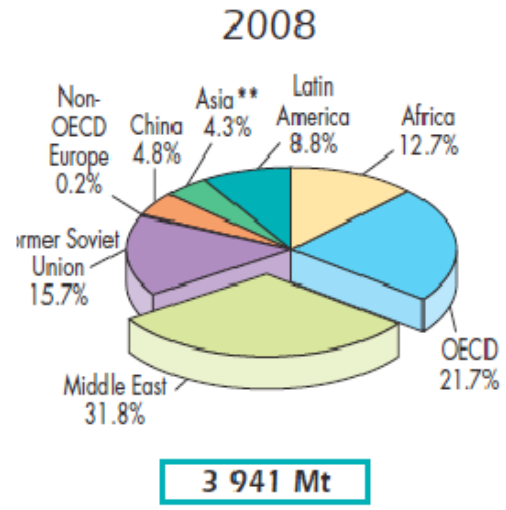
Notes: Proved reserves of oil – Generally taken to be those quantities that geological and engineering information indicates with reasonable certainty can be recovered in the future from known reservoirs under existing economic and operating conditions. Reserves-to-production (R/P) ratio – If the reserves remaining at the end of any year are divided by the production in that year, the result is the length of time that those remaining reserves would last if production were to continue at that rate. Source of data – The estimates in this table have been compiled using a combination of primary official sources, third-party data from the OPEC Secretariat, *World Oil, Oil & Gas Journal* and an independent estimate of Russian reserves based on information in the public domain. **Canadian proved reserves include an official estimate of 22.0 billion barrels for oil sands 'under active development'**. Reserves include gas condensate and natural gas liquids (NGLs) as well as crude oil. Annual changes and shares of total are calculated using thousand million barrels figures.

Source: Adapted from BP, *Statistical Review of World Energy*, *2009*, p. 6

Middle East East Remains Critical Oil Producer After 35 Years of Effort to Find Alternatives

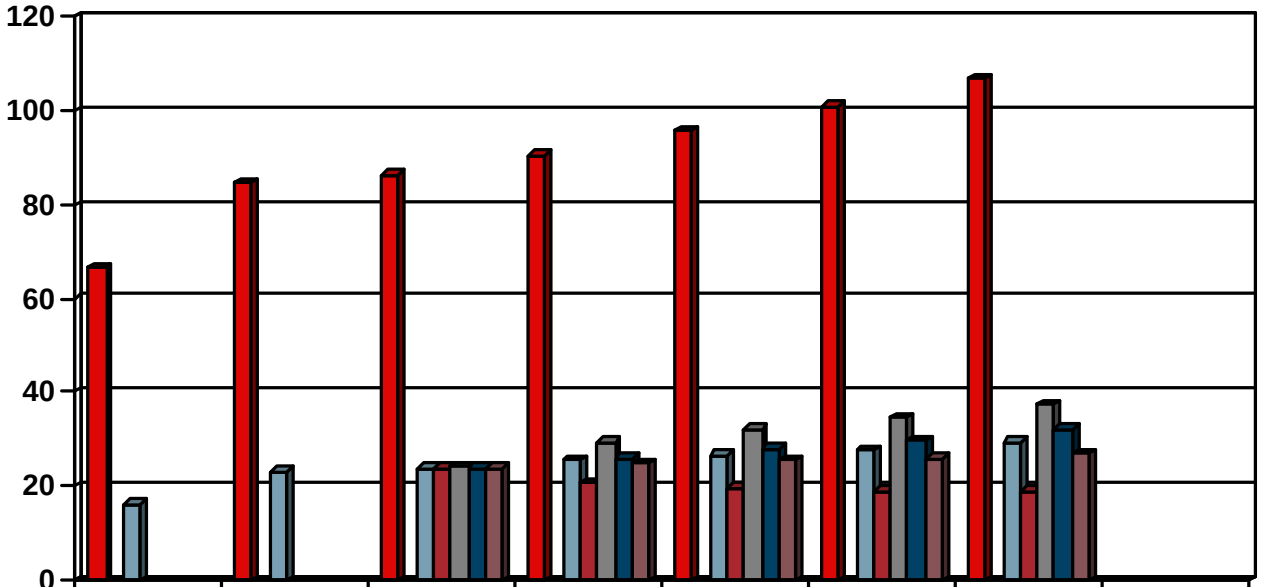






Source: Adapted from IEA, World Energy Statistics, 2009

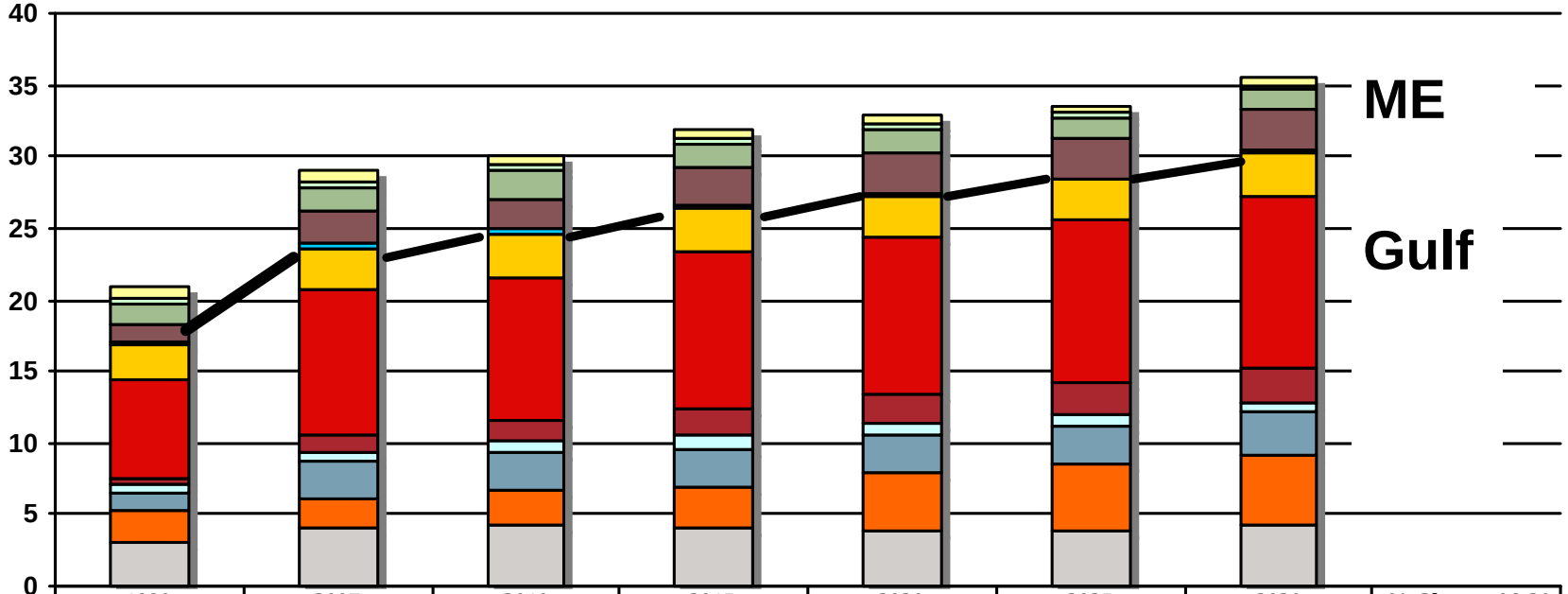
EIA Projections of Gulf OPEC Oil Production 1990-2030: In Millions of Barrels Per Day



	1990	2007	2010	2015	2020	2025	2030	% Change 06-30
World-Reference	66.5	84.8	86.3	90.6	95.9	101.1	106.9	*1.0
Gulf OPEC								
---Reference	16.1	23.1	23.8	25.4	26.7	27.8	29.5	* 0.9
---High Oil Price			23.8	20.8	19.6	19	19.1	* -0.9
---Low Oiil Price			24.1	29.3	32.2	34.8	37.6	* 2.0
---High Econ Growth			23.9	26	28.1	29.7	32.3	* 1.3
---Low Econ Growth			23.8	24.8	25.5	25.9	26.9	* 0.5

Source: Adapted from EIA, *World Energy Outlook*, 2009, pp. 225, 229, 233, 241

EIA Projections of Gulf/ME Oil Production By Country 1990-2030: In Millions of Barrels Per Day



	1990	2007	2010	2015	2020	2025	2030	% Change 06-30
Egypt	0.9	0.7	0.5	0.6	0.6	0.6	0.6	* -0.2
Syria	0.4	0.4	0.5	0.4	0.4	0.3	0.3	* -1.5
Libya	1.4	1.8	1.9	1.7	1.5	1.5	1.5	* 0.1
Algeria	1.3	2.2	2.2	2.7	2.8	2.8	2.8	* 3.9
Yemen	0.2	0.3	0.3	0.2	0.2	,2	0.2	* -3.7
UAE	2.3	2.9	3	3	2.9	2.9	2.9	* 0.3
Saudi	7	10.2	10	10.9	11	11.3	12	* 3.3
Qatar	0.4	1.1	1.4	1.9	2.1	2.3	2.5	* 0.5
Oman	0.7	0.7	0.8	0.9	0.7	0.7	0.7	* -0.2
Kuwait	1.2	2.6	2.7	2.7	2.6	2.7	2.9	* -0.1
Iraq	2.1	2.1	2.5	2.9	4.2	4.6	5	* 0.5
Iran	3.1	4	4.2	4	3.8	3.9	4.2	* -0.1

Source: Adapted from EIA, *World Energy Outlook*, 2009, p. 225

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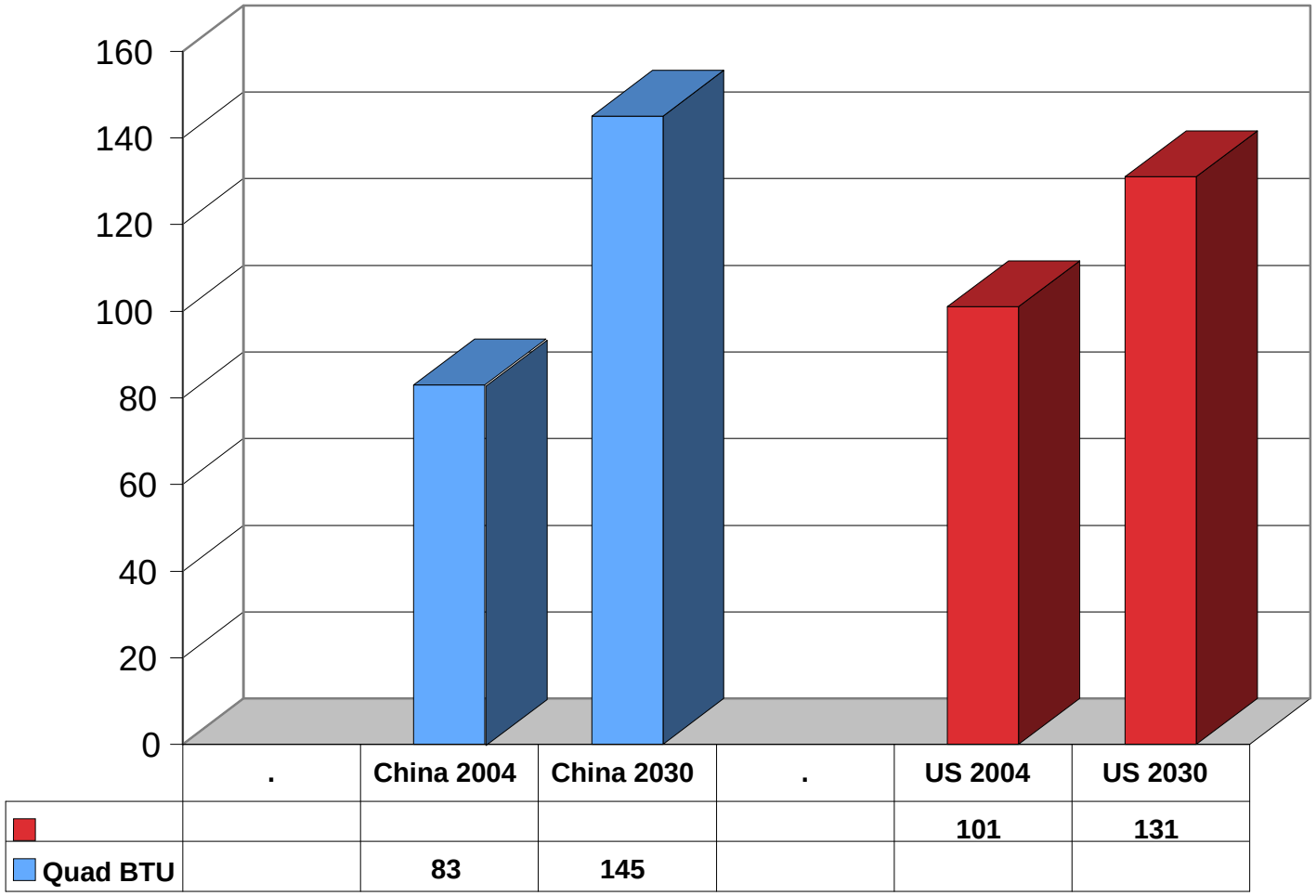
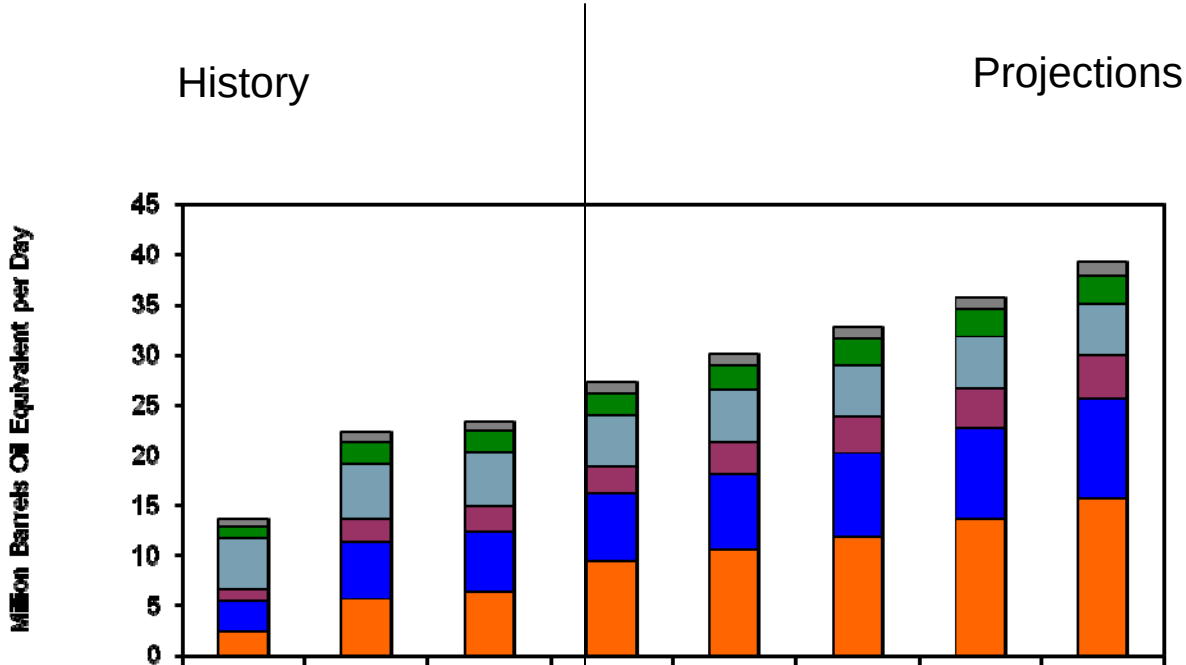
Growth of China and US Energy Demand

Consumption of Energy in Quadrillion BTUs: 2004 vs. 2030



Adapted from DOE/EIA, IEO 2009, Table A1 Reference Case In Quadrillions of Btus.

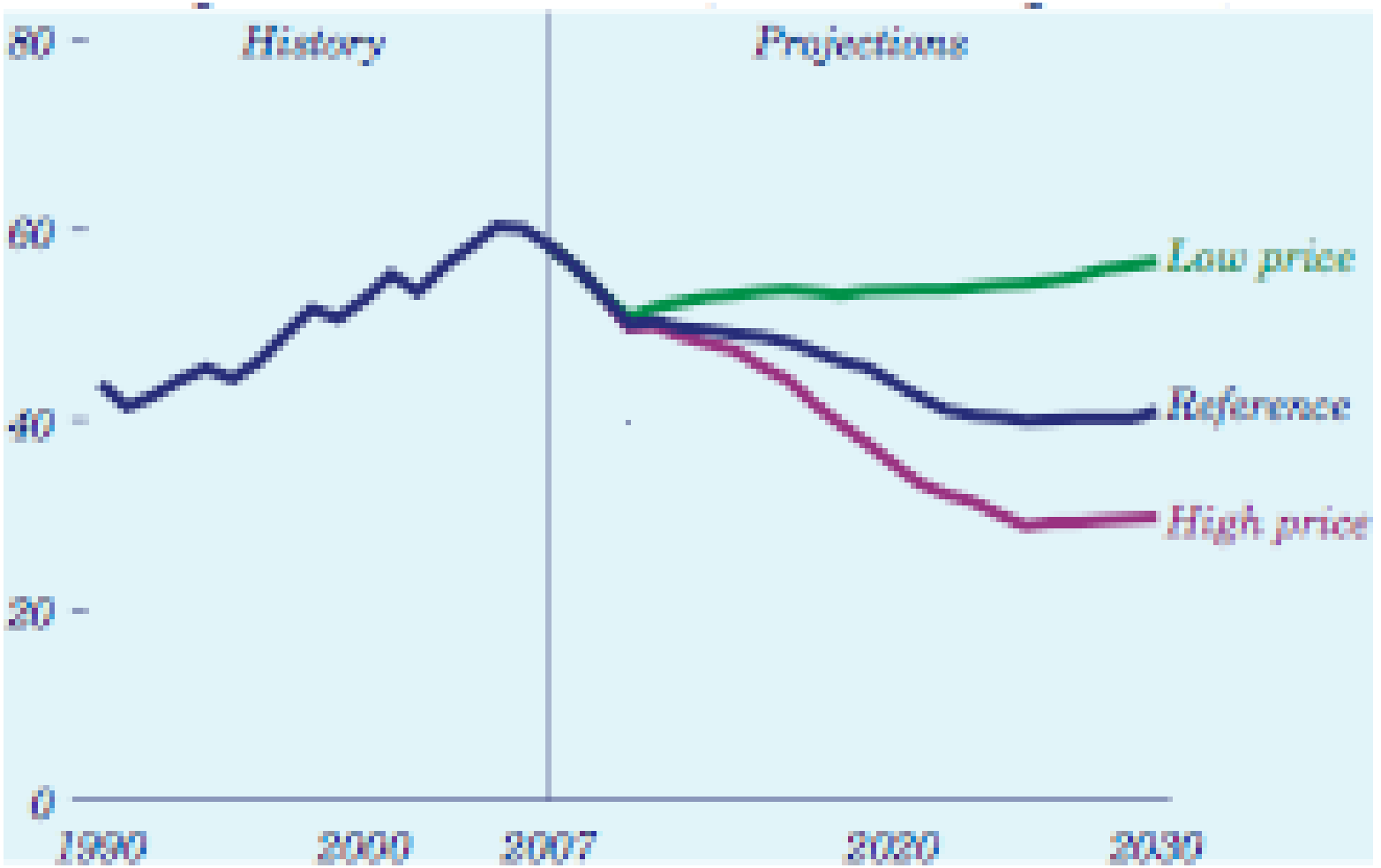
Impact of Rising Asian Liquids Consumption in the EIA Reference Case, 1990-2030



	1990	2003	2004	2010	2015	2020	2025	2030
Aus/NZ	0.8	1	1	1.1	1.1	1.2	1.2	1.3
South Korea	1	2.2	2.1	2.2	2.5	2.6	2.7	2.8
Japan	5.2	5.5	5.4	5.2	5.2	5.2	5.2	5.2
India	1.2	2.3	2.5	2.7	3.2	3.6	4	4.4
Other	3.1	5.7	6	6.7	7.6	8.3	9	9.8
China	2.3	5.6	6.4	9.4	10.5	11.9	13.6	15.7
Total Asia	0	0	0	0	0	0	0	0
World	0	0	0	0	0	0	0	0
% Total	0	0	0	0	0	0	0	0

Source: EIA, IEO2009, Appendix A, p. 88

Net Import Share of U.S. Liquid Fuels Consumption, 1990-2030 (2009 Estimate) in Percent



DOE-IEA, Annual Energy Outlook 2009, p. 82

Economics and Demographics

- **Generation of demographic pressure on the labor force enters critical period: 30-40% at 14 years or younger.**
- **Too little competitiveness, too much dependence on foreign labor. Chronic "un" and "under" employment.**
- **Unpredictable scale of global economic crisis pressure: All of North Africa, Levant, Iran and Iraq, and:**
  - **Bahrain, Oman, parts of UAE, Saudi Arabia (?)**
  - **End to bubble economics in the Gulf**
  - **Pressure from Yemen and the Horn**
- **Educational issues; work ethic, job pull: "Lost generation?" "Alienation" and extremism?**
- **Income distribution and equity.**

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Saudi National Security and the Saudi-US Strategic Partnership:

Part Two: The Conventional Military Balance, Missile Warfare, and the Impact of Weapons of Mass Destruction

Anthony H. Cordesman
Arleigh A. Burke Chair in Strategy

CSIS | CENTER FOR STRATEGIC & INTERNATIONAL STUDIES | Burke Chair in Strategy

Rough Working Draft: Revised April 28, 2010

Key Issues Addressed

- **Saudi Arabia defense policies and key threats;**
- **Past, current and future state of the forces shaping security policy and defense trends and needs of Saudi Arabia;**
- **Political influences on Saudi Arabia defense decisions and reactions;**
- **Defense policy decision-making process in Saudi Arabia; and**
- **US engagement with the Saudi Arabia defense departments and adjunct government organizations.**

Saudi Strategic Priorities and Threat Perceptions

Saudi Arabian Security Policies

- ***Internal security and stability first*.**
- **Use diplomacy and aid to secure the Kingdom against neighbors.**
- **Rely on mix of external powers to deter outside threats while limiting their involvement in Saudi Arabia;**
- **GCC more image than real.**
- **Create overlapping security forces for internal security; counterterrorism is critical priority**
- **Focus military development on outside threats: Iran, Iraq, Yemen; regional challenges like Israel and India**
- **Focus military forces on airpower and land based air defense, defense of upper Gulf and Yemen, coastal areas, Gulf, and Red Sea. Emerging Gulf and Red Sea fleets.**
- **Land forces in military cities backed by air bases at critical borders: Yemen-Iraq. Airpower provides strategic mobility, compensates for limited manpower and forces.**
- **Constantly assess ballistic missile and nuclear threats.**

Key Perceived Threats

- **Iran: Nuclear, missiles, Iraq, Non-State Actors, and asymmetric forces in Gulf and region.**
- **Al Qa'ida in Peninsula, terrorist groups.**
- **Yemeni instability, demographics, military threat, border problems;**
- **Shi'ite internal unrest.**
- **Other unrest, sabotage.**
- **Instability or discrediting of Pilgrimage and Saudi role as custodian of Islamic Holy Places.**
- **Threat to oil and gas export routes/imports/chokepoints.**
- **Syria, Lebanon, "Shi'ite crescent"**
- **Israel, Palestinians, and Jordanian stability.**
- **Iraqi stability and border**

Most Likely Foreign Threats Are Not Formal Conflicts

- **Non-State Actors: AQIP and other extremists.**
- **Direct and indirect threats of using force. (I.e. Iranian efforts at proliferation)**
- **Use of irregular forces and asymmetric attacks.**
- **Proxy conflicts using terrorist or extremist movements or exploiting internal sectarian, ethnic, tribal, dynastic, regional tensions.**
- **Arms transfers, training in host country, use of covert elements like Quds force.**
- **Harassment and attrition through low level attacks, clashes, incidents.**
- **Piracy**
- **Limited, demonstrative attacks to increase risk, intimidation.**
- **Strike at critical node or infrastructure.**

Military Threats and the Conventional Balance

The GCC Threat to the GCC

- **Vast lead in military spending and arms imports**
- **Support from US, Britain, France**

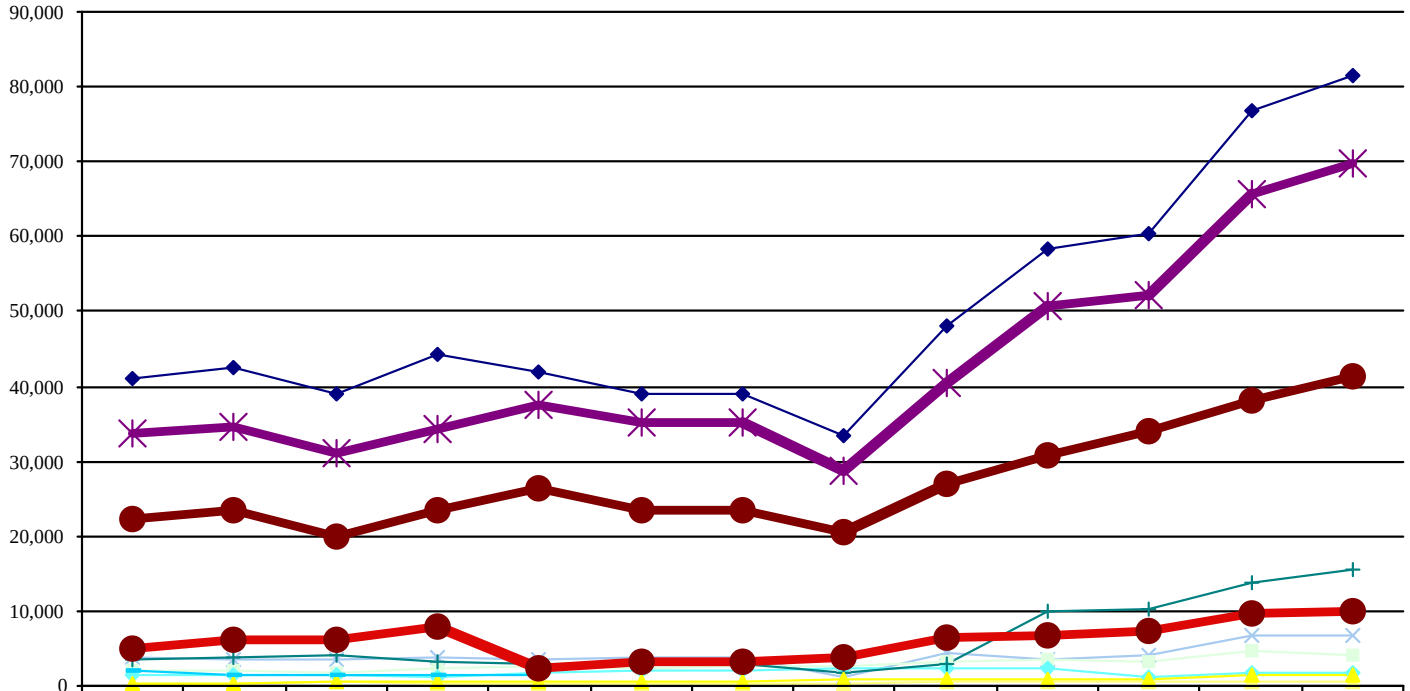
But,

- **Poor Mission Focus with Limited Coordination**
- **Lack of Integration, Standardization**
- **Problems in Large-Scale Exercises and Training; Military Realism**
- **Problems in Jointness – including security services, police, and intelligence – and combined arms.**
- **Lack of Balanced Force Development: Manpower Quality and Sustainability**

Regional Cooperation on Iran?

- **Truth is there is limited regional cooperation among the Gulf nations with regards to Iran.**
- **Region-wide drive to bolster naval forces to countering the perceived growing threat from Iran.**
- **Oman, like Syria and Qatar, sees in Iran an important political and economic ally that is too powerful and too potentially dangerous to ignore, let alone antagonize; while defying Egypt, Saudi Arabia and other Arab nations in their efforts to curb Iranian influence and Nuclear ambitions.**
- **United Arab Emirates, which is battling with Iranian leaders over the title to three Persian Gulf islands, has done little to stop billions of dollars in annual trade with Iran.**
- **Sunni-led Arab countries are concerned over Tehran's influence with the Shiite-dominated government in Iraq.**
- **Qatar says it is mediating between Iran and Arab powers such as Egypt and Saudi Arabia, where the ruling family feels threatened by Iranian power.**
- **Continued developments in Saudi and Egyptian outreach to Arab nations to unite against Iranian influence and Nuclear Ambitions as well as outreach efforts to Syria in efforts to break Iranian-Syrian ties.**
- **Continued U.S. engagement and “security umbrella” seems to be key to any resemblance of Regional Cooperation in regards to Iran.**

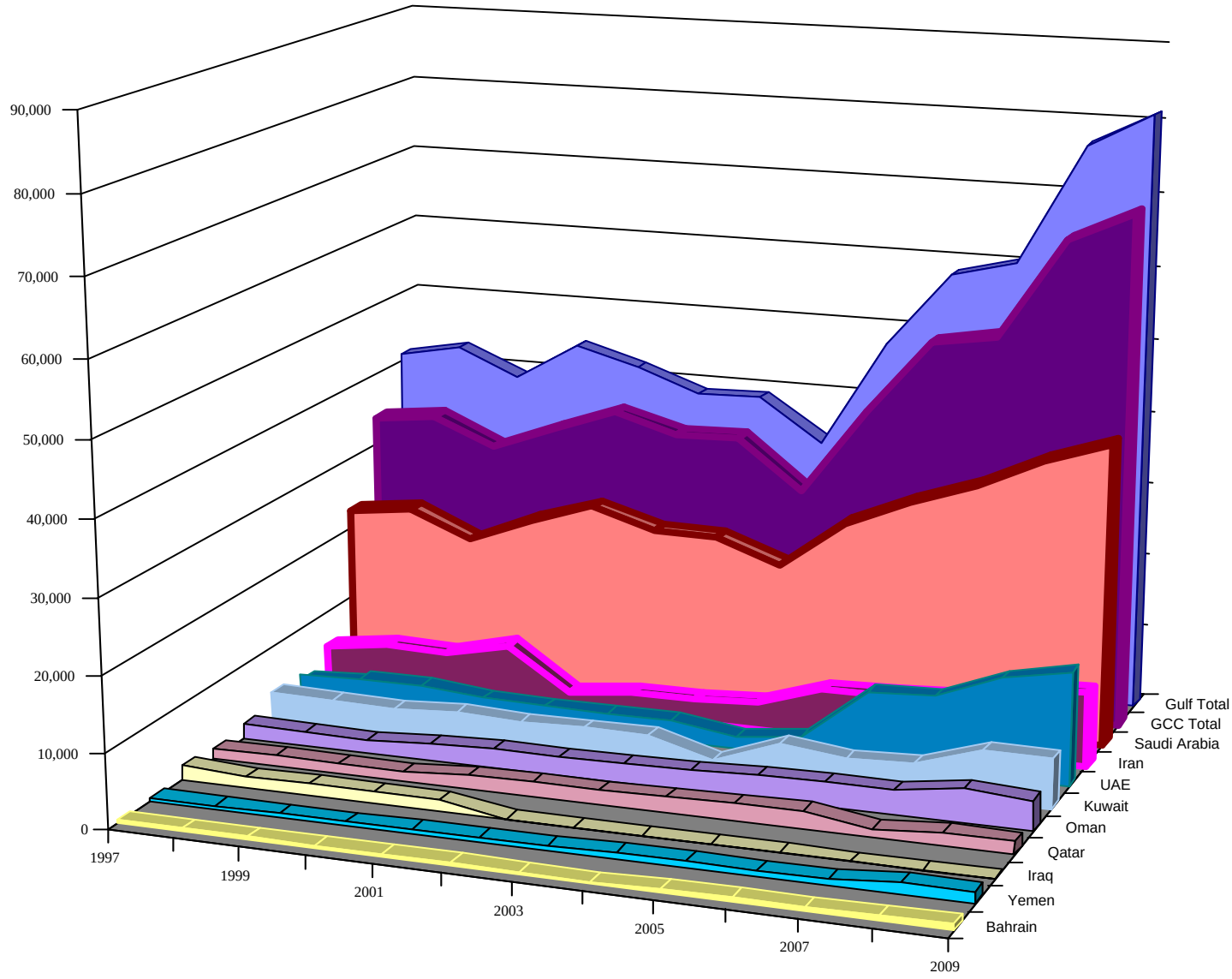
Comparative Military Spending: 1997-2009



	1997	1998	1999	2000	2001	2002	2003	2004*	2005	2006	2007	2008	2009
Bahrain	387	427	472	342	355	352	350	191	559	498	550	552	697
Kuwait	3,827	3,614	3,401	3,933	3,614	3,720	3,720	1,275	4,539	3,640	4,002	6,810	6,650
Oman	2,126	1,913	1,701	2,232	2,551	2,445	2,657	2,764	3,210	3,410	3,298	4,657	4,060
Qatar	1,382	1,382	1,488	1,275	1,807	2,020	2,020	2,232	2,327	2,430	1,090	1,750	1,750
UAE	3,614	3,933	4,039	3,189	2,976	2,976	2,976	1,701	2,817	9,888	10,292	13,730	15,470
Saudi Arabia	22,323	23,386	19,878	23,386	26,256	23,599	23,599	20,515	27,000	30,810	34,020	38,200	41,200
GCC Total	33,659	34,655	30,979	34,357	37,559	35,112	35,322	28,678	40,452	50,676	52,142	65,699	69,827
Yemen	437	421	456	529	570	547	596	940	1,001	858	927	1,490	1,550
Iraq	1,982	1,382	1,488	1,488	1,488	?	?	?	?	?	?	?	?
Iran	4,996	6,165	6,060	7,972	2,232	3,189	3,189	3,720	6,590	6,759	7,310	9,590	10,000
Gulf Total	41,074	42,623	38,983	44,346	41,849	38,848	39,107	33,338	48,043	58,290	60,379	76,779	81,377

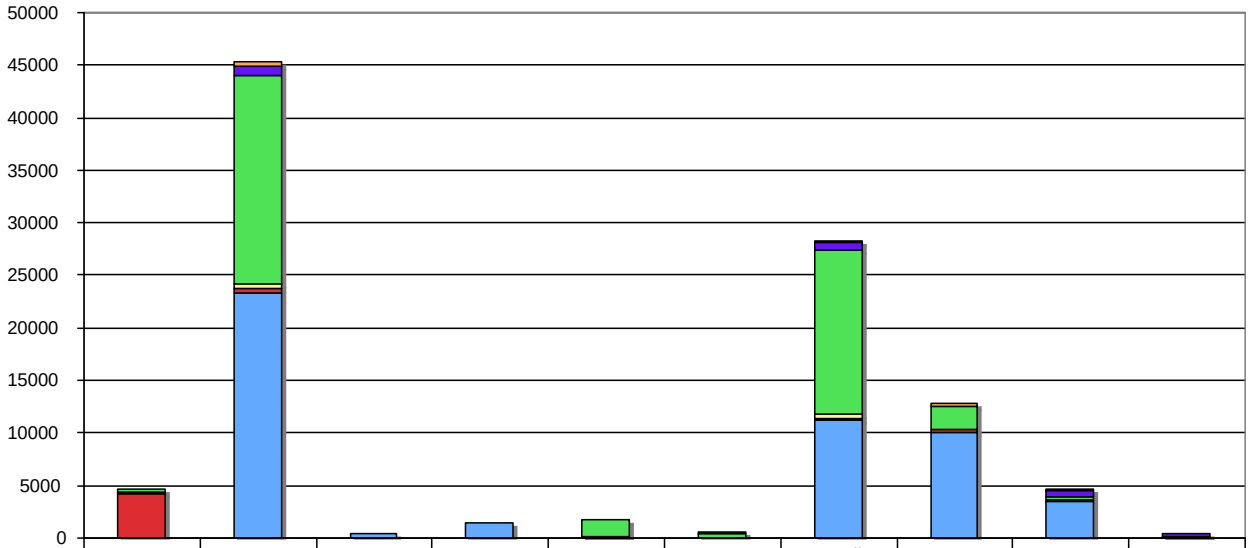
Derived from IISS, Military Balance, various editions

Comparative Military Spending: 1997-2008



Derived from IISS, Military Balance, various editions

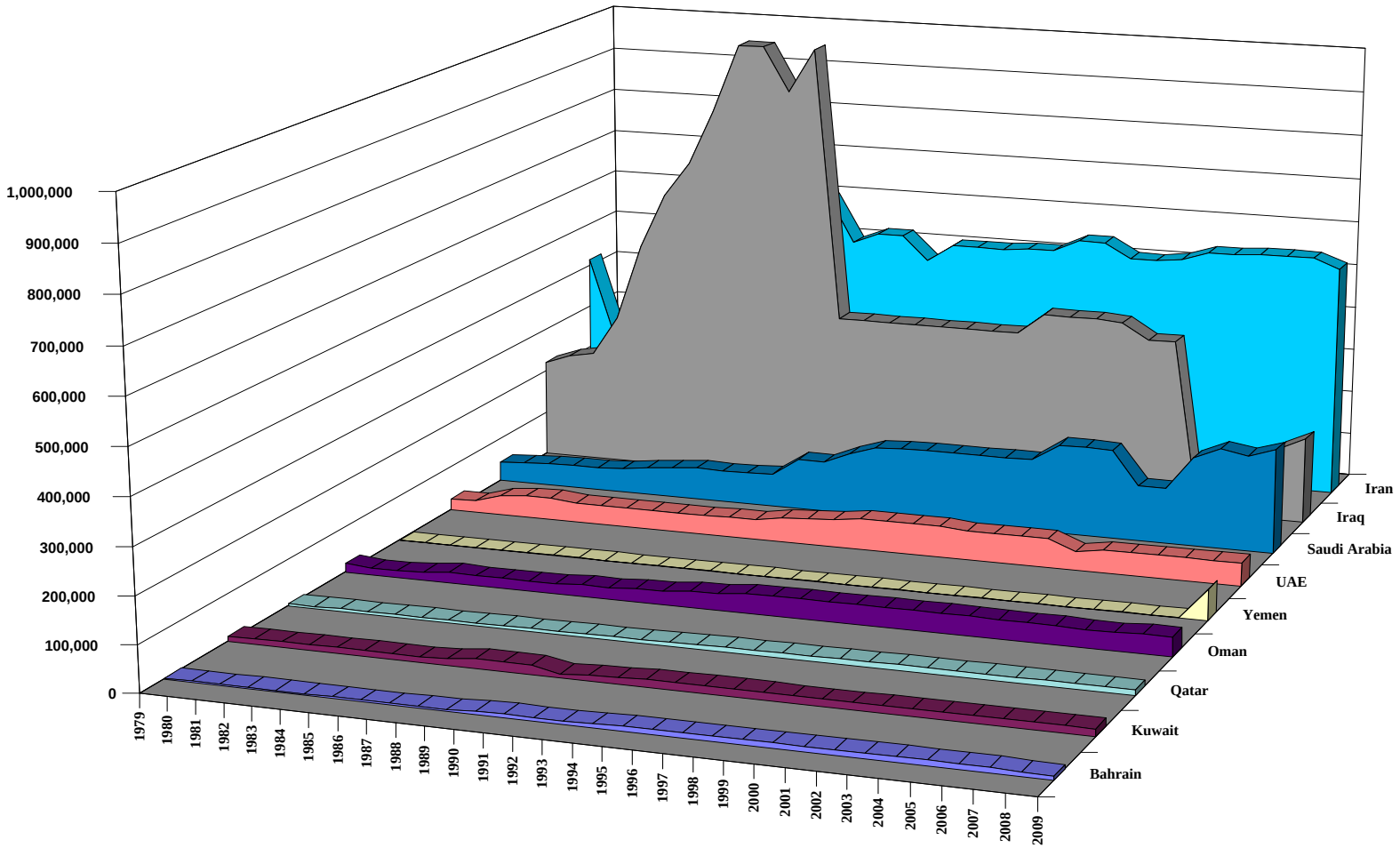
New Arms Orders by Supplier: 2005-2008



	Iran	GCC	Bahrain	Kuwait	Oman	Qatar	Saudi Arabia	UAE	Iraq	Yemen
Total	*4,600	*44,300	*400	*1,500	*1,700	*600	*28,300	*12,800	*4,600	*400
All Others	0	400	0	0	0	100	100	200	100	0
All Other European	0	900	0	0	0	0	800	100	600	200
Major West European	200	19,800	0	0	1,500	500	15,600	2,200	200	0
China	100	400	0	0	0	0	400	0	100	0
Russia	4,300	500	0	0	0	0	200	300	100	200
US	0	23,300	400	1,500	200	0	11,200	10,000	3,500	0

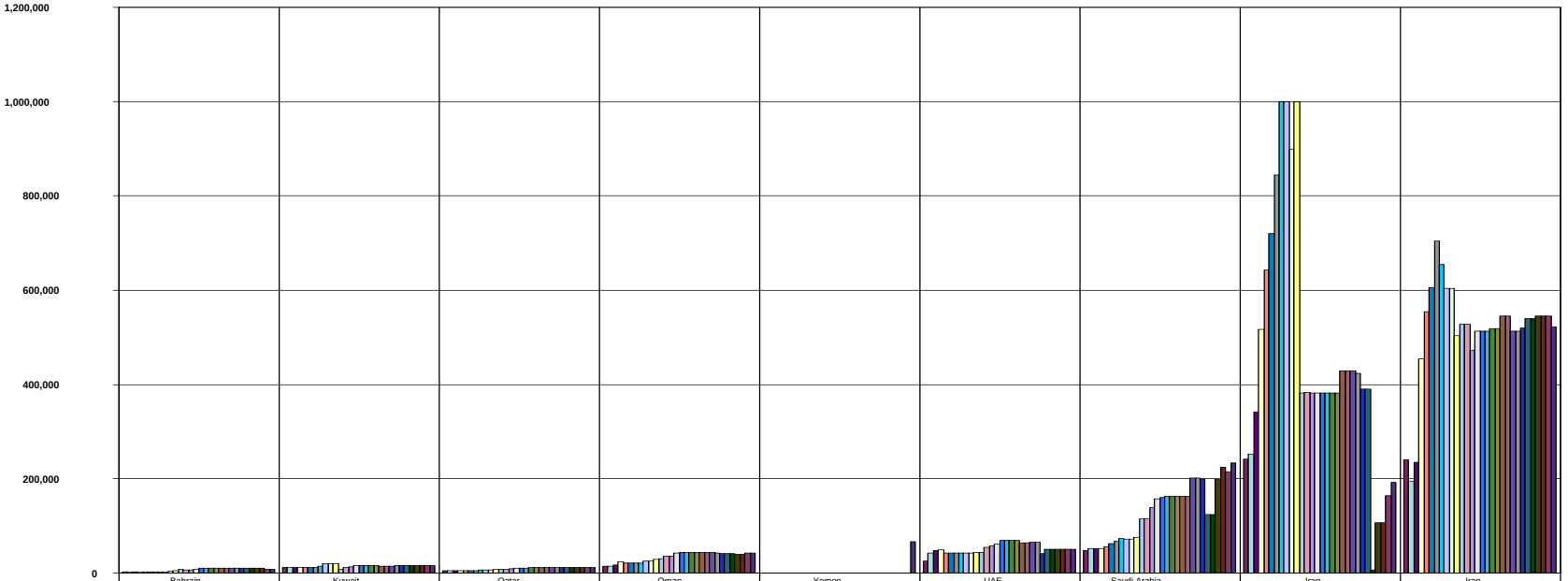
0 = Data less than $50 million or nil. All data rounded to the nearest $100 million.
Source: Richard F. Grimmett, Conventional Arms Transfers to the Developing Nations, Congressional Research Service, various editions.

Comparative Military Manpower Trends



Derived from IISS, Military Balance, 2008

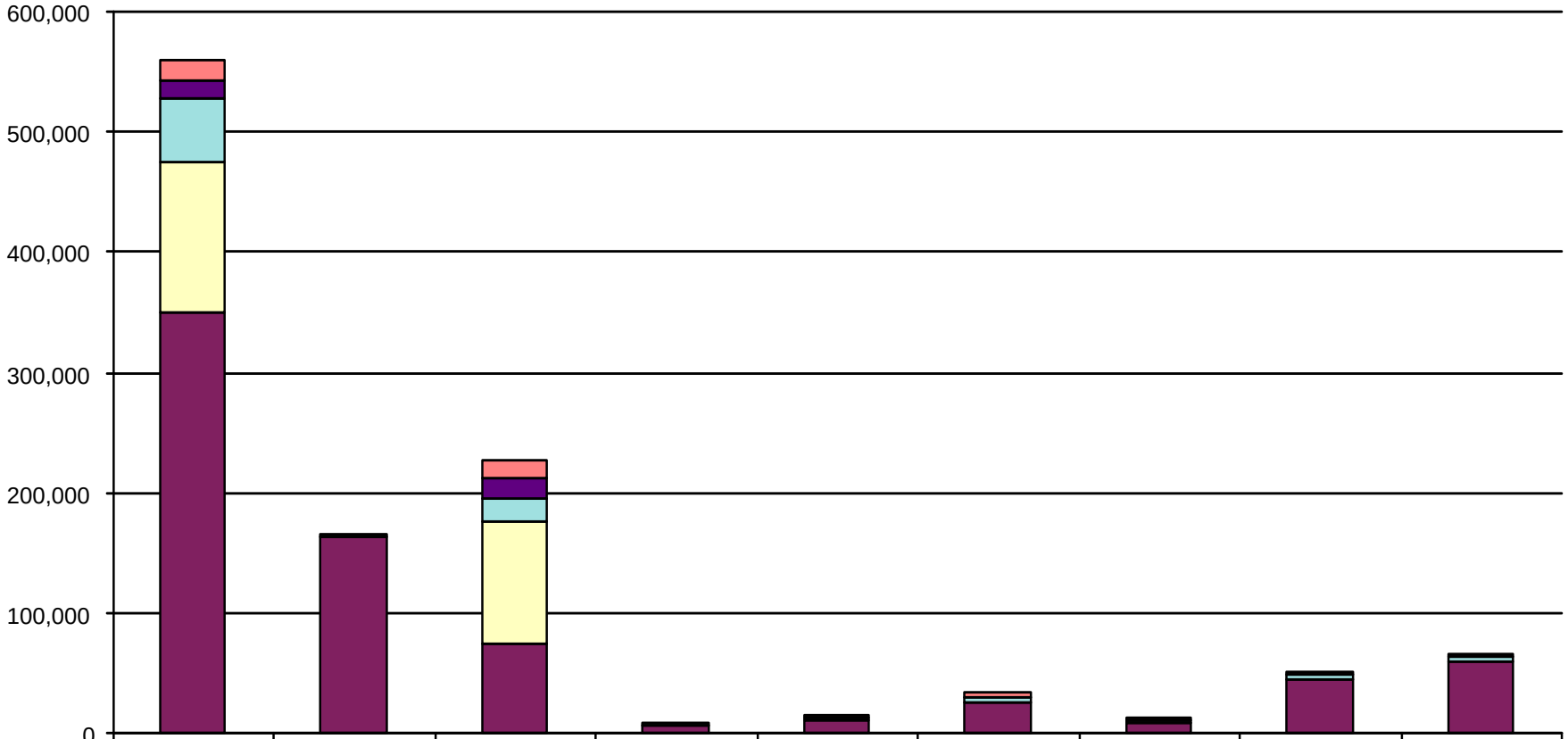
Comparative Military Manpower Trends



	Bahrain	Kuwait	Qatar	Oman	Yemen	UAE	Saudi Arabia	Iraq	Iran
1980	2,500	12,400	4,700	14,200		25,150	47,500	242,250	240,000
1981	2,500	12,400	5,700	14,500		42,500	51,700	252,250	195,000
1982	2,550	12,400	6,000	18,000		48,500	52,200	342,250	235,000
1983	2,700	12,400	6,000	23,550		49,000	52,500	517,250	455,000
1984	2,800	12,500	6,000	21,500		43,000	55,500	642,250	555,000
1985	2,800	12,000	6,000	21,500		43,000	62,500	720,000	605,000
1986	2,800	12,000	6,000	21,500		43,000	67,500	845,000	704,500
1987	2,800	15,000	7,000	21,500		43,000	73,500	1,000,000	654,500
1988	2,850	20,300	7,000	25,500		43,000	72,300	1,000,000	604,500
1989	3,350	20,300	7,000	25,500		43,000	72,300	900,000	604,500
1990	6,000	20,300	7,500	29,500		44,000	75,700	1,000,000	504,000
1991	7,450	8,200	7,500	30,400		44,000	115,000	382,500	528,000
1992	7,150	11,700	7,500	35,700		54,500	115,000	383,500	528,000
1993	7,150	13,700	9,500	36,700		57,500	139,000	382,500	473,000
1994	8,100	16,600	10,100	42,900		61,500	158,000	382,500	513,000
1995	10,700	16,600	11,100	43,500		70,000	161,000	382,500	513,000
1996	10,700	16,600	11,200	43,500		70,000	162,500	382,500	513,000
1997	10,700	16,600	11,800	43,500		70,000	162,500	382,500	518,000
1998	10,700	16,600	11,800	43,500		70,000	162,500	382,500	518,000
1999	11,000	15,300	11,800	43,500		64,500	162,500	429,000	545,600
2000	11,000	15,300	11,800	43,500		64,500	162,500	429,000	545,600
2001	11,000	15,300	12,330	43,500		65,000	201,500	429,000	513,000
2002	11,000	15,500	12,330	43,400		65,000	201,500	424,000	513,000
2003	10,700	15,500	12,400	41,700	-	41,500	199,500	389,900	520,000
2004	11,200	15,500	12,400	41,700	-	50,500	124,500	389,900	540,000
2005	11,200	15,500	12,400	41,700	-	50,500	124,500	7,116	540,000
2006	11,200	15,500	12,400	39,700	-	50,500	199,500	107,000	545,000
2007	11,200	15,500	12,400	39,700	-	51,000	224,500	107,000	545,000

Derived from IISS, Military Balance, 2008

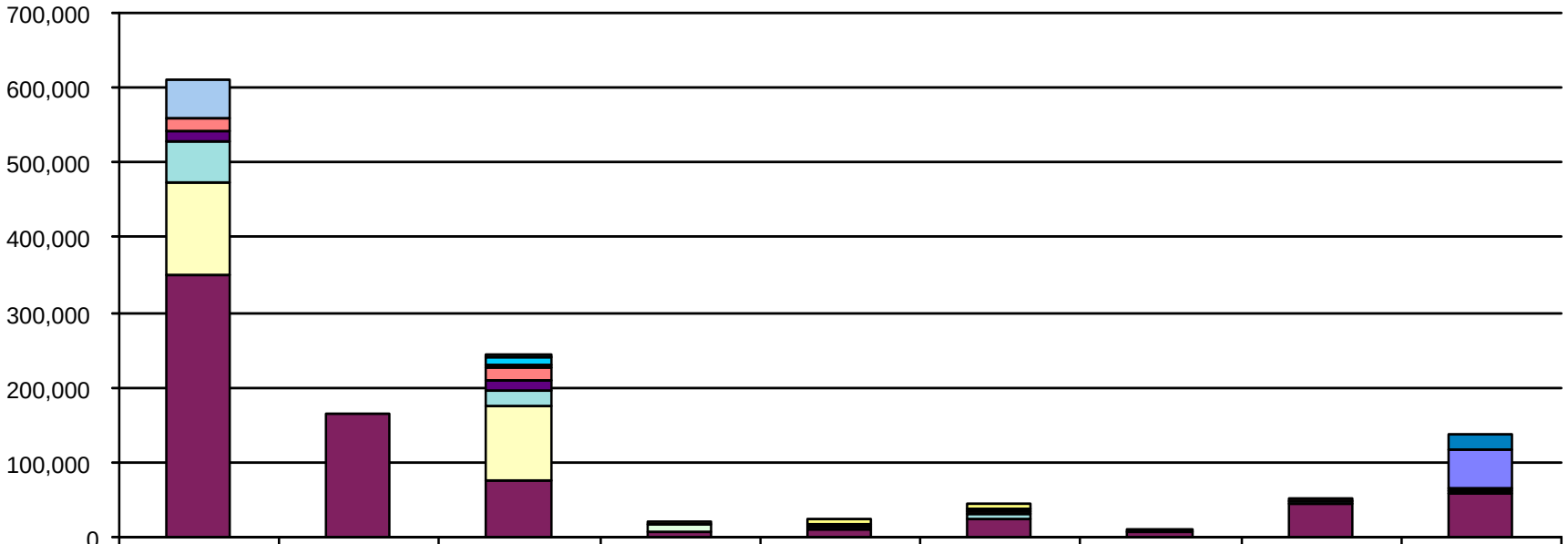
Comparative Military Manpower: 2010



	Iran	Iraq	Saudi	Bahrain	Kuwait	Oman	Qatar	UAE	Yemen
Navy	18,000	1,100	15,500	700	2,000	4,200	1,800	2,500	1,700
Air Def	15,000	0	16,000	-	-	-	-	-	2,000
Air	52,000	1,200	20,000	1,500	2,500	5,000	1,500	4,500	3,000
Guard	125,000	0	100,000	-	-	-	-	-	-
Army	350,000	163,500	75,000	6,000	11,000	25,000	8,500	44,000	60,000

Derived from IISS, Military Balance, 2010

Comparative Paramilitary Manpower: 2010



	Iran	Iraq	Saudi	Bahrain	Kuwait	Oman	Qatar	UAE	Yemen
Basij	*								
Other	50,000								
Guard				2000	6,600	6,400			
Police				9,000					
Special Security			500						
Border Guard			10,500						
Coastguard			4,500	260	500	400		800	1,200
Tribal Levies						4,000			20,000
MOI Forces									50,000
Navy	18,000	1,100	15,500	700	2,000	4,200	1,800	2,500	1,700

Derived from IISS, Military Balance, 2010

Land Force Threats

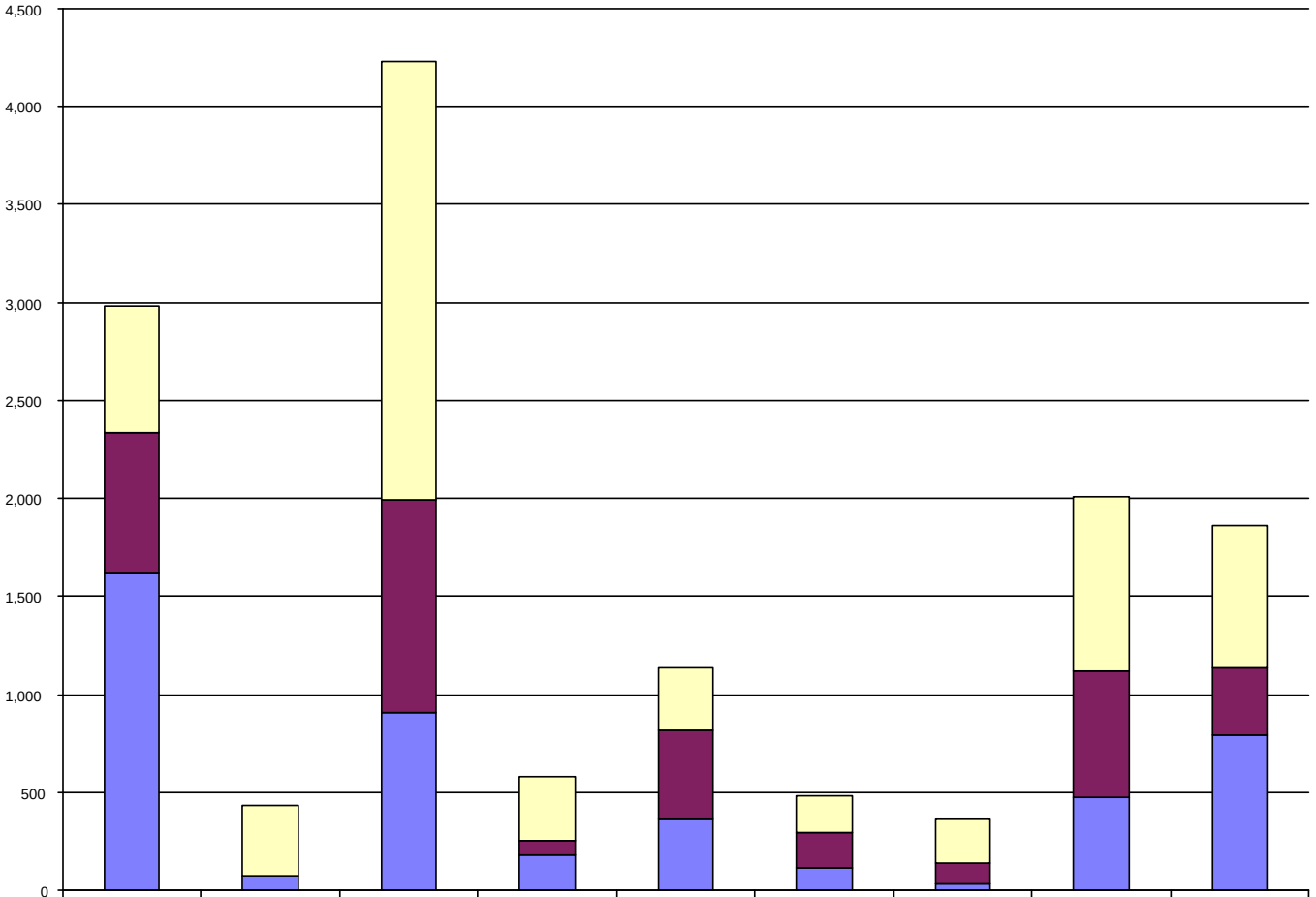
- **Iranian Threat to Kuwait and Iraq**
- **Iranian permissive amphibious/ferry operation.**
- **Iranian dominance of Iraq; Invited In to Replace US?**
- **Spillover of Iraqi Sunni-Shi'ite power struggles.**
- **Yemeni incursion into Saudi Arabia or Oman**

But:

- ***Low near-term probability.***
- ***High risk of US and allied intervention.***
- ***Limited threat power projection and sustainability.***
- ***Unclear strategic goal.***

17

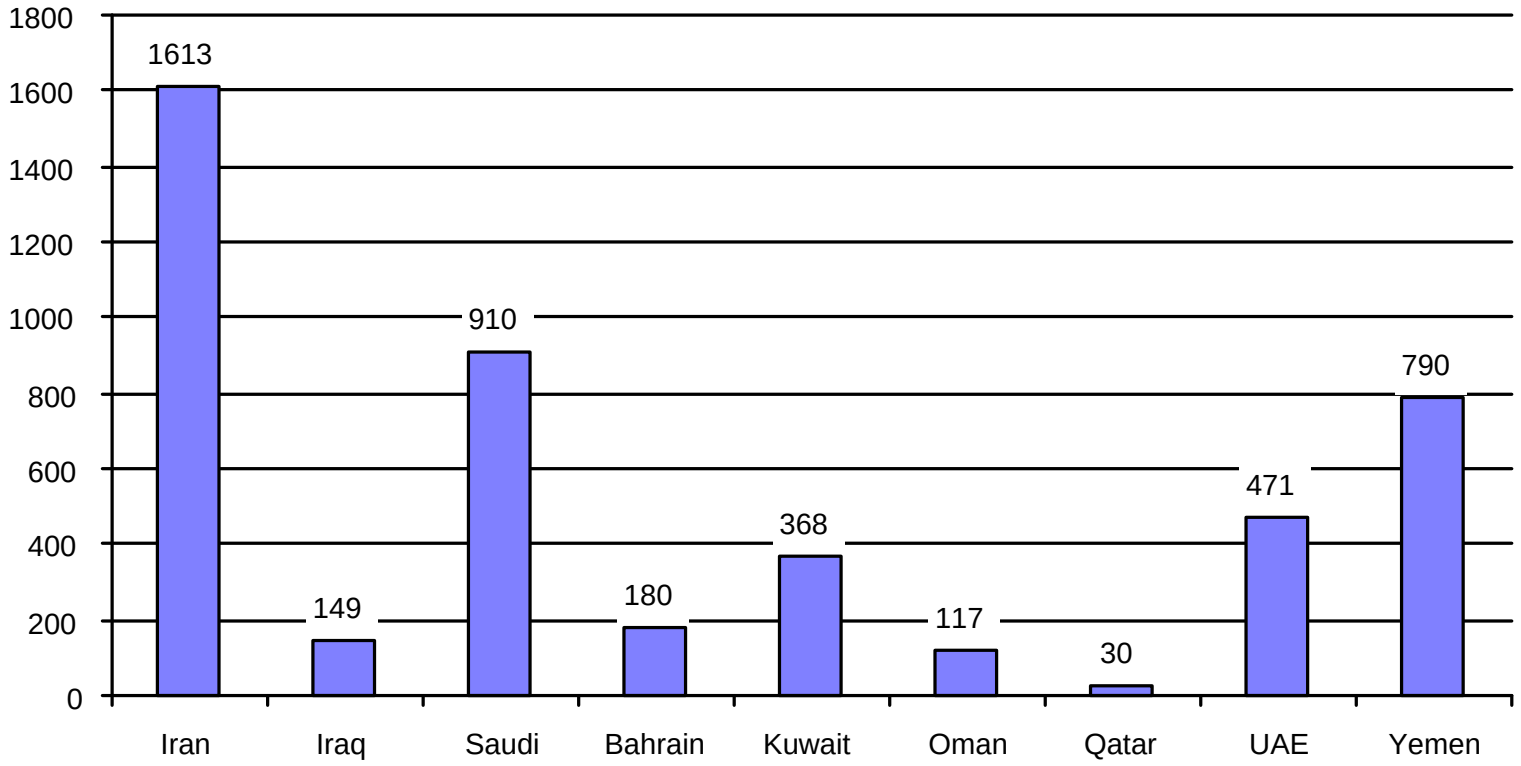
Comparative Armored Vehicle Strength in 2010



	Iran	Iraq	Saudi	Bahrain	Kuwait	Oman	Qatar	UAE	Yemen
APCs	640	352	2,240	325	321	190	226	892	728
AIFV/Recce/Lt. Tanks	725		1,080	71	450	174	108	645	345
Main Battle Tanks	1,613	77	910	180	368	117	30	471	790

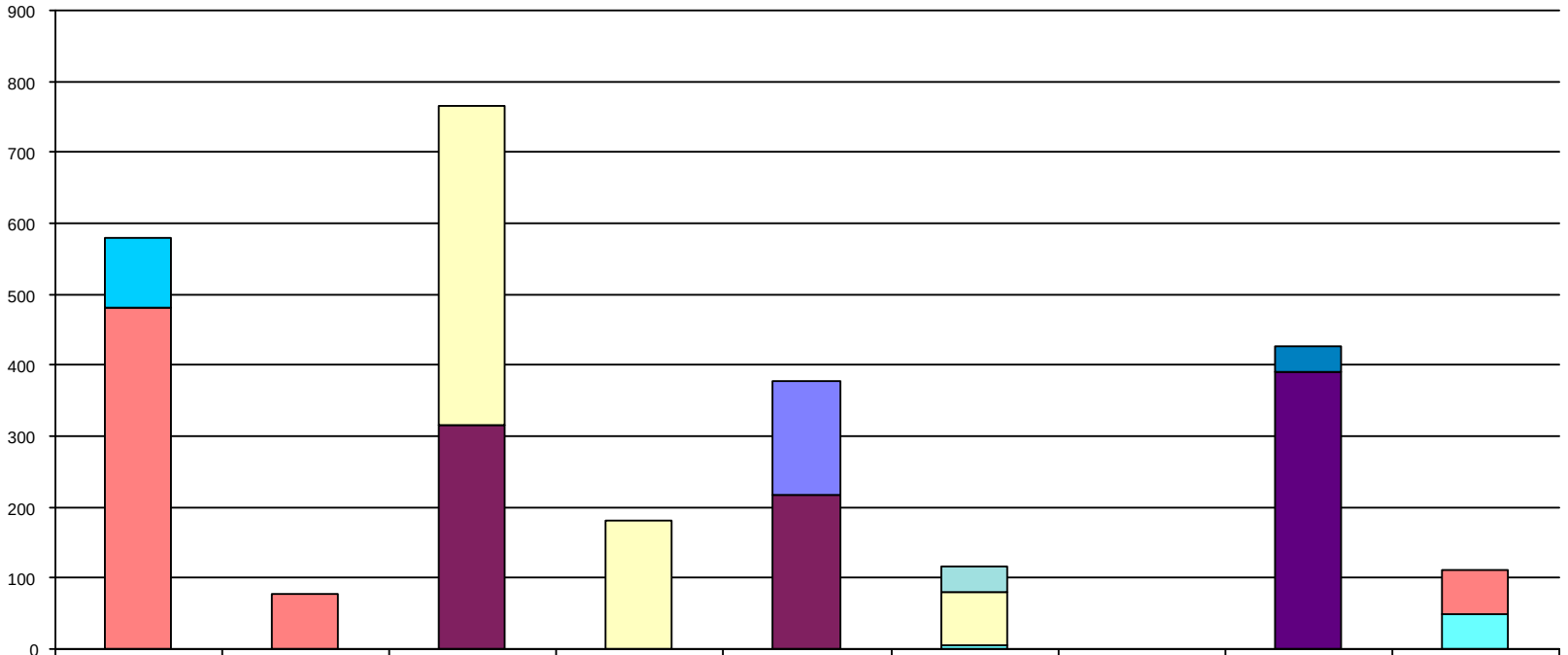
Source: Estimated by Anthony H. Cordesman using data from various editions of the IISS The Military Balance and Jane's Sentinel.

Comparative Main Battle Tank Inventory, Regardless of Age or Quality



Derived from IISS, Military Balance, various editions and Jane's

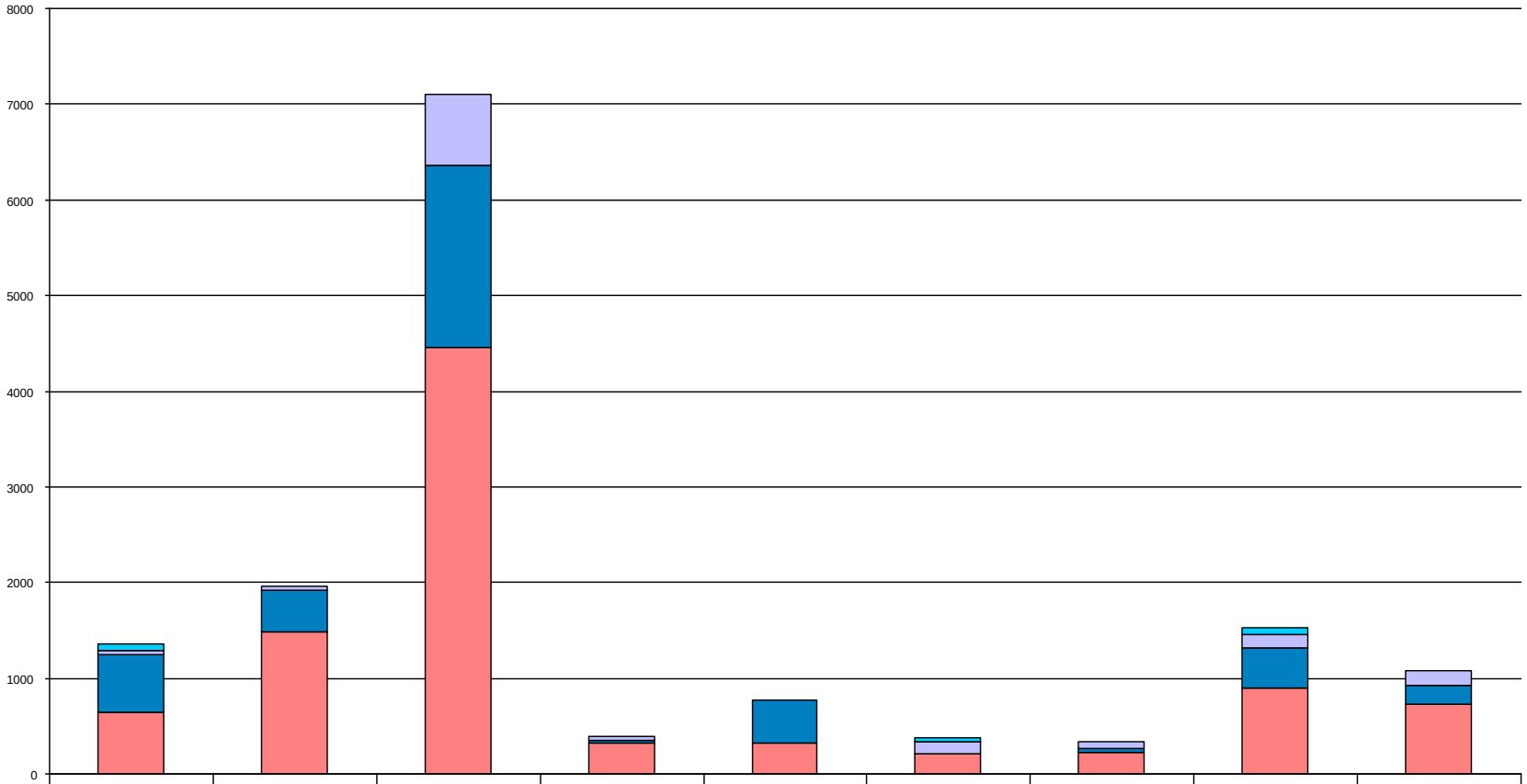
Comparative Modern Tank Strength, 2010



	Iran	Iraq	Saudi	Bahrain	Kuwait	Oman	Qatar	UAE	Yemen
Zulfiqar	100								
OF-40								36	
T-72	480	77							60
M-84					159				
Leclerc								390	
Challenger 2						38			
M-60A3			450	180		73			
M-60A1						6			50
M-1A2			315		218				

Source: Estimated by Anthony H. Cordesman using data from the IISS, The Military Balance, various editions.

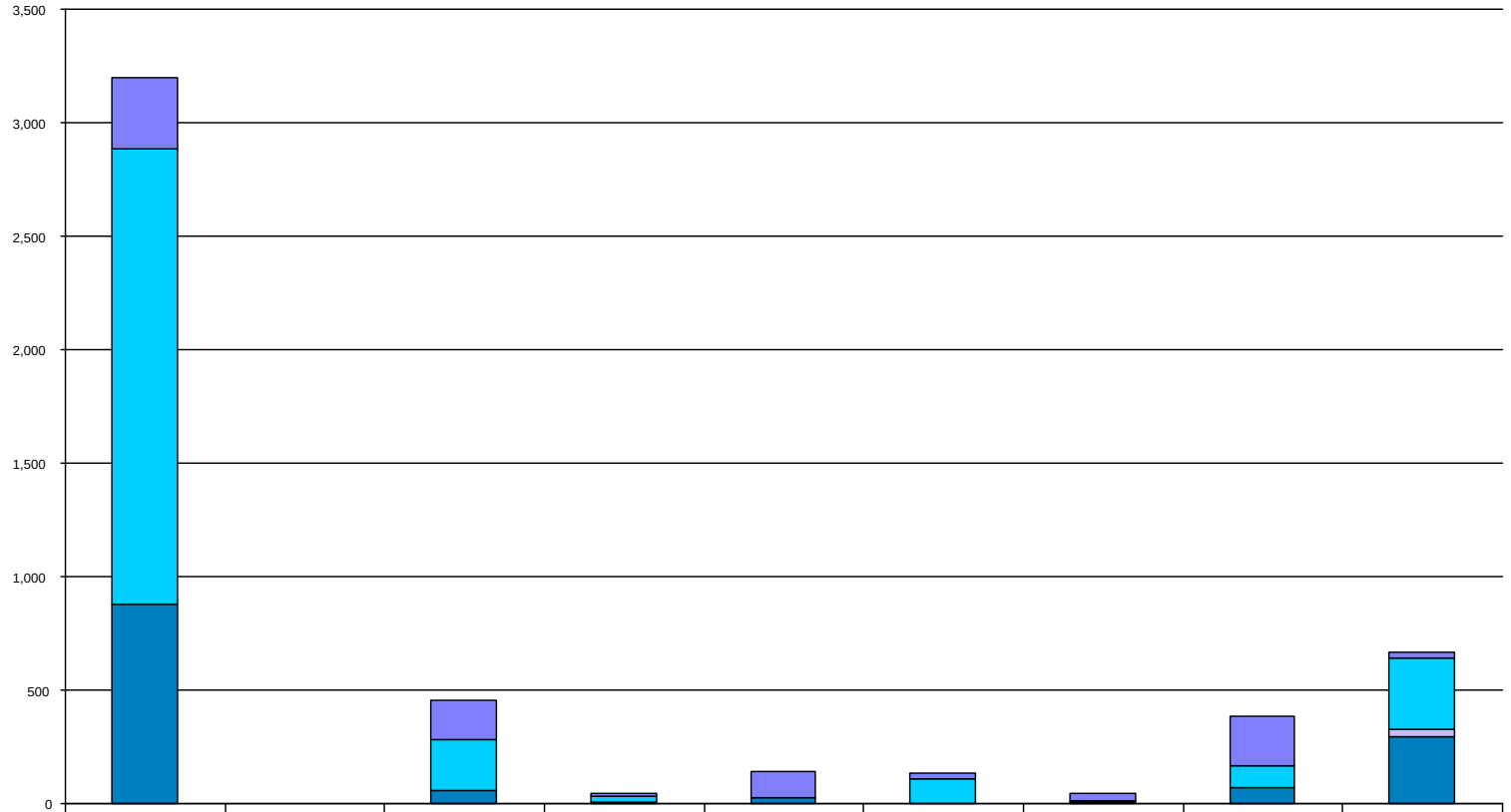
Comparative Other Armored Vehicles Strength in 2010



	Iran	Iraq	Saudi	Bahrain	Kuwait	Oman	Qatar	UAE	Yemen
Light Tanjk	80					37		76	
Recce	35	53	750	46		137	68	129	145
AIFV/AFV	610	434	1,897	25	450		40	430	200
APC	640	1,479	4,460	325	321	206	226	892	728

Derived from IISS, Military Balance, and Jane's

Comparative Artillery Strength in 2010



	Iran	Iraq	Saudi	Bahrain	Kuwait	Oman	Qatar	UAE	Yemen
Self-Propelled Tube	310		170	13	113	24	28	221	25
Towed Tube	2,010		225	26	0	108	12	93	310
Assault and Coastal	0		0	0	0	0	0	0	36
Multiple Rocket Launcher	876		60	9	27		4	72	294
Mortar	*5,000	*4	*400		*78	*101	*45	*155	*510

Derived from IISS, Military Balance, and Jane's

22

Keeping a Decisive US Qualitative Edge in US Forces and Arms Transfers to the Gulf ($10.5B in FY087 & FY09)

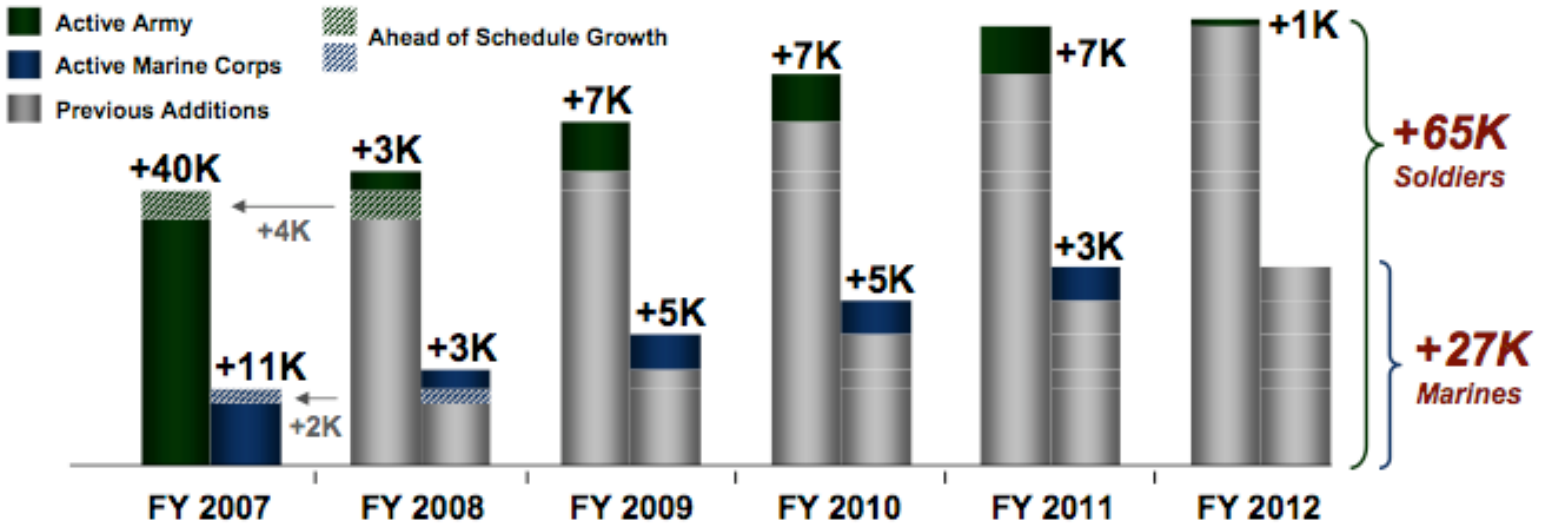
Joint Ground Capabilities	Joint Maritime Capabilities	Joint Air Capabilities	Space-based Capabilities
– Future Combat Systems: • Ground and air systems – 119 Stryker Vehicles – 5,249 High Mobility Multi-purpose Wheeled Vehicles – 1,061 Heavy Tactical Vehicles – 3,187 Medium Tactical Vehicles – 29 M1A1 Abrams Tank Upgrades – Chemical Weapons Demilitarization	– CVN 21 Carrier Replacement – 1 Virginia Class Submarine – 1 DDG-1000 Destroyer – 2 Littoral Combat Ships – 2 T-AKE Auxiliary Dry Cargo Ships – CVN Refueling Complex Overhaul – 2 Joint High Speed Vessels	– 16 F-35 Joint Strike Fighters – 20 F-22A Raptors – 36 V-22 Ospreys – 23 F/A-18 Hornets – 22 E/A-18G Growlers – 16 CH-47 Chinooks – VH-71 Helicopter – KC-X Aerial Refueling Tanker – 59 Predators, Reapers and Warriors	– 2 Space Based Infrared Systems – 4 Expendable Launch Vehicles – GPS Satellite – 1 Mobile User Objective System – Transformational Satellite – Advanced Extremely High Frequency Satellite – Wideband Global SATCOM – Ballistic Missile Defense

Basic Research +$0.3B in FY 2009 (+$1.4B FY09-FY13)

Increase Ground Capabilities

+$8.7B
FY08 - FY09

Army Active	42	Brigade Combat Teams **(482.4K Soldiers)**	→	48	Brigade Combat Teams **(547.4K Soldiers)**
	12/12	Months Home Station / Months Deployed		24/12	Months Home Station / Months Deployed
Marine Corps Active	2.5	Marine Expeditionary Forces **(175K Marines)**	→	3	Marine Expeditionary Forces **(202K Marines)**
	7/7	Months Home Station / Months Deployed		14/7	Months Home Station / Months Deployed



Source: FY 2009 DoD Budget Request; FY 2008 Budget; FY 2007 Supplemental

Numbers may not add due to rounding

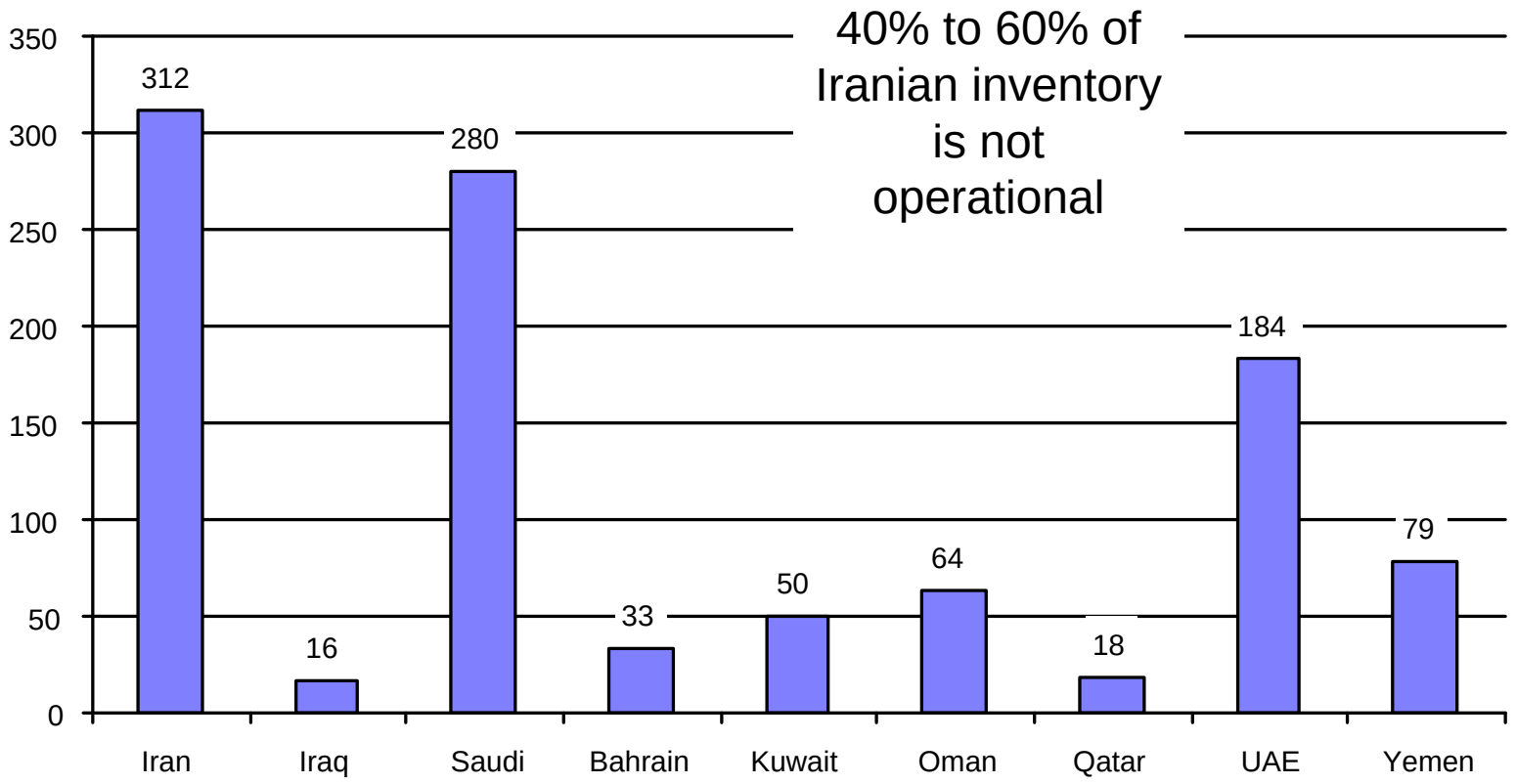
Air/Missile Threats

- **Precision air strikes on critical facilities: Raid or mass attack.**
- **Terror missile strikes on area targets; some chance of smart, more accurate kills.**
- **Variation on 1987-1988 "Tanker War"**
- **Raids on offshore and critical shore facilities.**
- **Strikes again tankers or naval targets.**
- **Attacks on US-allied facilities**
- **Use of UAVs as possible delivery systems (conventional or Unconventional munitions)**

But:

- ***Low near-term probability.***
- ***High risk of US and allied intervention.***
- ***Limited threat power projection and sustainability.***
- ***Unclear strategic goal.***

Comparative Combat Air Strength in 2010



Derived from IISS, Military Balance, and Jane's

26

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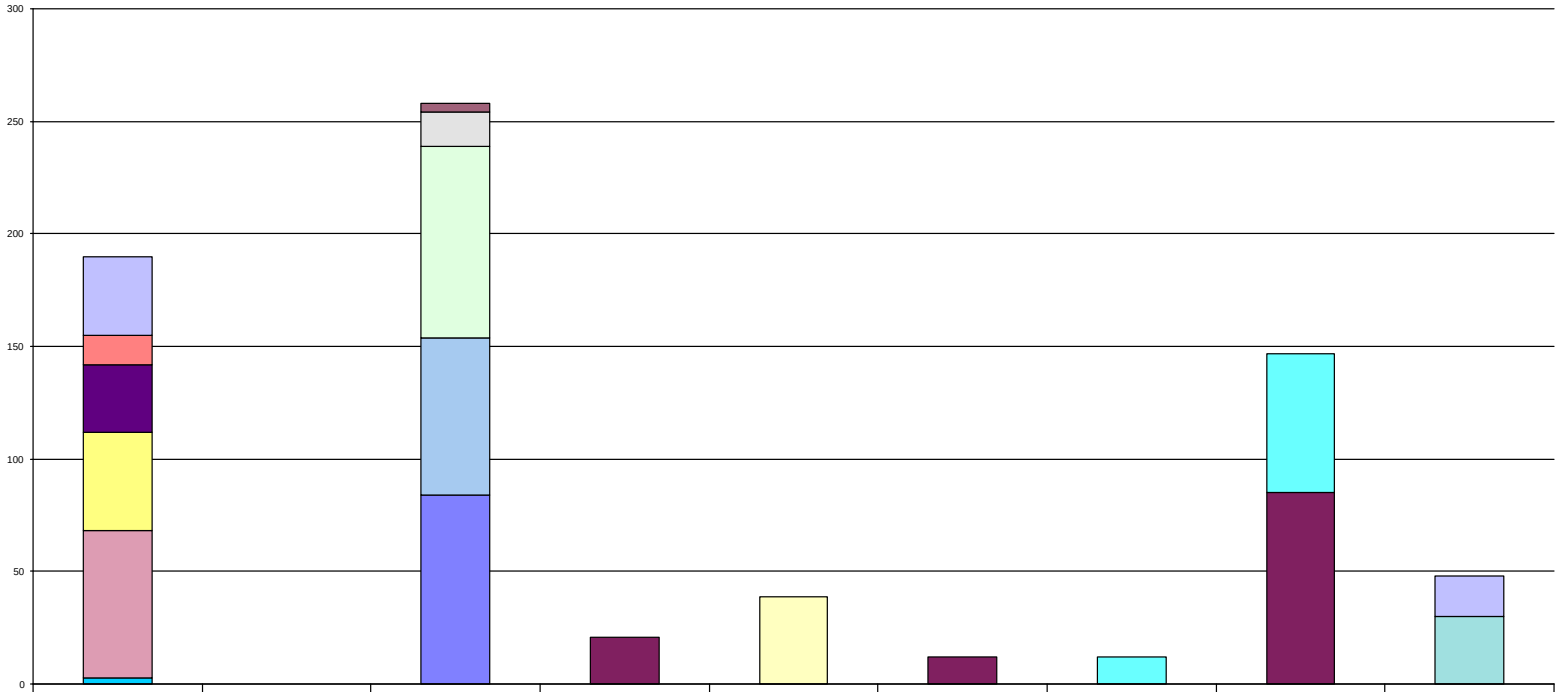
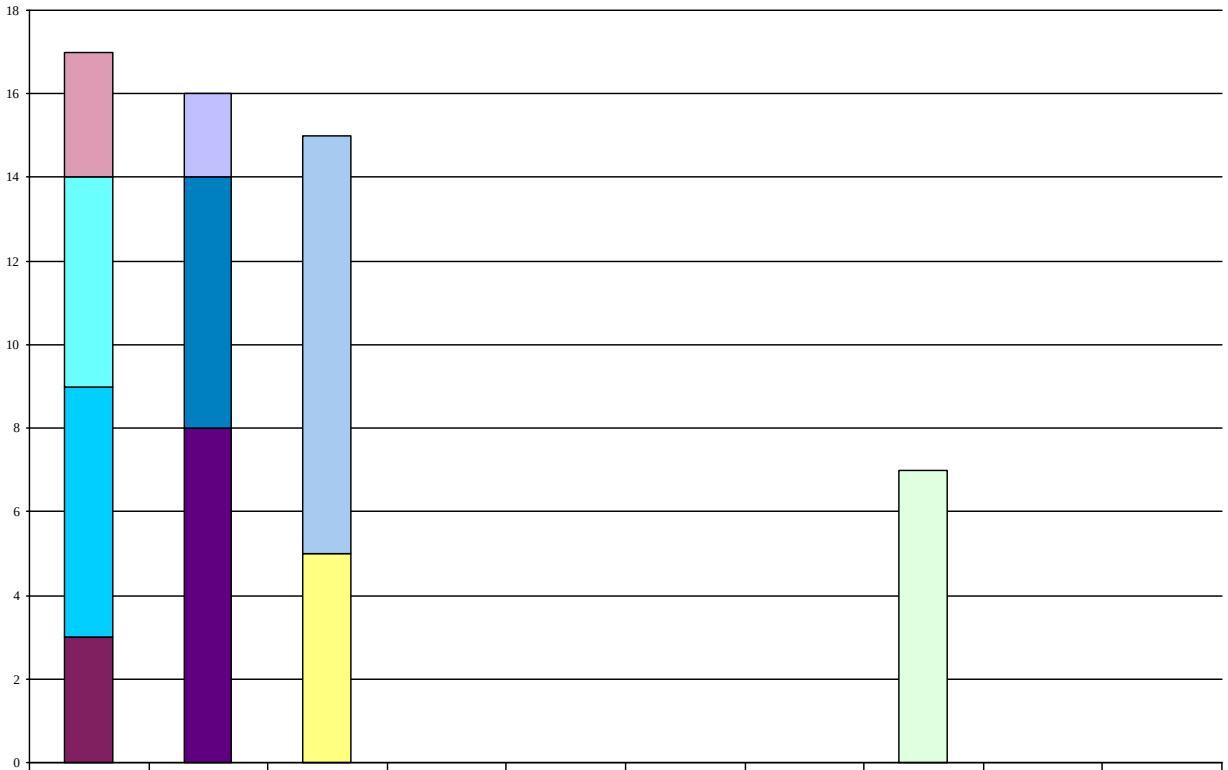
Comparative High Quality Fighter/Attack Aircraft in 2010



	Iran	Iraq	Saudi	Bahrain	Kuwait	Oman	Qatar	UAE	Yemen
Typhoon-2			4						
Tornado ADV			15						
Tornado IDS			85						
Mirage 2000							12	62	
MiG-29	35								18
MiG-25									
Su-25	13								
Su-24	30								
Su-20/22									30
F-18					39				
F-16				21		12		85	
F-15S			70						
F-15C/D			84						
F-14	44								
F-4D/E	65								
Saegheh	3								

Source: Adapted by Anthony H. Cordesman from various sources and IISS, The Military Balance, various editions and Saudi experts.

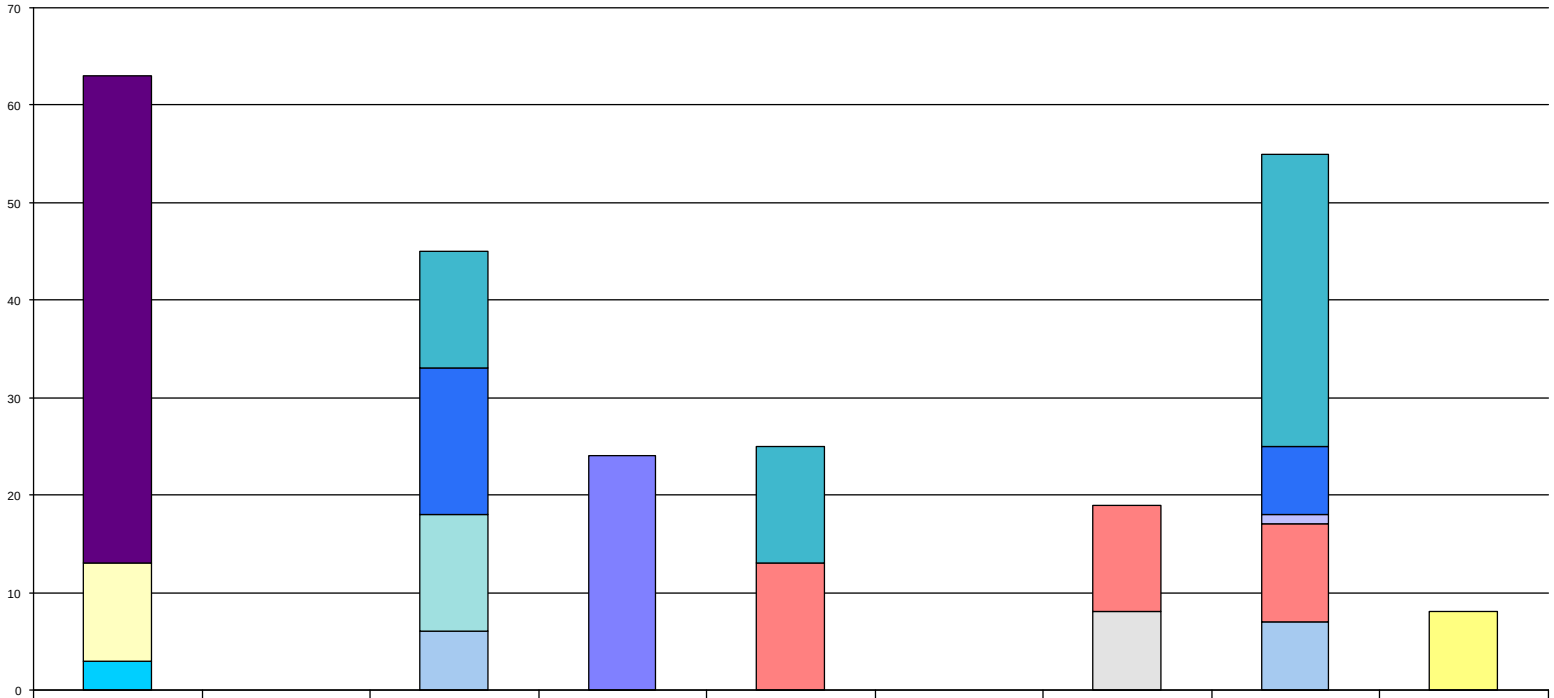
Comparative Gulf AC&W, ELINT, and Reconnaissance Aircraft, 2010



	Iran	Iraq	Saudi	Bahrain	Kuwait	Oman	Qatar	UAE	Yemen	
P-F3 Orion	3									
P-3MP Orion	5									
Tornado IDS			10							
E-3A AWACS			5							
Mirage 2000 RAD								7		
RF-4E	6									
Da-20 Falcon ELINT	3									
SB7L-360		2								
Cessna 208B		6								
CH-2000		8								

Source: Adapted by Anthony H. Cordesman from IISS, The Military Balance, various editions.

Comparative Gulf Armed Helicopters: 2010



	Iran	Iraq	Saudi	Bahrain	Kuwait	Oman	Qatar	UAE	Yemen
AH-64/AH-64D			12		12			30	
AS-565			15					7	
AS-550C3								1	
AS-532 Exocet			12						
SA-342 HOT					13		11	10	
AH-1J	50								
AH-1E				24					
SH-3D	10								
Commando Exocet							8		
AS-332 Exocet			6					7	
Mi-35 Hind									8
RH-53D	3								

Source: Adapted by Anthony H. Cordesman from IISS, The Military Balance, various editions.

Iranian UAV Projects / Assets 2009

Prime Manufacturer	Designation	Development / Production	Operation	Payload Wt.	Endurance (hr)	Range	Ceiling (ft)	Mission
Unknown	Stealth	Underway / Underway	Deployed			700 km		R/S*
HESA	Ababil (Swallow)	Complete / Underway	Deployed	45 kg	1.5+	150 km	14,000	Multiple variants for R/S* - attack – ISR**
Shahbal Group, Sharif Univ.	Shahbal	Underway		5.5 kg		12 km	4,500	R/S*
Asr-e Talai Factories	Mini-UAV	Underway						Surveillance
FARC	Sobakbal	Underway / Underway	Deployed	0.35 kg	2	2.7 - 13.5 mi	19,686	Surveillance
Qods Aeronautics Industries	Mohajer II/III (Dorna); Mohajer IV (Hodhod); Saeqeh I/II; Tallash I/Endeavor; Tallash II Hadaf 3000	Complete / Underway	Deployed					Multirole aka Lightning Bolt Target drone - aka Target 3000

Source: Adapted by Adam C. Seitz from AIAA Aerospace 2009 Worldwide UAV Roundup; available at: http://www.aiaa.org/Aerospace/images/articleimages/pdf/UAVs_APR2009.pdf.

*R/S: Reconnaissance / Surveillance; **ISR: Intelligence / Surveillance / Reconnaissance

Gulf Air Balance

Air Bases and Air Force Order of Battle (2009)

Three Main Iranian Nuclear Facilities

- Natanz: Uranium Enrichment Facility
- Arak: Heavy Water Nuclear Reactor and Possible Future Plutonium Production Reactor
- Esfahan: Nuclear Research Center. Uranium Conversion Facility (UCF)

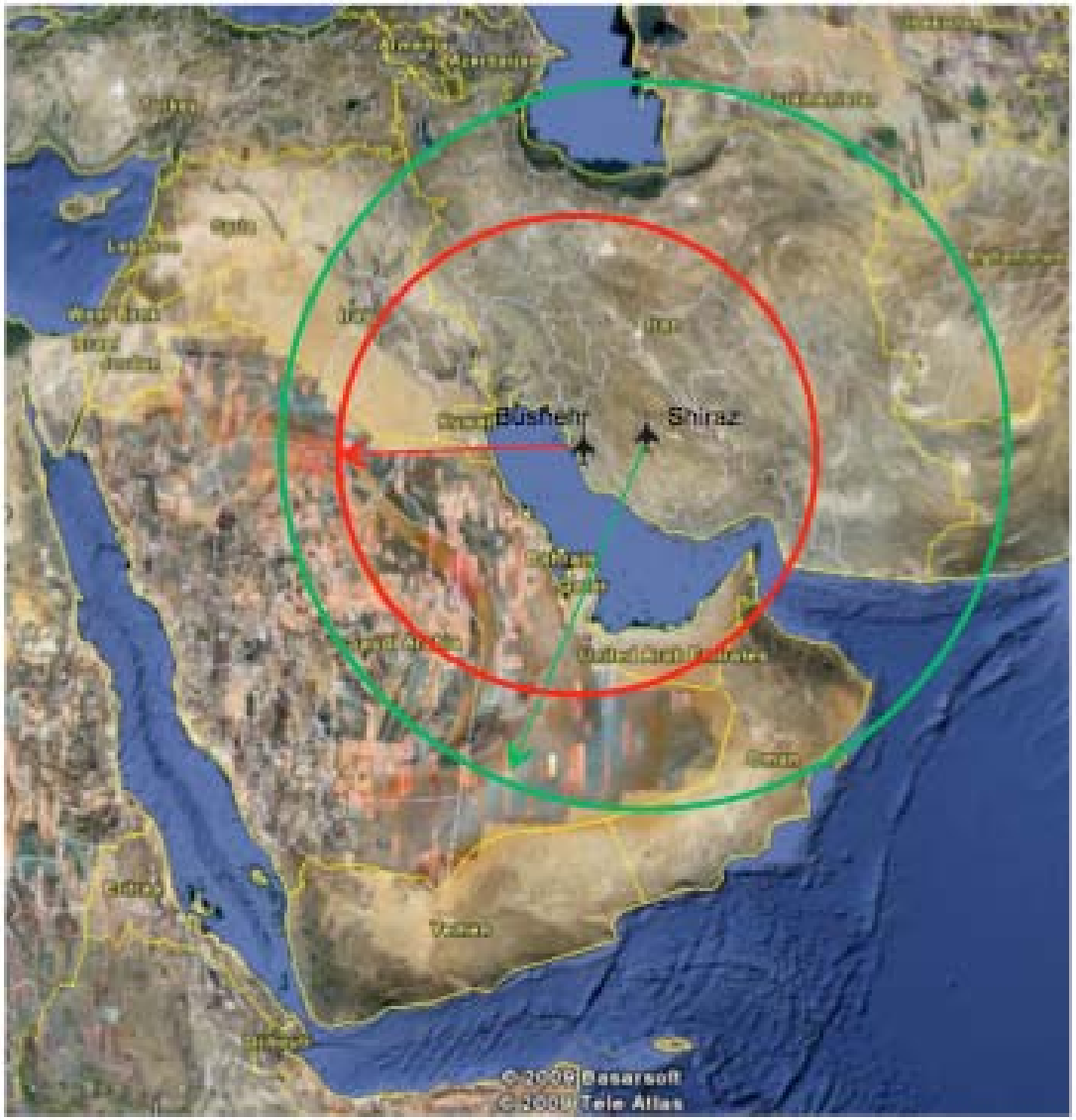
	Combat A/C	Attack Helo's
Iran	319	95
Iraq	-	37
Kuwait	50	45
Bahrain	33	16
Qatar	18	25
UAE	184	67
Oman	64	41
Saudi Arabia	278	67
Yemen	179	18

Iran Airbases

Tabriz	F-5E/F, MiG-29
Hamadan	F-4E/D Su-24
Dezful	F-5E/F
Bushehr	F-4E/D F-14
Bandar Abbas	2 Helicopter Wings
Shiraz	Su-25 Su-24
Esfahan	F-5E Su-24
Tehran	MiG-29 Su-24
Zahedan	F-7M
Kermanshah	F-5E/F

Air Bases Source: Global Security.org
Order of Battle Source: Anthony Cordesman CSIS

Range of Iran's Air Power



Mission Profile:
Hi-Lo-Hi

F-4E (Bushehr):
(4) MK83 1000lb Bombs
(1) 600 Gallon Fuel Tank
10 Minutes loiter time
Range = 400 nmi

SU-24 (Shiraz):
(4) 500 kg/1000 lb Bombs
(1) 400 gallon tank
10 minutes loiter time
Range = 590 nmi

SU-25 (Shiraz):
(4) 500kg/1000lb Bombs
(1) 400 gallon tank
(2) 10 minutes loiter time
Range = 600 nmi

Gulf Land-Based Air Defenses In 2010

Country	Major SAM	Light SAM	AA Guns
Bahrain	8 I Hawk MIM-23B	60 RBS-70 18 FIM-92A Stinger 7 Crotale	27 guns 15 Oerlikon 35 mm 12 L/70 40 mm
Iran	16/150 I Hawk 3/10 SA-5 45 SA-2 Guideline	SA-7/14/16, HQ-7 29 SA-15 Some QW-1 Misaq 29 TOR-M1 Some HN-5 5/30 Rapier 10 Pantsyr (SA-22) Some FM-80 (Ch Crotale) 15 Tigercat Some FIM-92A Stinger	1,700 Guns ZSU-23-4 23mm ZPU-2/4 23mm ZU-23 23mm M-1939 37mm S-60 57mm ZSU-57-2
Iraq			
Kuwait	5/24 I Hawk Phase III 5/40 Patriot PAC-2	12 Aspide 12 Starburst Aspide Stinger	12 Oerlikon 35mm
Oman	None	Blowpipe 8 Mistral 2 SP 12 Panstsyr S1E 34 SA-7 6 Blindfire S713 Martello 20 Javelin 40 Rapier	26 guns 4 ZU-23-2 23 mm 10 GDF-005 Skyguard 35 mm 12 L-60 40 mm
Qatar	None	10 Blowpipe 12 FIM-92A Stinger 9 Roland II 24 Mistral 20 SA-7	?
Saudi Arabia (NG)	16/128 I Hawk 4-6/16-24 Patriot 2 17/73 Shahine Mobile 16/96 PAC-2 launchers 17 ANA/FPS-117 radar 73/68 Crotale/Shahine	40 Crotale 500 Stinger (ARMY) 500 Mistral (ADF) 500 FIM-43 Redeye 500 Redeye (ADF) 73-141 Shahine static	1,220 guns 92 M-163 Vulcan 20 mm 30 M-167 Vulcan 20 mm 850 AMX-30SA 30 mm 128 GDF Oerlikon 35mm 150 L-70 40 mm (in store) 130 M-2 90 mm (NG)
UAE	2/6/36 I Hawk	20+ Blowpipe 20 Mistral Some Rapier Some Crotale Some RB-70 Some Javelin Some SA-18	62 guns 42 M-3VDA 20 mm SP 20 GCF-BM2 30 mm
Yemen	Some SA-2, 3 Some SA-6 SP	Some 800 SA-7 Some SA-9 SP Some SA-13 SP Some SA-14	530 guns 20 M-163 Vulcan SP 20mm 50 ZSU-23-4 SP 23 mm 100 ZSU-23-2 23 mm 150 M-1939 37 mm 50 M-167 20mm 120 S-60 57 mm 40 M-1939 KS-12 85 mm

Source: Adapted by Anthony H. Cordesman from IISS, The Military Balance, Periscope, JCSS, Middle East Military Balance, JaneÕs Sentinel and JaneÕs Defense Weekly. Some data adjusted or estimated by the author.

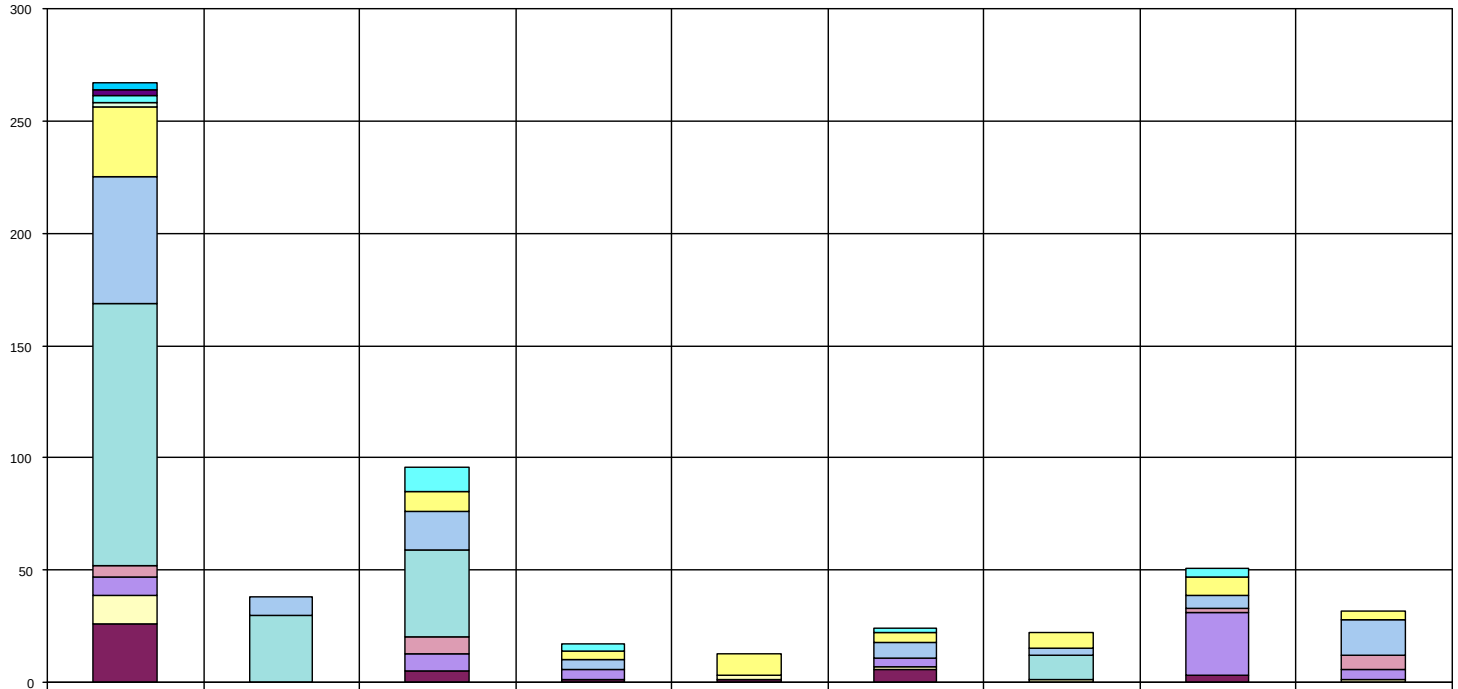
Naval Threats

- **Iranian effort to "close the Gulf."**
- **Iranian permissive amphibious/ferry operation.**
- **Variation on 1987-1988 "Tanker War"**
- **Raids on offshore and critical shore facilities.**
- **"Deep strike" with air or submarines in Gulf of Oman or Indian Ocean.**
- **Attacks on US facilities**

But:

- ***Low near-term probability.***
- ***High risk of US and allied intervention.***
- ***Limited threat power projection and sustainability.***
- ***Unclear strategic goal.***

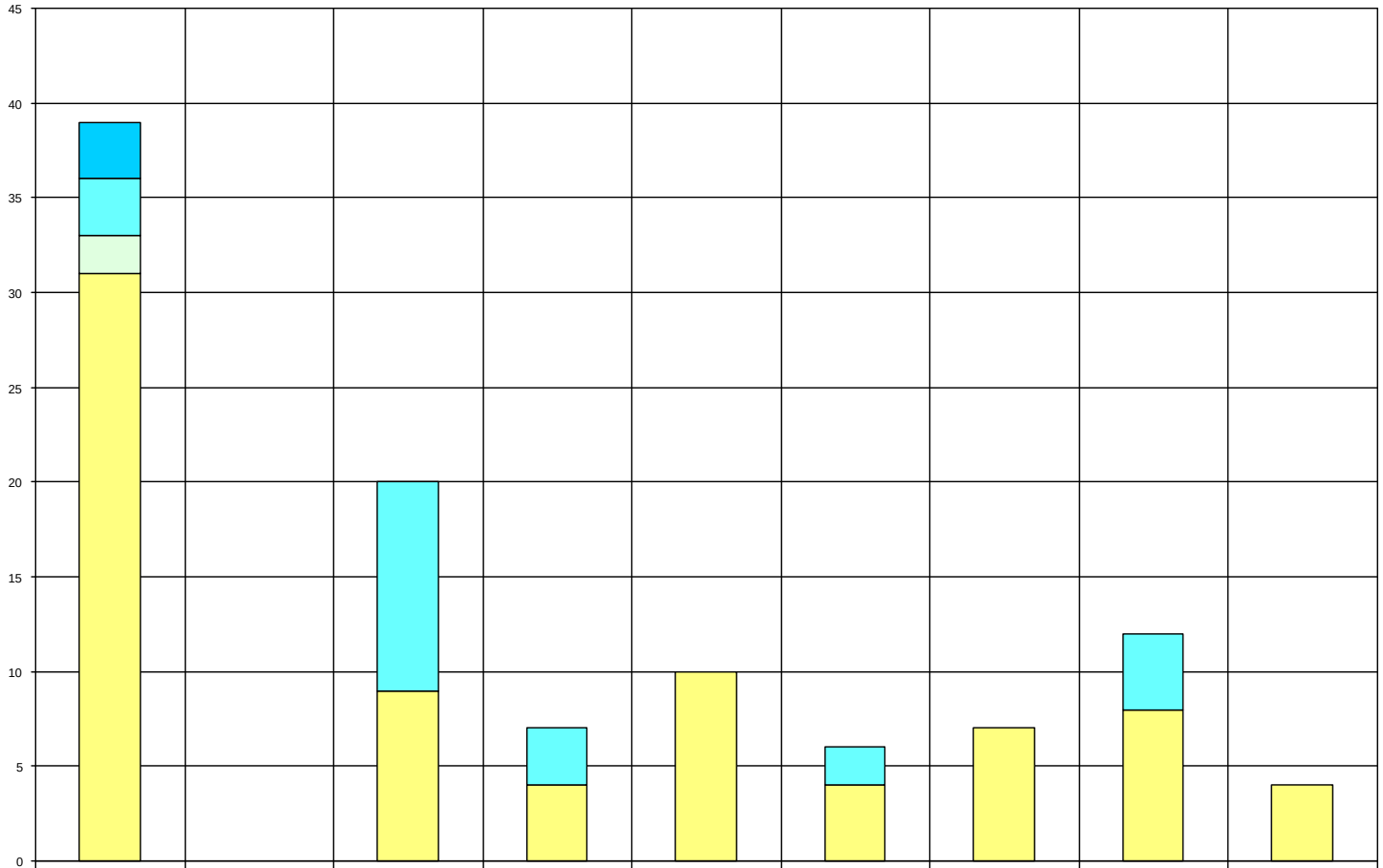
Comparative Naval Combat Ships in 2010



	Iran	Iraq	Saudi	Bahrain	Kuwait	Oman	Qatar	UAE	Yemen
Submarines	3								
Midget Submarines	3								
Major Missile Combat	3		11	3		2		4	
Major Other Combat	2								
Missile Patrol	31		9	4	10	4	7	8	4
Other Patrol	56	8	17	4		7	3	6	16
Armed Boats	117	30	39				11		
Mine	5		7					2	6
Landing Craft	8		8	5		4		28	5
Amphibious Ships	13				2	1	1		1
Support	26		5	1	1	6		3	

Source: Adapted by Anthony H. Cordesman from IISS, The Military Balance, various editions.

Major Combat Warships in 2010



	Iran	Iraq	Saudi	Bahrain	Kuwait	Oman	Qatar	UAE	Yemen
Submarines	3								
Major Missile Combat	3		11	3		2		4	
Major Other Combat	2								
Missile Patrol	31		9	4	10	4	7	8	4

Source: Adapted by Anthony H. Cordesman from IISS, The Military Balance, various editions and material provided by US and Saudi experts.

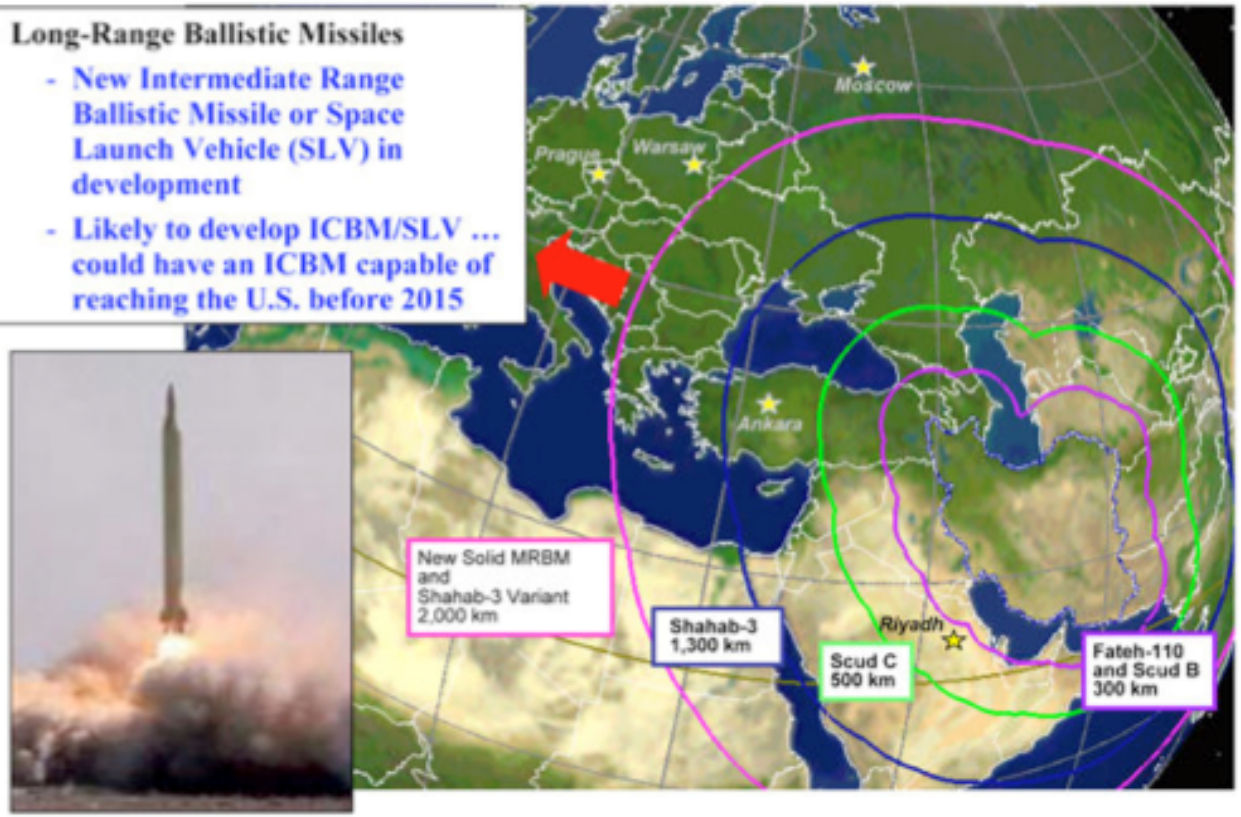
The Challenge of Missile Warfare

What Is The Threat?

- **Intimidation and Deterrence?**
- **Test, development, rolling future threat?**
- **Conventional Warhead, Uncertain Reliability, Poor CEP/Accuracy?**
- **Conventional Warhead, High accuracy, maneuvering capability?**
- **Chemical Warhead?**
- **Possible nuclear warhead?**
- **Tested Nuclear warhead?**
- **Ballistic + cruise threat?**
- **Volley or Limited Rate/numbers?**
- **Sheltered or mobile basing?**
- **Launch on warning (LOW), Launch under attack (LUA)?**

Iranian Missile Threat

- **Long-Range Ballistic Missiles**
  - New Intermediate Range Ballistic Missile or Space Launch Vehicle (SLV) in development
  - Likely to develop ICBM/SLV … could have an ICBM capable of reaching the U.S. before 2015

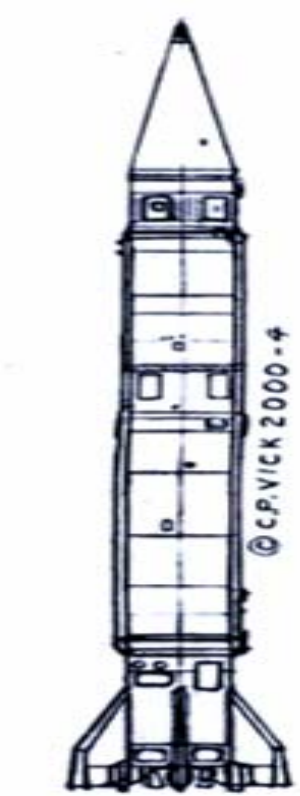
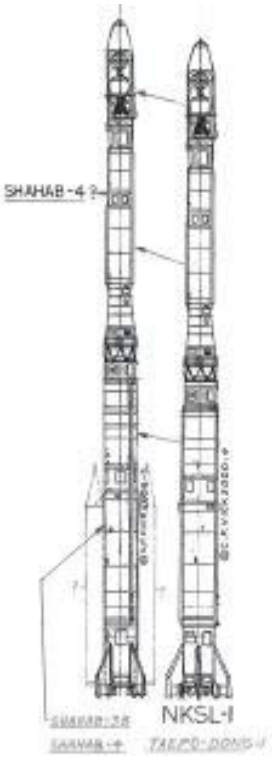
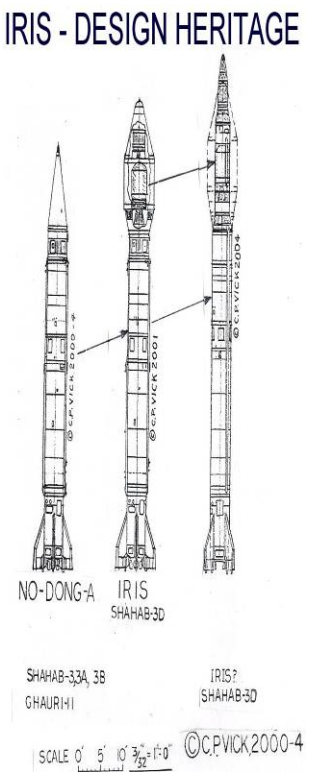


Shehab 3/3A

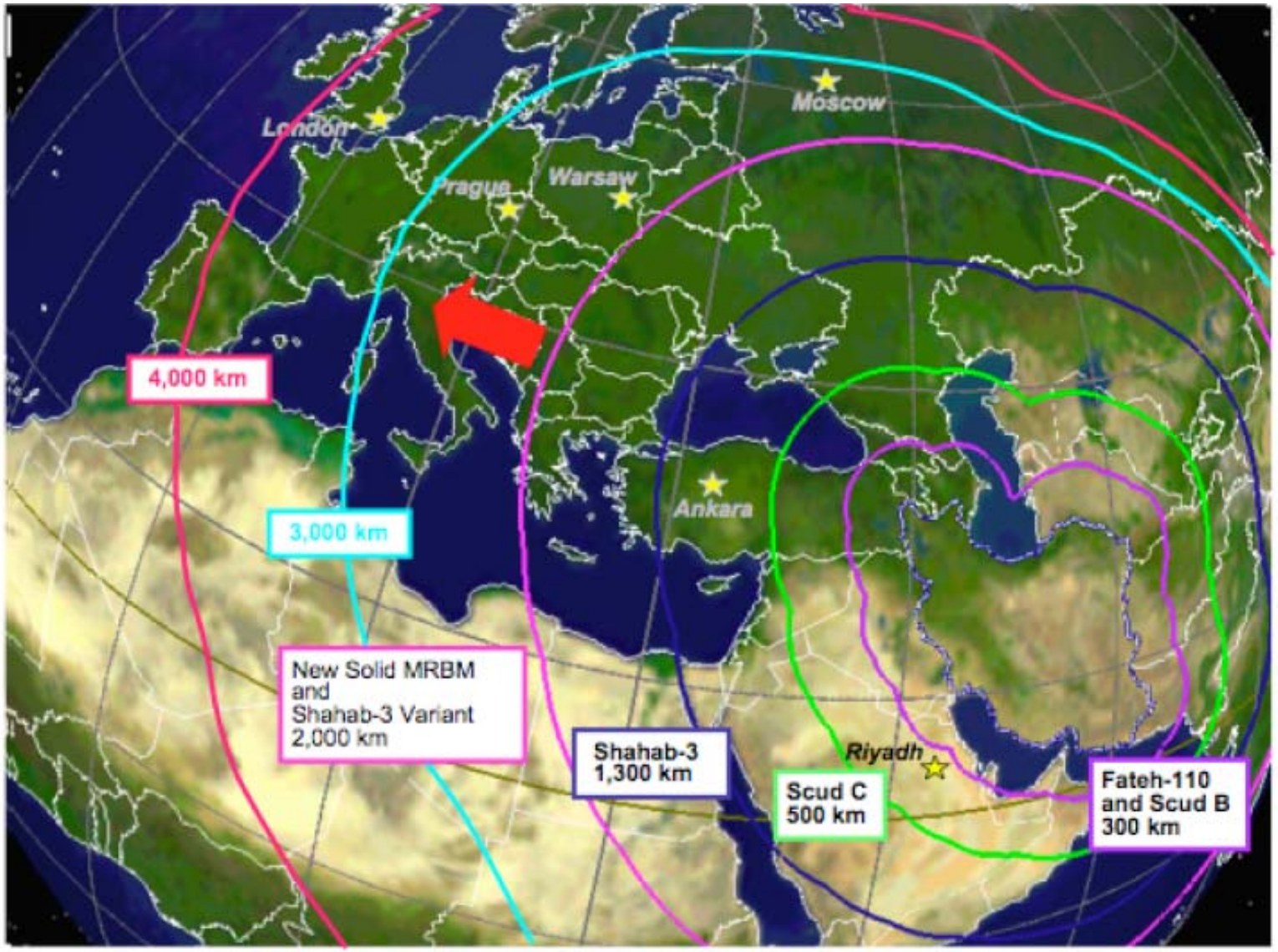
Range (km)	Payload (kg)
1,350	1,158
1,400	987
1,500	760
1,540	650
1,560	590.27
1,580	557.33
1,600	550
1,780	240
2,000	-

(Source: Missile Defense Program Overview for the European Union, Committee on Foreign Affairs, Subcommittee on Security and Defense. Dr. Patricia Sanders. Executive Director. Missile Defense Agency)

Iranian Missile Program

Shahab-3	No Dong	Shahab-4	Variant	IRIS
				
Range 1,300	1,300	2,000	2,000	3,000
Payload ~1,000	700-1000	?	700	~1,000
IOC 2002	?	?	?	2005

Estimated Iranian Missile Ranges



Source: NASIC, B&CM Threat 2006, Jacoby Testimony March 2005

A Gulf Missile War

Phased Approach to Regional BMD

- **Phase 1: Use existing / maturing systems versus SRBM / MRBM threat**
  - **Sea-based missile defenses will be used as necessary to protect parts of southern Europe, combined with other missile defenses (2011 timeframe)**
  - **Deploys forward-based sensor in Europe**
- **Phase 2: Enhanced missile defense systems versus SRBM / MRBM threat**
  - **Use advanced sensors and improved version of the SM-3 interceptor, the Block IB, to improve the performance once the technology is proven, including a combination of sea-and land-based configurations (2015 timeframe)**
- **Phase 3: Improved area coverage versus MRBM / IRBM threat**
  - **As threat matures, use the more capable SM-3 Block IIA interceptor, including a combination of sea-and land-based configurations (2018 timeframe)**
- **Phase 4: Capability versus potential ICBM/High Apogee IRBM threat**
  - **If potential ICBM threat emerges, advanced missile defense technologies could eventually provide some capability against a regional ICBM threat**
  - **Once proven and tested, can be made available for deployment to Gulf (2020 timeframe)**

Status of US BMD Cooperation with Gulf States

QuickTime™ and a
decompressor
are needed to see this picture.

Key US BMD Initiatives Affecting Gulf States

QuickTime™ and a
decompressor
are needed to see this picture.

US Layered Missile Defenses

QuickTime™ and a
decompressor
are needed to see this picture.

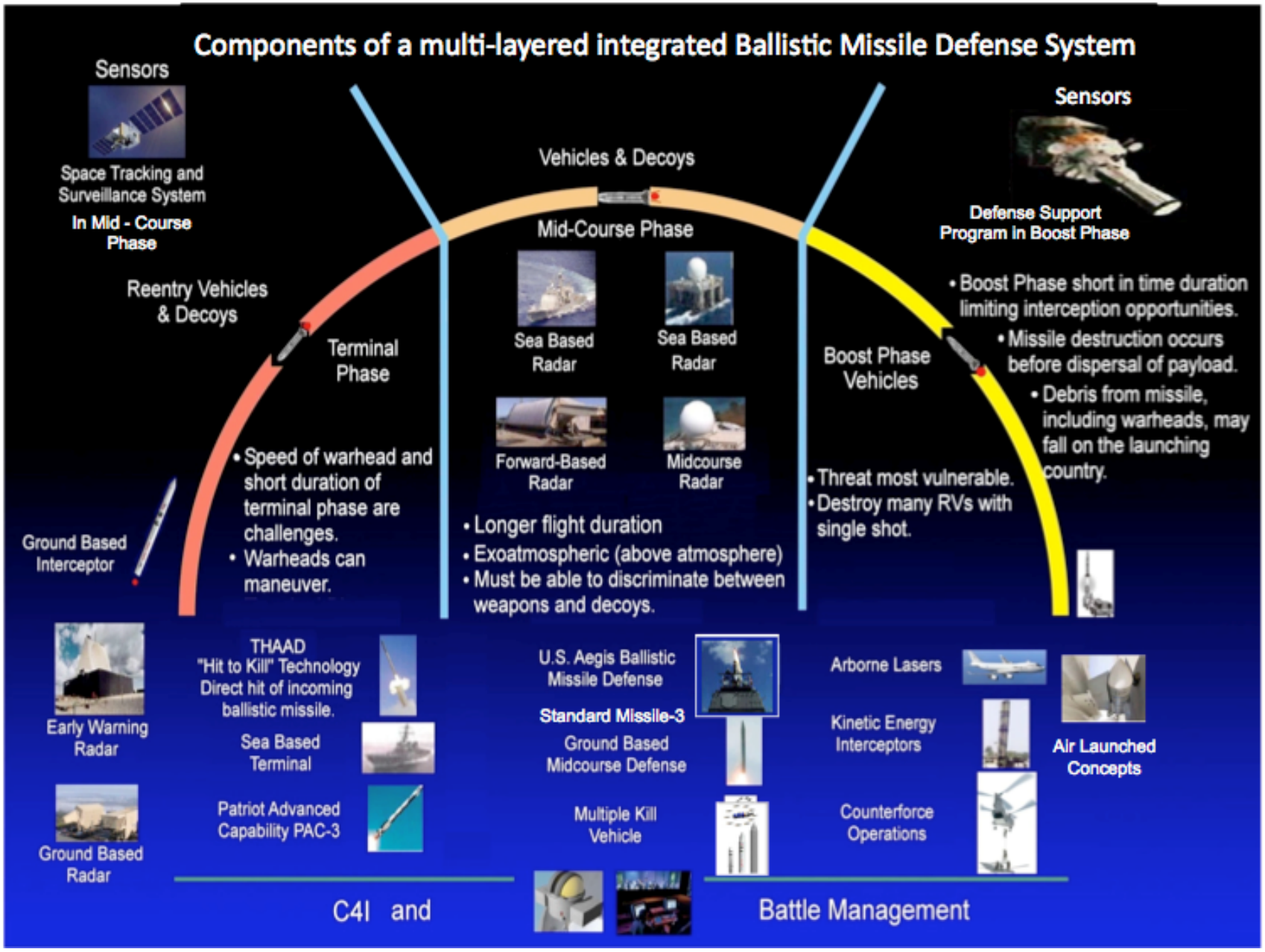
46

Shifting Intercept Capability: Increasing Early Intercept Capability

QuickTime™ and a
decompressor
are needed to see this picture.

47

Gulf Integrated Missile Defenses



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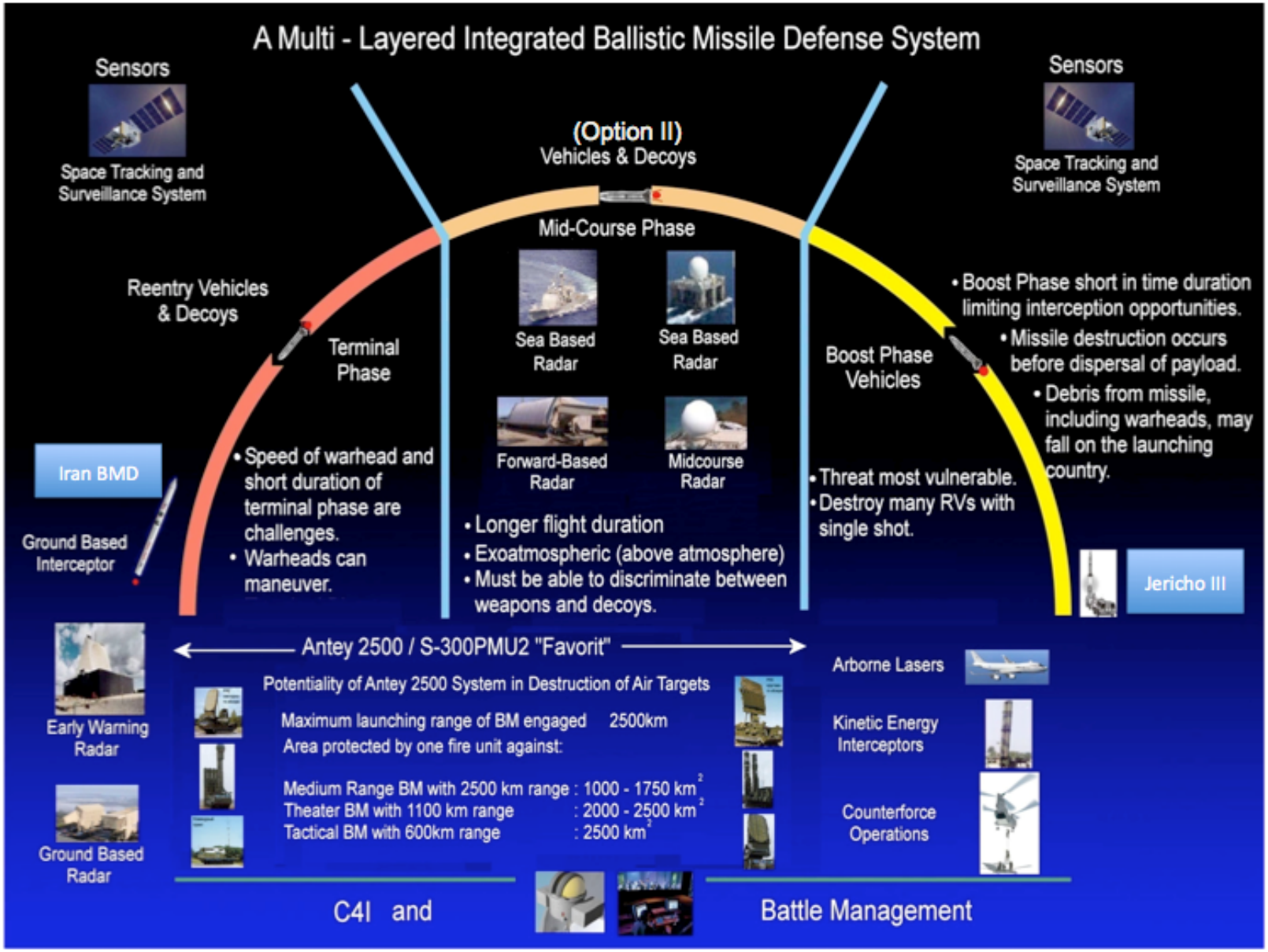
Iranian Integrated Missile Defenses



The Challenge of Nuclear Forces and Weapons of Mass Destruction

Nuclear Uncertainty

- **Must plan to deal with possible Iranian force with unknown weapons characteristics, delivery systems, basing, and timelines.**
  - **Technology base now exists, enrichment to fissile levels is only limiting factor.**
- **Already a key factor in Iranian capability to conduct "wars of intimidation."**
- **Clear Iran proceeding with extensive ballistic missile program regardless of whether it pursues the nuclear option.**
- **Cannot predict timeframe for nuclear threat. Worst case is 2009, but could well be 2015.**
  - **Break out, bomb in basement, tested, deployed, serious numbers, mobile, sheltered, LUA/LOW? Fission, boosted, thermonuclear?**
- **Chemical and biological options as well.**

Current & Potential Nuclear Powers

Iran

SRBM < 1000 km	MRBM 1,000 – 3,000 km	IRBM 3,000 – 5,500 km	ICBM > 5,500 km
Shahab-1	Shahab-3	Shahab-5	Shahab-6
Shahab-2	Shahab-4	-	-
Mushak-120	Ghadr-101	-	-
Mushak-160	Ghadr-110	-	-
Mushak-200	IRIS	-	-
-	Sajil	-	-

Syria

SRBM < 1000 km	MRBM 1,000 – 3,000 km	IRBM 3,000 – 5,500 km	ICBM > 5,500 km
SCUD-B	-	-	-
SCUD-C	-	-	-
SCUD-D	-	-	-
SS-21b	-	-	-

Israel

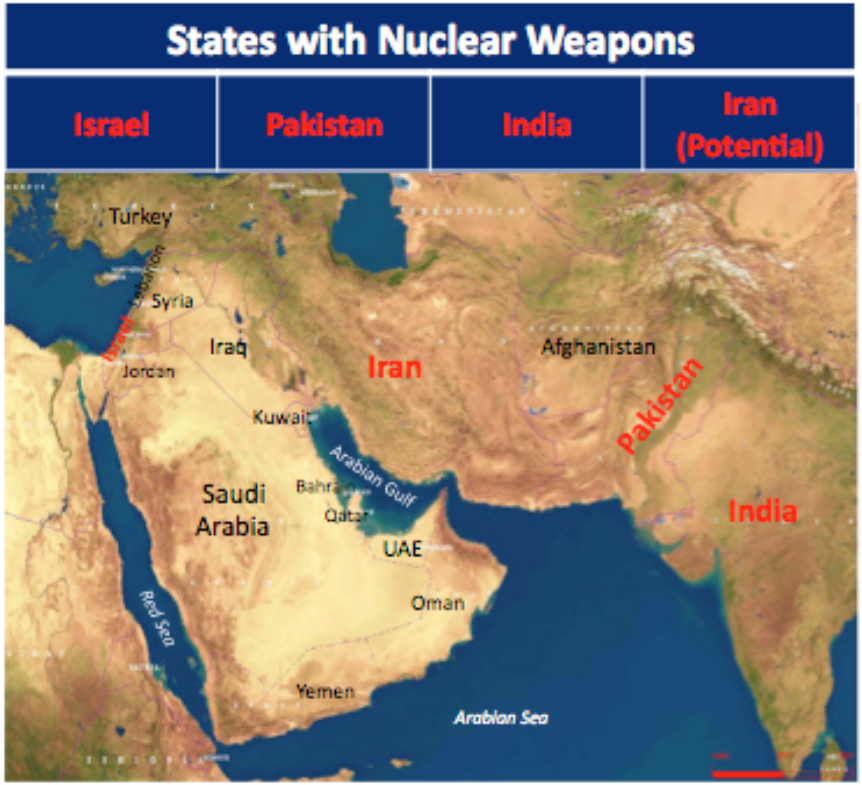
SRBM < 1000 km	MRBM 1,000 – 3,000 km	IRBM 3,000 – 5,500 km	ICBM > 5,500 km
-	Jericho II	-	Jericho II

Pakistan

SRBM < 1000 km	MRBM 1,000 – 3,000 km	IRBM 3,000 – 5,500 km	ICBM > 5,500 km
Shaheen I	Shaheen II	-	-
Hatf I	Ghauri I	-	-
Hatf II	Ghauri II	-	-
Hatf III	Ghauri II	-	-
M-11	-	-	-

India

SRBM < 1000 km	MRBM 1,000 – 3,000 km	IRBM 3,000 – 5,500 km	ICBM > 5,500 km
Agni I	Agni II	Agni III	Surya
Prithvi I			
Prithvi II			



Confusion Over the US NIE

- **Not say Iran was not moving towards nuclear weapon.**
  - **Did say evidence that halted formal efforts at weapons development in 2003. (When US "victories" in Iraq and Afghanistan seemed most threatening to Iran,**
  - **Made it clear that Iran was pursuing enrichment technology that was the sole remaining barrier to Iran acquiring nuclear weapons.**
- **Since NIE was issued, new evidence has surfaced of weapons development efforts beyond initial "laptop" and "Green Salt" disclosures.**
- **Iran has also been discovered to have completed development of a new, far more advanced centrifuge.**
- **Iran has announced two new long-range missiles, and a "space" program that can be adapted to missile development.**

DNI's March 2008 Summary - I

Over the past year we have gained important new insights into **Tehran's** activities related to nuclear weapons and the Community recently published a National Intelligence Estimate on Iranian intent and capabilities in this area. I want to be very clear in addressing the Iranian nuclear capability. First, there are three parts to an effective nuclear weapons capability:

1. Production of fissile material
2. Effective means for weapons delivery
3. Design and weaponization of the warhead itself

We assess in our recent NIE on this subject that warhead design and weaponization were halted, along with covert military uranium conversion- and enrichment-related activities. Declared uranium enrichment efforts, which will enable the production of fissile material, continue. This is the most difficult challenge in nuclear production. Iran's efforts to perfect ballistic missiles that can reach North Africa and Europe also continue.

We remain concerned about Iran's intentions and assess with moderate-to-high confidence that Tehran at a minimum is keeping open the option to develop nuclear weapons. We have high confidence that Iranian military entities were working under government direction to develop nuclear weapons until fall 2003. Also, Iranian entities are continuing to develop a range of technical capabilities that could be applied to producing nuclear weapons. Iran continues its efforts to develop uranium enrichment technology, which can be used both for power reactor fuel and to produce nuclear weapons. And, as noted, Iran continues to deploy ballistic missiles inherently capable of delivering nuclear weapons, and to develop longer-range missiles. We also assess with high confidence that even after fall 2003 Iran has conducted research and development projects with commercial and conventional military applications—some of which would also be of limited use for nuclear weapons.

We judge with high confidence that in fall 2003, Tehran halted its nuclear weapons design and weaponization activities, as well as its covert military uranium conversion and enrichment-related activities, for at least several years. Because of intelligence gaps, DOE and the NIC assess with only moderate confidence that all such activities were halted. We assess with moderate confidence that Tehran had not restarted these activities as of mid-2007, but since they comprised an unannounced secret effort that Iran attempted to hide, we do not know if these activities have been restarted.

We judge with high confidence that the halt was directed primarily in response to increasing international scrutiny and pressure resulting from exposure of Iran's previously undeclared nuclear work. This indicates that Iran may be more susceptible to influence on the issue than we judged previously.

DNI's March 2008 Summary - II

We do not have sufficient intelligence information to judge confidently whether Tehran is willing to maintain the halt of its nuclear weapons design and weaponization activities indefinitely while it weighs its options, or whether it will or already has set specific deadlines or criteria that will prompt it to restart those activities. We assess with high confidence that Iran has the scientific, technical and industrial capacity eventually to produce nuclear weapons. In our judgment, only an Iranian political decision to abandon a nuclear weapons objective would plausibly keep Iran from eventually producing nuclear weapons—and such a decision is inherently reversible. I note again that two activities relevant to a nuclear weapons capability continue: uranium enrichment that will enable the production of fissile material and development of long-range ballistic missile systems.

We assess with moderate confidence that convincing the Iranian leadership to forgo the eventual development of nuclear weapons will be difficult given the linkage many within the leadership see between nuclear weapons development and Iran's key national security and foreign policy objectives, and given Iran's considerable effort from at least the late 1980s to 2003 to develop such weapons.

We continue to assess with moderate-to-high confidence that Iran does not currently have a nuclear weapon. We continue to assess with low confidence that Iran probably has imported at least some weapons-usable fissile material, but still judge with moderate-to-high confidence it has not obtained enough for a nuclear weapon. We cannot rule out that Iran has acquired from abroad—or will acquire in the future—a nuclear weapon or enough fissile material for a weapon. Barring such acquisitions, if Iran wants to have nuclear weapons it would need to produce sufficient amounts of fissile material indigenously—which we judge with high confidence it has not yet done.

Iran resumed its declared centrifuge enrichment activities in January 2006, despite the 2003 halt in its nuclear weapons design and weaponization activities. Iran made significant progress in 2007 installing centrifuges at Natanz, but we judge with moderate confidence it still faces significant technical problems operating them.

- **We judge with moderate confidence that the earliest possible date Iran would be technically capable of producing enough highly enriched uranium (HEU) for a weapon is late 2009, but that is very unlikely.**
- **We judge with moderate confidence Iran probably would be technically capable of producing enough HEU for a weapon sometime during the 2010-2015 time frame. INR judges Iran is unlikely to achieve this capability before 2013 because of foreseeable technical and programmatic problems. All agencies recognize the possibility that this capability may not be attained until *after* 2015.**

DNI's March 2008 Summary - III

We know that Tehran had a chemical warfare program prior to 1997, when it declared elements of its program. We assess that Tehran maintains dual-use facilities intended to produce CW agent in times of need and conducts research that may have offensive applications. We assess Iran maintains a capability to weaponize CW agents in a variety of delivery systems.

We assess that Iran has previously conducted offensive BW agent research and development. Iran continues to seek dual- use technologies that could be used for biological warfare.

Extract from J. Michael McConnell, Director of National Intelligence, "Annual Threat Assessment of the Intelligence Community for the Senate Armed Services Committee," 27 February 2008

ISIS Report: Misconceptions about Iran's Nuclear Program - I

1. Iran's IAEA safeguards violations were minor breaches and fully in the past

- Iran's violation of its obligations under the verification requirements of the Nuclear NPT is one of most significant breaches of this treaty.
- Iran's safeguards violations have been detailed in numerous IAEA reports starting in 2003
- November 2003: Iran has failed in a number of instances over an extended period of time to meet its obligations under its Safeguards Agreement with respect to the reporting of nuclear material and its processing and use, as well as the declaration of facilities where such material has been processed and stored…."
- Iran's development of its enrichment capability took place over 18 years and in secrecy. This places Iran's actions outside the category of "minor."
- As a consequence of Iran's safeguards violations, the United Nations Security Council has passed five resolutions, four of them containing sanctions, calling on Iran to halt uranium enrichment, accept the Additional Protocol, and comply with IAEA requests to clarify key past activities concerning the military dimensions of its program, including the role of military organizations in the centrifuge program and a set of records, referred to as the "laptop documents" which we discuss further in this document."
- The November 2004 IAEA report enumerates Iran's safeguards violations and notes that Iran's cooperation up to October 2003 was marked by "extensive concealment, misleading information and delays in access to nuclear material and facilities," include its imports of nuclear material, falsehoods about the origin of centrifuge technology and equipment, and its enrichment activities.

Source: David Albright and Jacqueline Shire, "Misconceptions about Iran's Nuclear Program," ISIS Nuclear Iran, July 8, 2009, available at: http://www.isisnucleariran.org/static/297/

ISIS Report: Misconceptions about Iran's Nuclear Program - II

2. All of Iran's nuclear facilities are under safeguards or monitoring, or alternatively the IAEA has found no evidence that Iran has any secret nuclear facilities

- Many key nuclear activities and facilities are not under any type of IAEA monitoring.
- This lack of Iranian transparency poses one of the most difficult challenges to determining whether Iran has undeclared nuclear activities and materials and is conducting nuclear weapons work.
- The IAEA safeguards system in Iran is currently limited to traditional safeguards under an INFCIRC/153 agreement, which is part of Iran's obligations under the Nuclear NPT.
  - Agreement applies to all of Iran's sources of special fissionable material for the exclusive purpose of verifying that such material is not diverted to nuclear weapons or other nuclear explosive devices.
  - Iran agreed to allow this agreement in 2003, then decided to no longer do so in 2006.
- The IAEA has reported that it is unable to determine if Iran has undeclared nuclear materials or activities.
- In the past, the IAEA has found evidence of secret nuclear sites.
- Now, the IAEA is limited in its ability to look for any such sites because of the weakened inspections and Iran's interpretation of its obligations to the IAEA under INFCIRC/153.
- The IAEA maintains safeguards at the Bushehr nuclear reactor, several facilities at Esfahan (including uranium conversion and fuel fabrication facilities), the Natanz fuel enrichment plants, the Tehran Research Reactor, a facility for radioactive waste storage facility and a laboratory.

Source: David Albright and Jacqueline Shire, "Misconceptions about Iran's Nuclear Program," ISIS Nuclear Iran, July 8, 2009, available at: http://www.isisnucleariran.org/static/297/

ISIS Report: Misconceptions about Iran's Nuclear Program - III

3. Iran is fully in compliance with its safeguards obligations

- Iran has refused multiple IAEA requests to verify design information for the Arak heavy water reactor and its associated facilities currently under construction. The IAEA has stated that this refusal is inconsistent with its obligations under INFCIRC/153.
- The IAEA also takes issue with Iran's decision to stop providing information about new nuclear facilities when it makes a decision to construct them.
  - Iran is insisting on adhering to a long outdated version of its safeguards undertakings by agreeing to provide such information only 180 days before the introduction of nuclear material into the facility.
  - Iran initially agreed to provide early notification in 2003, but subsequently reversed its decision. The IAEA states that such a unilateral decision is inconsistent with Iran's obligations under INFCIRC/153.
  - Iran has built secret nuclear sites, including the Natanz gas centrifuge complex, exploiting this outdated arrangement. Iran confirmed its existence in early 2003 only after it was exposed publicly by groups such as ISIS.
  - Gaining assurance that no such sites are under construction now is critical to ensuring that Iran is not trying to exploit this dispute to build nuclear facilities in secret.

Source: David Albright and Jacqueline Shire, "Misconceptions about Iran's Nuclear Program," ISIS Nuclear Iran, July 8, 2009, available at: http://www.isisnucleariran.org/static/297/

ISIS Report: Misconceptions about Iran's Nuclear Program - IV

4. **Producing HEU from LEU is a long and arduous process, and nuclear weapons breakout will take between one and three years**
   - Learning to produce enriched uranium by operating centrifuges in large numbers is the difficult part on the road to developing a viable gas centrifuge capability.
   - Enriching low enriched uranium (LEU) to highly enriched uranium (HEU) is relatively straightforward and can be done quickly, in some cases within months.
     - This process of enriching a stock of LEU to weapon-grade is called a nuclear weapons "break-out" capability.
   - Iran's centrifuge program has advanced considerably in the last year.
     - Iran has succeeded in manufacturing and installing large numbers of centrifuges and ramping up its production of LEU.
     - As of the end of May 2009, Iran had over 7,000 centrifuges enriching uranium or under vacuum and ready to enrich, and had produced over 1,300 kilograms of low enriched uranium hexafluoride.
   - The ISIS concludes in its reporting that Iran has not made the political decision to develop a nuclear weapon, but that should its leadership so decide, Iran would have viable options for producing enough weapon-grade uranium for a nuclear weapon within six months or less.

Source: David Albright and Jacqueline Shire, "Misconceptions about Iran's Nuclear Program," ISIS Nuclear Iran, July 8, 2009, available at: http://www.isisnucleariran.org/static/297/

ISIS Report: Misconceptions about Iran's Nuclear Program - V

5. Iran does not currently have a nuclear weapons capability

- Iran's gas centrifuge program is currently large enough to provide Iran several ways to produce weapongrade uranium.
- The time needed to produce enough weapon-grade uranium for a nuclear weapon is measured in months or a few years at most.
- Iran currently operates enough centrifuges at the Natanz Fuel Enrichment Plant to produce weapongrade uranium directly from natural uranium,
  - If it decided to do so it would need to adjust the cascades or install a relatively small number of new cascades specifically for that purpose.
- As an alternative to modifying the Natanz facility, Iran is capable of building a clandestine plant to make weapon-grade uranium from natural uranium. It has established at Natanz that it can build, install and operate large numbers of cascades. Given the risk of military strikes against Natanz if Iran were making weapon-grade there, it might prefer to build a parallel, secret plant.
- Iran would also need a supply of uranium hexafluoride for such a facility;
  - all of the uranium hexafluoride produced by Esfahan is under safeguards, so it would also likely need to construct a secret parallel facility to make uranium hexafluoride or acquire it illicitly from an overseas supplier.
- Given Iran's refusal to accept any but the weakest safeguards, the IAEA is unable to provide assurances about the absence of any undeclared nuclear materials or facilities. It has no access to centrifuge manufacturing workshops, making it difficult to know how many centrifuges are being produced and where they are stored. Adding in a long history of clandestine nuclear activities, the possibility of Iran building a secret gas centrifuge plant cannot be ruled-out.

Source: David Albright and Jacqueline Shire, "Misconceptions about Iran's Nuclear Program," ISIS Nuclear Iran, July 8, 2009, available at: http://www.isisnucleariran.org/static/297/

ISIS Report: Misconceptions about Iran's Nuclear Program – VI

6. Iran would have to conduct a full-scale nuclear test in order to build a nuclear weapon

- Developing an implosion-type nuclear weapon can be done without needing a full-scale test.
- Most states pursuing a clandestine nuclear weapons program have sought to avoid the need for full-scale testing.
  - If a test is conducted, as it was by Pakistan and North Korea, it served to further refine nuclear weapons skills and more importantly demonstrate dramatically a strategic and political point.
- States have used different options to avoid the need for tests.
  - Pakistan did so after receiving a tested warhead design from China in the early 1980s.
  - To develop confidence in its implosion design, prior to the Gulf War, Iraq was developing a set of tests of components and of the entire device with a surrogate material substituting for HEU.
  - South Africa was likewise planning to pursue this approach for an implosion weapon. Iran would likely follow a path to maximize its flexibility and minimize its requirements for HEU.

Source: David Albright and Jacqueline Shire, "Misconceptions about Iran's Nuclear Program," ISIS Nuclear Iran, July 8, 2009, available at: http://www.isisnucleariran.org/static/297/

ISIS Report: Misconceptions about Iran's Nuclear Program – VII

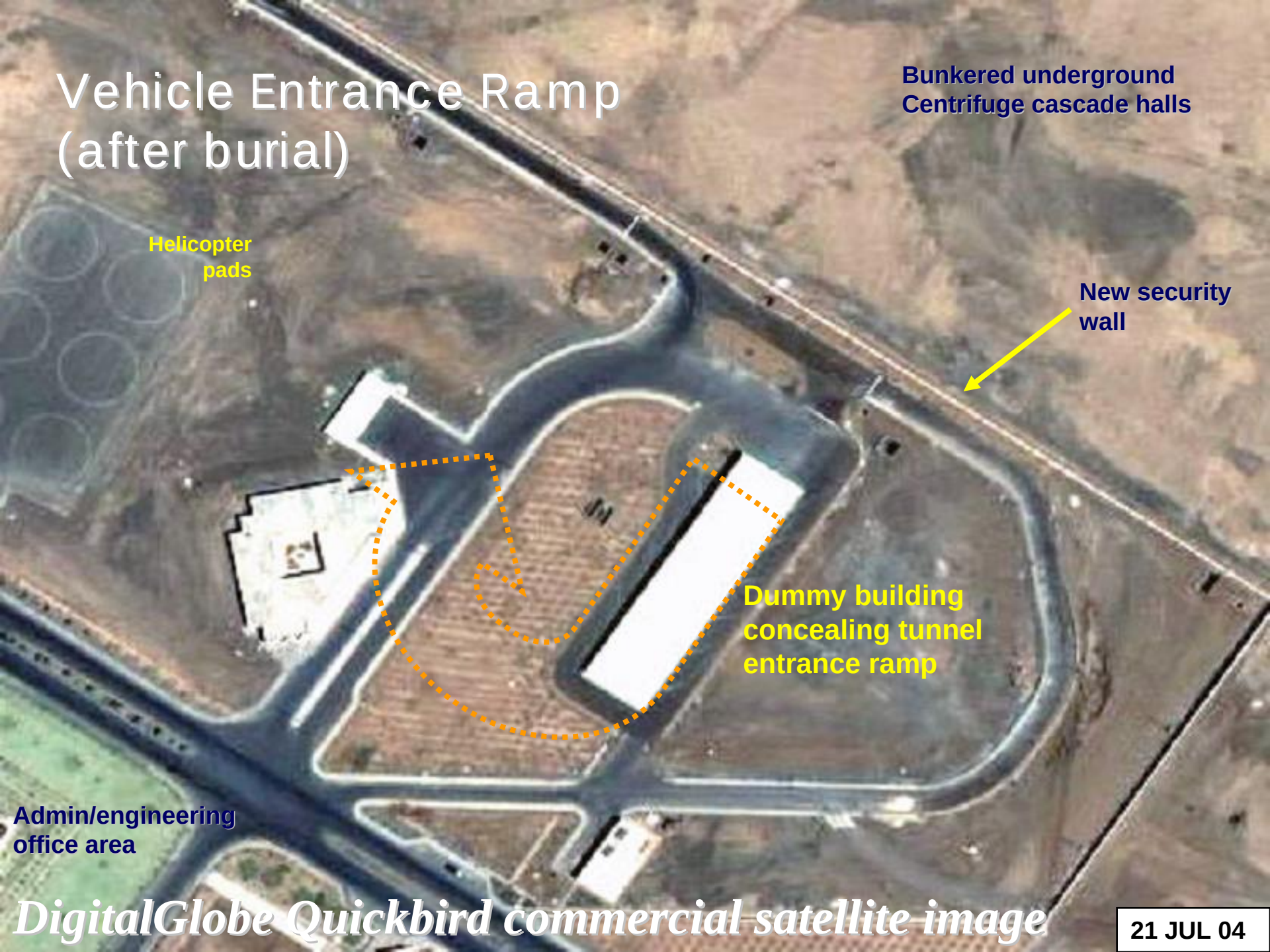
6. The "laptop documents" are forgeries

- The story of the laptop documents was broken in 2005 and 2006 by Carla Anne Robbins, then at the Wall Street Journal, and Dafna Linzer, at the time writing for the Washington Post.
- The February 27, 2006 IAEA report notes that on December 5, 2005 the IAEA "repeated its request for a meeting to discuss information that had been made available to the Secretariat about alleged studies, including what is known as the Green Salt Project, concerning the conversion of uranium dioxide into uranium tetrafluoride (often referred to as "green salt"), tests related to high explosives, and the design of a missile re-entry vehicle.
  - Iran agreed to the meeting in January and officials met February 26, 2006. Iranian officials responded that the allegations were "based on false and fabricated documents so they were baseless," and that neither such a project nor such studies exist or did exist."
  - Later, Iran said that some of the documents were authentic but had nothing to do with nuclear weapons.
- IAEA analysts who reviewed the documents assessed that the volume of material, level of detail, including names, places and entities, do not support the conclusion that the documents are forgeries.
- The IAEA has continued to pursue the matter with Iran. Its May 2008 report contains an annotated listing of thirteen documents related to the laptop or "alleged studies."
- Iran has repeatedly refused IAEA requests to meet with individuals named in the documents, in particular Dr. Mohsen Fakhrizadeh, who appears to be at the center of the alleged nuclear weaponization-related research and development.

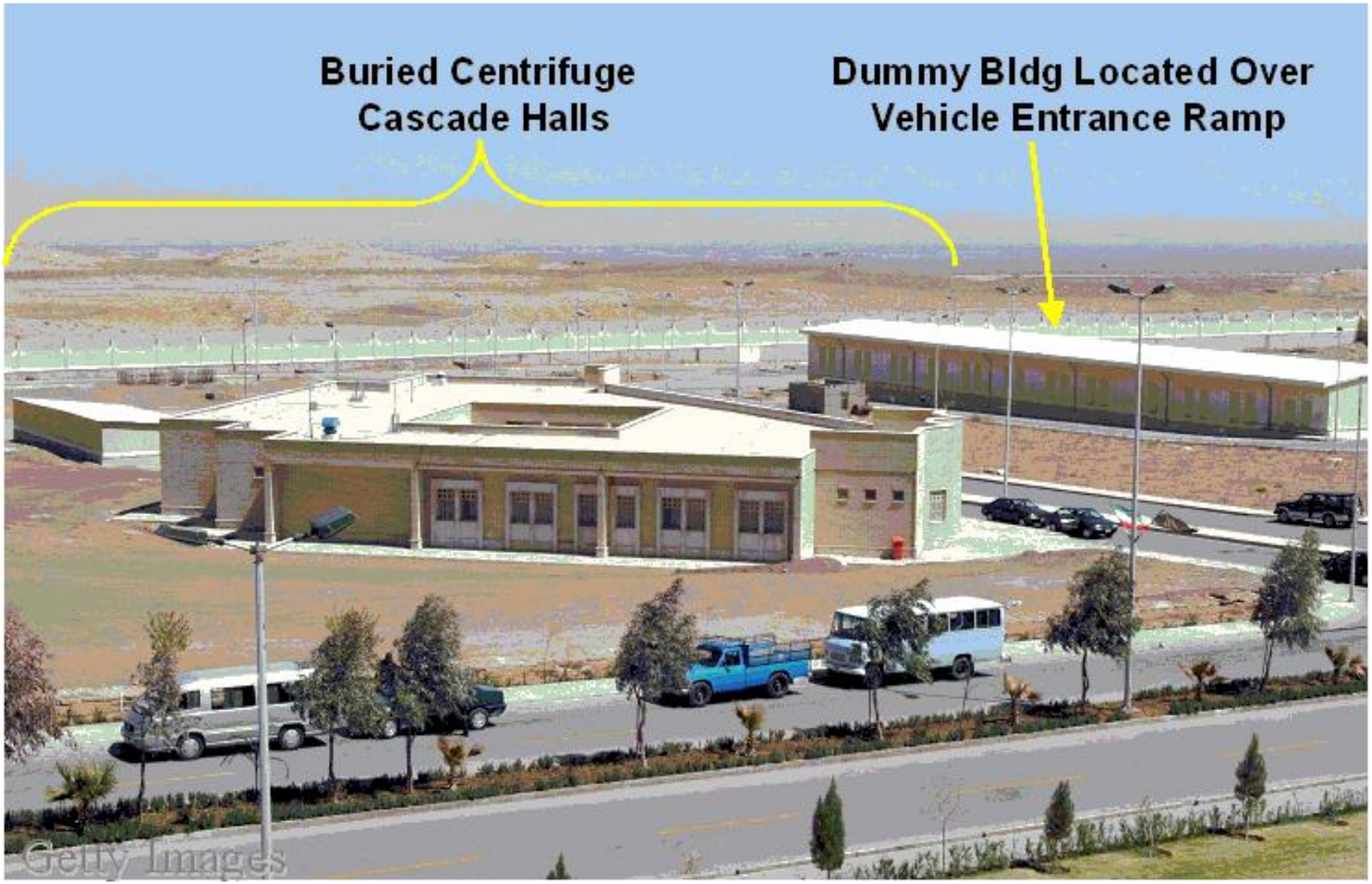
Source: David Albright and Jacqueline Shire, "Misconceptions about Iran's Nuclear Program," ISIS Nuclear Iran, July 8, 2009, available at: http://www.isisnucleariran.org/static/297/


300 miles
500 km
TURKEY
CASPIAN SEA
TURKMENISTAN
Lashkar A'bad
Tehran
Sites circled in red
unknown pre-mid 2002
IRAQ
Arak
Natanz
Isfahan
IRAN
Saghand
Ardekan
AFGHANISTAN
PAKISTAN
KUWAIT
1000 MW
Bushehr
The Gulf
Gachin
BAHRAIN
SAUDI ARABIA
QATAR
Gulf of Oman
MIDDLE EAST
MW Megawatts
Uranium processing facility
Uranium mines
Heavy-water facility
Research reactors / research facilities
Uranium enrichment facility
Light-water reactor (under construction)
Source: IISSmaps
IISSmaps


Vehicle Entrance Ramp
(before burial)
Bunkered underground
production halls
Admin/engineering
office area
DigitalGlobe Quickbird commercial satellite image
20 SEP 02


Vehicle Entrance Ramp
(after burial)
Bunkered underground
Centrifuge cascade halls
Helicopter
pads
New security
wall
Dummy building
concealing tunnel
entrance ramp
Admin/engineering
office area
DigitalGlobe Quickbird commercial satellite image
21 JUL 04

Effective Concealment



How Much is Enough?

Amount of Fissile Material Need to Build a Basic Fission (Non-Boosted) Weapon

Highly Enriched Uranium
HEU (90% U-235)

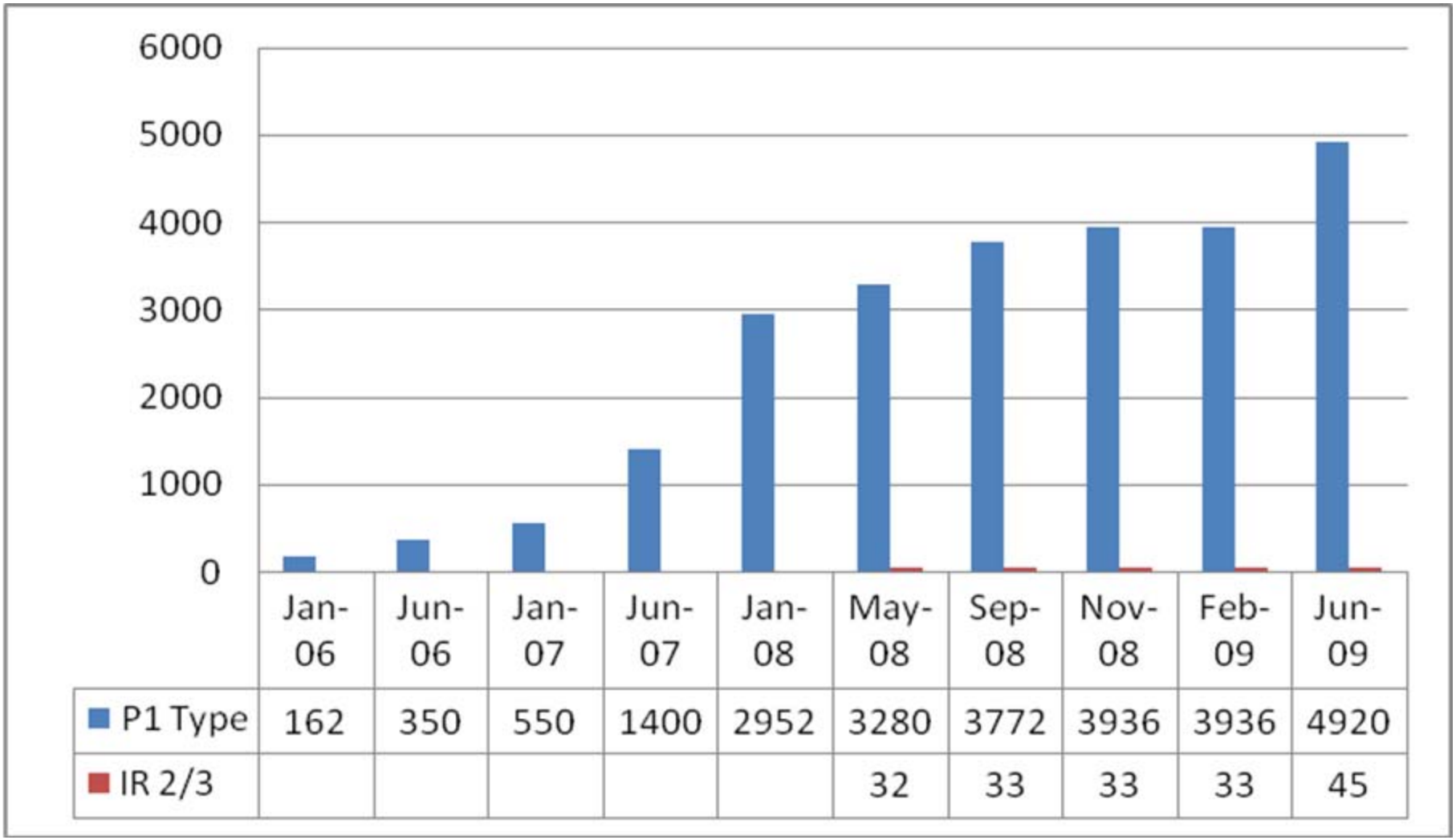
Simple gun-type weapon	**90-110 lbs/40-50 kg**
Simple implosion weapon	**33lbs/15 kg**
Sophisticated implosion weapon	**20-26lbs/9-12kg**

Weapons Grade Plutonium

Simple implosion weapon	**14lbs/6 kg**
Sophisticated implosion weapon	**4.5-9lbs/2-4 kg**

Extract from the unclassified estimates in Union of Concerned Scientists, "Preventing Nuclear Terrorism Fact Sheet," April 2004, and work by Abdullah Toucan

Number of Centrifuges Enriching Uranium at Natanz FEP

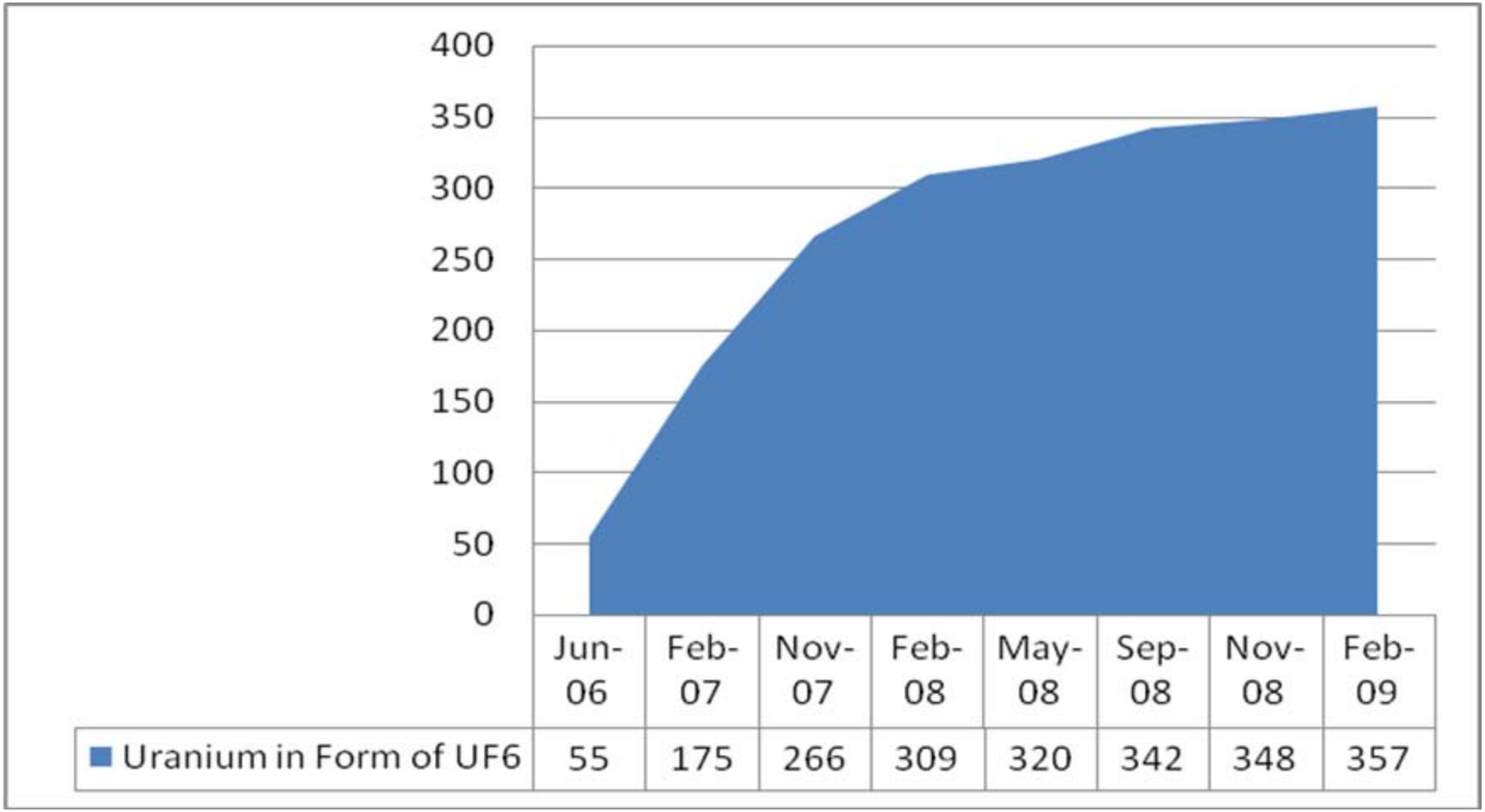


	Jan-06	Jun-06	Jan-07	Jun-07	Jan-08	May-08	Sep-08	Nov-08	Feb-09	Jun-09
P1 Type	162	350	550	1400	2952	3280	3772	3936	3936	4920
IR 2/3						32	33	33	33	45

Source: Adapted by Adam C. Seitz from various IAEA reports, ISIS analysis, and University of Wisconsin Project on Nuclear Arms Control.

Cumulative UF6 Production at Esfahan

(in metric tonnes of uranium mass)



Source: Adapted by Adam C. Seitz from various IAEA reports, ISIS analysis, and University of Wisconsin Project on Nuclear Arms Control.

Iran's Hypothetical Forces

- **Less than 50 nuclear weapons, most fission, possibly some boosted. 30 Nuclear warheads, 20 bombs.**
  - **Most 20-30 Kt, some 100 KT**
- **100 Shahab 3 and 3 ER on mobile TELs. 60 TELs.**
- **Su-24, F-14 convert, and Su-37 strike aircraft.**
- **Reverse engineered KH-55 cruise missiles.**
- **Mustard and persistent nerve gas, stable bombs, bombs and warheads with cluster munitions.**
- **Limited satellite targeting and damage assessment capability.**
- **Limited ballistic missile point defense capability with SA-300/SA-400**
- **Meaningful civil defense? No.**

Israel's Hypothetical Forces

- 200+ boosted and fusion weapons.
  - Most 20-100 Kt variable yield, some 1 Megaton.
- 100 Jericho 1 and 2.
- 30 Jericho ER.
- JSF, F15I, F-16I with nuclear-armed cruise missiles, advanced conventional precision strike capability.
- 3 Dolphin submarines with nuclear armed SLCMs.
- High resolution satellite targeting and damage assessment capability.
- Moderate ballistic missile point and area defense capability with Arrow IV/V and Patriot PAC-3 TMD.
- CW? Assume Yes. BW? Assume No.
- Meaningful civil defense? CW only.

Strike on Iran?

- **Timelines: Acquisition? Deployment? Modernization?**
- **Targeting intelligence?**
- **Dispersal, hardening, concealment?**
- **Hardening vs. Attack Lethality**
- **SEAD: Penetration? Suppression? Kill?**
- **Range-payload, refuel, recovery**
- **Restrike? Penetration corridor enforcement?**
- **LOW? LUA? Covert?**

Post-Strike on Iran/ Parallel Iranian Options

- IR-2, IR-3, IR-3 "cooled," IR-4
- Folded centrifuge
- Concealed heavy water reactor
- LWR cannibalization
- LWR download
- Dirty weapons
- Basic biological
- Genetic engineered weapons

Key Force Posture Decisions

- **US and/or Israel**
  - **Prevent, preempt, contain, deter, retaliate, mutual assured destruction.**
- **Iran and Israel:**
  - **In reserve (secure storage), launch on warning (LOW), launch under attack (LOA), ride out and retaliate**
  - **Continuous alert, dispersal**
  - **Point, wide area defense goals**
- **Israel:**
  - **Basing mode: sea basing, sheltered missiles.**
  - **Limited strike, existential national, multinational survivable.**
- **US:**
  - **Level of defensive aid.**
  - **Ambiguous response**
  - **Clear deployment of nuclear response capability.**
  - **Extended deterrence. Assured retaliation.**
- **Gulf:**
  - **Passive (wait out), defensive, or go nuclear.**
  - **Ballistic, cruise missile, air defense.**
  - **Seek extended deterrence from US**

Key Force Posture Decisions - II

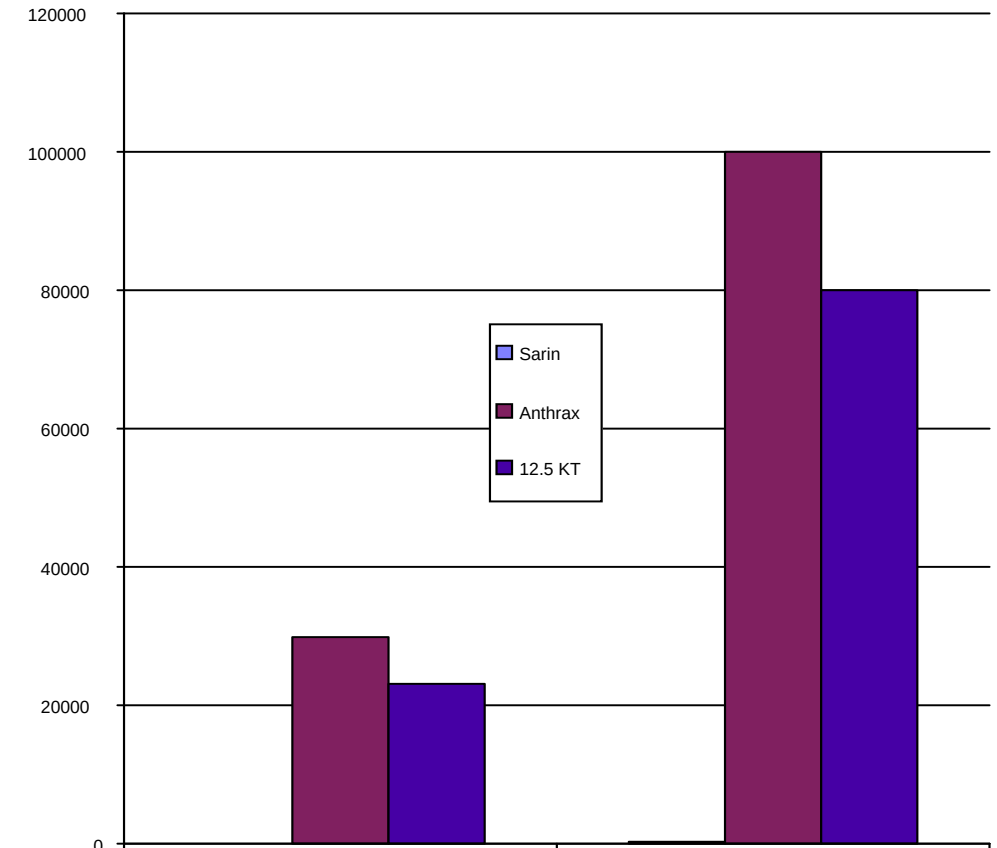
- **Syria:**
  - **Link or decouple from Iran.**
  - **Passive (tacit threat) or active (clear, combat ready deployment).**
- **Non-State Actor:**
  - **Tacit or covert capability.**
  - **Proven capability.**
  - **Deployment mode: Hidden, dispersed, pre-emplaced**

Iran Nuclear, US Conventional

- **Assume mature, dispersed Iranian force. Preemption limited option for US, but face launch on warning, launch under attack option.**
- **Iran cannot threaten US. Can threaten US bases in Gulf, Israel, Europe, GCC allies, Egypt, Jordan, oil export capabilities.**
- **SAD-like environment relying on proxy targets for maximum damage to US.**
- **Iranian side:**
  - **Limited strike designed to intimidate or show resolve, force issue without generating massive nuclear retaliation. Might focus on Arab target, rather than US or Israel, to try to limit retaliation.**
  - ***Reserve strike capability critical.***
  - ***Lower fission yields, less accurate force* limit range of targeting, but can cover all US bases and mix of other targets.**
  - **Target to maximize casualties, clear attention to fall out, lasting effects.**
  - **Inflict 2,000,000 to 8,000,000 prompt to 21-day dead; long term death rate cannot be calculated.**
  - **Iranian recovery very possible.**
- **US side:**
  - **Some preemptive damage limitation possible.**
  - **Launch on confirmed warning from US satellites.**
  - **Massive reserve conventional and nuclear strike capability.**
  - **Stealth and precision strike capability give weapons of mass effectiveness (WME) capability.**
  - **Power, refineries, continuity of government, C4I assets.**
  - **EMP option would be “semi-nuclear” response.**

CBRN Prompt (48-hour) Killing Effect in an Urban Environment

The Relative Killing Effect of Chemical vs. Biological vs. Nuclear Weapons



	Low	High
Sarin	60	200
Anthrax	30000	100000
12.5 KT	23000	80000

Source: Adapted by Anthony H. Cordesman from Victor A. Utgoff, The Challenge of Chemical Weapons, New York, St. Martin's, 1991, pp. 238-242 and Office of Technology Assessment, Proliferation of Weapons of Mass Destruction: Assessing the Risks, U.S. Congress OTA-ISC-559, Washington, August, 1993, pp. 56-57.

Q_{50} for Some Types of BW - Open-Air Deployment

- Plague (liquid): 3.5-4.5 liter/sq.km
- Tularemia (dry): 3.0-4.0 kg/sq.km
- Anthrax (dry, old version): 15-20 kg/sq.km
- Anthrax (dry, new version): 4.5-5.0 kg/sq.km
- Anthrax (liquid): 5.0-5.5 liter/sq.km
- Brucellosis (dry): 3.5-4.5 kg/sq.km
- Glanders/Melioidosis (liquid): 4.5-5.5 liter/sq.km
- Smallpox (liquid): 3.5-4.0 liter/sq.km
- Marburg (dry): less than 1.0 kg/sq.km

New Types of Biological Weapons

- ***Binary biological weapons*** **that use two safe to handle elements that can be assembled before use. This could be a virus and helper virus like Hepatitis D or a bacterial virulence plasmid like E. coli, plague, Anthrax, and dysentery.**
- ***Designer genes and life forms,*** **which could include synthetic genes and gene networks, synthetic viruses, and synthetic organisms. These weapons include DNA shuffling, synthetic forms of the flu – which killed more people in 1918 than died in all of World War I and which still kills about 30,000 Americans a year – and synthetic microorganisms.**
- ***"Gene therapy" weapons*** **that use transforming viruses or similar DNA vectors carrying Trojan horse genes (retrovirus, adenovirus, poxvirus, HSV-1). Such weapons can produce single individual (somatic cell) or inheritable (germline) changes. It can also remove immunities and wound healing capabilities.**
- ***Stealth viruses*** **can be transforming or conditionally inducible. They exploit the fact that humans normally carry a substantial viral load, and examples are the herpes virus, cytomegalovirus, Epstein-Barr, and SV40 contamination which are normally dormant or limited in infect but can be transformed into far more lethal diseases. They can be introduced over years and then used to blackmail a population.**
- ***Host-swapping diseases:*** **Viral parasites normally have narrow host ranges and develop an evolutionary equilibrium with their hosts. Disruption of this equilibrium normally produces no results, but it can be extremely lethal. Natural examples include AIDS, Hantavirus, Marburg, and Ebola. Tailoring the disruption for attack purposes can produce weapons that are extremely lethal and for which there is no treatment. A tailored disease like AIDS could combine serious initial lethality with crippling long-term effects lasting decades.**
- ***Designer diseases*** **involve using molecular biology to create the disease first and then constructing a pathogen to produce it. It could eliminate immunity, target normally dormant genes, or instruct cells to commit suicide. Apoptosis is programmed cell death, and specific apoptosis can be used to kill any mix of cells.**

Soviet RBK-type Cluster Bomb for CBR Weapons

Source: Ken Alibeck

Non-State Actor CBR(N?)

- **Independent, Proxy, False Flag, or Trigger Force?**
- **Access likely to be more critical in determining capability than ability to create own weapons, but highly lethal BW and genetic weapons may be becoming "off the shelf" option.**
- **Many of same twists as covert State Actor attacks:**
  - **Bypasses defenses.**
  - **Plausible deniability?**
  - **Exploits special vulnerability of "one bomb" states.**
  - **Psychological and political impacts as important as direct killing effects.**
  - **False flag and proxy options clear.**
  - **Buying time may limit risk of retaliation.**
  - **Allows to exploit "slow kill" nature of biological strikes. Achieve "line source" effects**
  - **Covert forces in place can restrike or escalate.**
- **Unclear Non-State Actors are deterrable by any form of retaliation.**

Source: Ken Alibeck

State Actor Covert Bioterrorism, Suitcase Nuclear

- **Bypasses defenses.**
- **Plausible deniability?**
- **Exploits special vulnerability of "one bomb" states.**
- **Psychological and political impacts as important as direct killing effects.**
- **False flag and proxy options clear.**
- **Buying time may limit risk of retaliation.**
- **Allows to exploit "slow kill" nature of biological strikes. Achieve "line source" effects**
- **Covert forces in place can restrike or escalate.**
- **Target potentially faces major weakening of conventional capabilities without ability to counter-escalate.**

Possible Terrorist/Covert/Irregular Deployment of Biological Weapons

- Use of infected vectors (mosquitoes, fleas, lice, etc.)
- Contamination of food and water supplies
- Contamination of various articles (letters, books, surfaces, etc.)
- Use of different aerosolizing devices and approaches to contaminate inner spaces of various buildings (line and point sources)
- Use of different aerosolizing devices and approaches for open-air dissemination (line and point sources)
- Inner- and outer-space explosive dissemination including suicide bombers
- Terrorist/Sabotage methods of infecting crops and livestock

Source: Ken Alibeck

WME: "Weapons of Mass Effectiveness"

- **Theoretical possibility, give precision long-range strike capability.**
- **Target mix varies with attacker's motives.**
- **Broad possible target base in MENA area, varying sharply by country.**
  - **Desalination**
  - **Major power plants, nuclear power plants.**
  - **Water purification and distribution.**
  - **Refinery**
  - **High value, long-lead time oil, gas, and petrochemical facilities.**
  - **Ethnic and sectarian high value targets.**
  - **Leadership elite: Royal family, president, etc.**

Dealing with Nuclear Uncertainty

- **Decide proper mix of four basic military options:**
  - **Prevention/preemption,**
  - **Active and passive defense,**
  - **Acquiring own nuclear weapons, and/or**
  - **US extended deterrence.**
- **Can wait for diplomacy for time being, but need to start considering future options.**
  - **Ballistic and cruise missile defenses maybe cost-effective simply to deal with conventional threat.**
  - **A number of systems offer both improved air and missile defense.**
  - **Need quiet talks with US on containment options; extended deterrence.**
  - **Open support for IAEA and diplomatic options key passive approach.**

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www.csis.org/burke/reports

Saudi National Security and the Saudi-US Strategic Partnership:

Part Three: The Regional Security Environment: Asymmetric Warfare, Peripheral Threats, and Terrorism

Anthony H. Cordesman
Arleigh A. Burke Chair in Strategy

CSIS | CENTER FOR STRATEGIC & INTERNATIONAL STUDIES | Burke Chair in Strategy

Rough Working Draft: Revised April 28, 2010

Key Issues Addressed

- **Saudi Arabia defense policies and key threats;**
- **Past, current and future state of the forces shaping security policy and defense trends and needs of Saudi Arabia;**
- **Political influences on Saudi Arabia defense decisions and reactions;**
- **Defense policy decision-making process in Saudi Arabia; and**
- **US engagement with the Saudi Arabia defense departments and adjunct government organizations.**

Saudi Strategic Priorities and Threat Perceptions

Large Territory: Threatened Periphery

- 2,149,690 sq km; slightly more than one-fifth the size of the US
- Uncertain land boundaries: Iraq 814 km, Jordan 744 km, Kuwait 222 km, Oman 676 km, Qatar 60 km, UAE 457 km, Yemen 1,458 km. History of Israeli overflights
- 2640 kilometers of coastline on Gulf and Red Sea.
- Coast vital to exports, water (desalination & power) and food.
- Air transport and ships also critical.
- Defense in depth difficult given dependence on coasts; population distribution.
- Security of Gulf, Strait of Hormuz, Gulf of Oman, Bab el Mandab, Red Sea critical. Threat of Piracy as well as hostile forces.

Saudi Arabian Security Policies

- ***Internal security and stability first*.**
- **Use diplomacy and aid to secure the Kingdom against neighbors.**
- **Rely on mix of external powers to deter outside threats while limiting their involvement in Saudi Arabia;**
- **GCC more image than real.**
- **Create overlapping security forces for internal security; counterterrorism is critical priority**
- **Focus military development on outside threats: Iran, Iraq, Yemen; regional challenges like Israel and India**
- **Focus military forces on airpower and land based air defense, defense of upper Gulf and Yemen, coastal areas, Gulf, and Red Sea. Emerging Gulf and Red Sea fleets.**
- **Land forces in military cities backed by air bases at critical borders: Yemen-Iraq. Airpower provides strategic mobility, compensates for limited manpower and forces.**
- **Constantly assess ballistic missile and nuclear threats.**

Key Perceived Threats

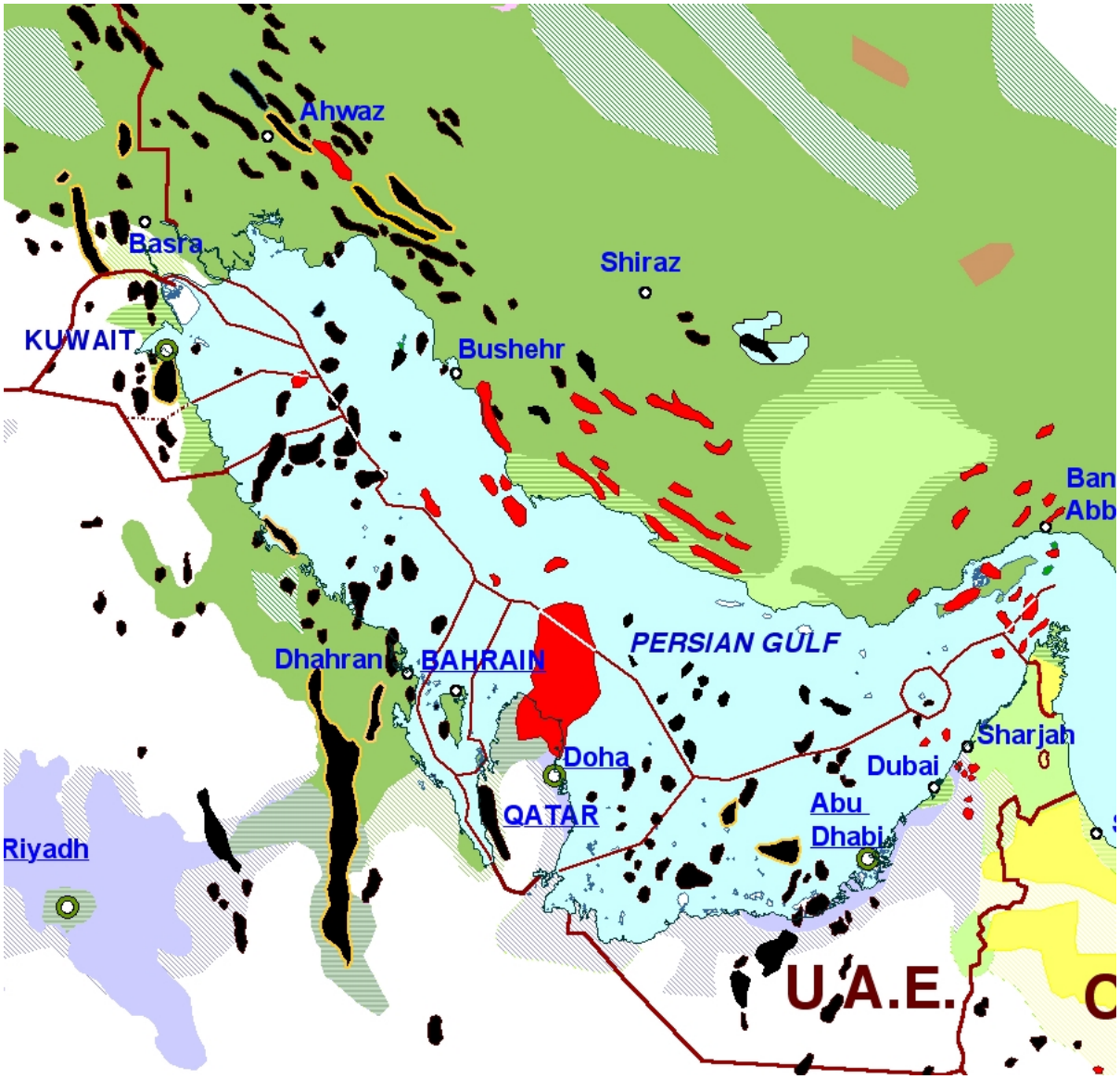
- **Iran: Nuclear, missiles, Iraq, Non-State Actors, and asymmetric forces in Gulf and region.**
- **Al Qa'ida in Peninsula, terrorist groups.**
- **Yemeni instability, demographics, military threat, border problems;**
- **Shi'ite internal unrest.**
- **Other unrest, sabotage.**
- **Instability or discrediting of Pilgrimage and Saudi role as custodian of Islamic Holy Places.**
- **Threat to oil and gas export routes/imports/chokepoints.**
- **Syria, Lebanon, "Shi'ite crescent"**
- **Israel, Palestinians, and Jordanian stability.**
- **Iraqi stability and border**

Most Likely Foreign Threats Are Not Formal Conflicts

- **Non-State Actors: AQIP and other extremists.**
- **Direct and indirect threats of using force. (I.e. Iranian efforts at proliferation)**
- **Use of irregular forces and asymmetric attacks.**
- **Proxy conflicts using terrorist or extremist movements or exploiting internal sectarian, ethnic, tribal, dynastic, regional tensions.**
- **Arms transfers, training in host country, use of covert elements like Quds force.**
- **Harassment and attrition through low level attacks, clashes, incidents.**
- **Piracy**
- **Limited, demonstrative attacks to increase risk, intimidation.**
- **Strike at critical node or infrastructure.**

The Challenge of Export Vulnerability: Petroleum Exports, Key Infrastructure, and Key Imports

Vulnerability of Gulf Oil Fields



Primary Oil and Gas Deposits in the Middle East and the Shia Majority Areas.

- A Major Oil field
- A Super-Giant Oil field
- A Major Gas field

Islam:

- Shiism (to include Alevis/Alawis)
- Sunnism (Hanafi, Shafi'i, Maliki)
- Hunbli
- Ibadism
- Christianity
- Judaism
- Other

- Mixed population areas
- Sparsely populated areas
- Uninhabited areas

Source: M. Izady, 2006 http://gulf2000.columbia.edu/maps.shtml

But, There Are Some Alternative Routes

EIA: http://www.eia.doe.gov/cabs/World_Oil_Transit_Chokepoints/images/Oil%20and%20Gas%20Infrastructue%20Persian%20Gulf%20%28large%29.gif

Saudi Arabian Oil Fields

- **267 billion barrels of oil reserves**
- **9.7 MMBD production**
- **Capacity 10.5-11 MMBD growing to 12.5 MMBD.**
- **Exports 7/9-98.5 MBD, 52% to Asia**
- **2.3 MMBD used domestically.**
- **Refinery throughput capacity of 2.1 MMBD**
- **100 major oil and gas fields**
- **Ras Tanura complex has approximately 6 million bbl/d capacity; and the world's**
- **largest offshore oil loading facility. Includes the 2.5-million bbl/d port at Ras Tanura. More**
- **than 75 percent of exports are loaded at Ras Tanura Facility.**
- **3 to 3.6-million bbl/d Ras al-Ju'aymah facility on the Persian Gulf.**
- **Yanbu' terminal on the Red Sea, has loading capacity of approximately 4.5 million bbl/d crude and 2 million bbl/d**
- **for NGL and products.**

EIA, Country Briefs, "Saudi Arabia," August 2008

Energy Infrastructure is Critical, *But*

- **Steadily rising global demand for Gulf crude, product, and gas**
- **Rising Asian demand (much exported indirectly to the West)**
- ***Heavy concentrations in facilities designed to economies of scale, not redundancy.***
- ***Poor response planning, and long-lead time replacement for critical key components.***
- ***Day-to-day use often near limits of capacity***
- ***Lack of systems integration and bypass capability at national and GCC level***
- ***Improving lethality and range of precision strike systems.***
- ***Smarter saboteurs and terrorists.***

Hormuz: Breaking the Bottle at the Neck

- 280 km long, 50 km wide at narrowest point.
- Traffic lane 9.6 km wide, including two 3.2 km wide traffic lanes, one inbound and one outbound, separated by a 3.2 km wide separation median
- Antiship missiles now have ranges up to 150 km.
- Smart mines, guided/smart torpedoes,
- Floating mines, small boat raids, harassment.
- Covert as well as overt sensors.

Source: http://www.lib.utexas.edu/maps/middle_east_and_asia/hormuz_80.jpg

Abu Musa, Tumbs, Hormuz: Factoids

- **34 miles (55 KM) wide at narrowest part.**
- **Channels consist of 2-mile (3.2 km) navigable channels for inbound and outbound traffic, separated by 2-mile wide buffer zone.**
- **40% of all globally traded oil supply.**
- **75%-plus of Japan's oil/**
- **13.4 MMBD of crude through Strait in May 2007**
- **Additional 2 MMBD of products and over 31 million tons of LNG.**
- **90% of all Gulf exports go through Strait.**
- **EIA predicts exports will double to 30-34 MMBD by 2020**
- **Gulf will export 40% of world's LNG by 2015.**

Source: http://www.lib.utexas.edu/maps/middle_east_and_asia/hormuz_80.jpg, and Brig. General Said Mohammed Al-Sowaidi, Martimer Challenges in the Gulf, March 2008.

Iranian Assets for "Closing the Gulf"

- **3 Kilo (Type 877) and unknown number of midget (Qadr-SS-3) submarines; smart torpedoes, (anti-ship missiles?) and smart mine capability.**
- **Use of 5 minelayers, amphibious ships, small craft, commercial boats.**
- **Attacks on tankers, shipping, offshore facilities by naval guards.**
- **Raids with 8 P-3MP/P-3F Orion MPA and combat aircraft with anti-ship missiles:(C-801K (8-42 km), CSS-N-4, and others).**
- **Free-floating mines, smart and dumb mines, oil spills.**
- **Land-based, long-range anti-ship missiles based on land, islands (Seersucker HY-2, CSS-C-3), and ships (CSS-N-4, and others).**
- **IRGC raids on key export facility(ties).**
- **Iranian built Nasr-2 ship based SSM.**

The Entire Gulf: Breaking the Bottle at Any Point

Source: EIA, Country Briefs, World Oil Transit Chokepoints, January 2008

CSIS | CENTER FOR STRATEGIC & INTERNATIONAL STUDIES

The Bab El Mandab

- **3.3 MMBD per day with 25%+ growth over next decade.**
- **2.1 MMBD flows northbound through Suez Complex.**
- **18 miles wide with two 2 mile channels going each way.**
- **Only major bypass is Saudi East-West pipeline at 4.4 MMBD, but now fully used.**

Source: EIA, Country Briefs, World Oil Transit Chokepoints, January 2008

Suez

Source: EIA, Country Briefs, World Oil Transit Chokepoints, January 2008

•An estimated 3.9 million bbl/d of oil flows northbound through the Suez Canal to the Mediterranean, while 0.6 million bbl/d travels southbound into the Red Sea.

•Over 3,000 oil tankers pass through the Suez Canal annually. With only 1,000 feet at its narrowest point, the Canal is unable to handle large tankers.

•Suez Canal Authority (SCA) has discussed widening and deepening to accommodate VLCCs and ULCCs.

•200-mile long Sumed Pipeline, or Suez-Mediterranean Pipeline also provides a route by crossing the northern region of Egypt from the Ain Sukhna to the Sidi Kerir Terminal.

•The pipeline can transport 3.1 million bbl/d of crude oil., Nearly all of Saudi Arabia's northbound shipments (approximately 2.3 million bbl/d of crude) are transported through the Sumed pipeline.

•Closure would divert tankers around the southern tip of Africa, the Cape of Good Hope, adding 6,000 miles to transit time.

The Challenge of Asymmetric Warfare:

Intimidation, Deterrence, and Warfighting

Most Likely Foreign Threats Are Not Formal Conflicts

- **Direct and indirect threats of using force. (I.e. Iranian efforts at proliferation)**
- **Use of irregular forces and asymmetric attacks.**
- **Proxy conflicts using terrorist or extremist movements or exploiting internal sectarian, ethnic, tribal, dynastic, regional tensions.**
- **Arms transfers, training in host country, use of covert elements like Quds force.**
- **Harassment and attrition through low level attacks, clashes, incidents.**
- **Limited, demonstrative attacks to increase risk, intimidation.**
- **Strike at critical node or infrastructure.**

Iranian Asymmetric Doctrine

- **Iran sends signals about its use of asymmetric warfare through its military parades and exercises.**

- **The IRGC often claims to conduct very large exercises, sometimes with 100,000 men or more. The exact size of such exercises is unclear, but they are often a fraction of IRGC claims.**

- **By displaying both its real and virtual military (e.g. naval) fighting capabilities through electronic, printed and network media, and through official statements, Iran seek to achieve the following politico-diplomatic and propaganda ends (4Ds):**
  - **Defiance (to maintain a course of resistance, targeting primarily the Western political will and system).**
  - **Deception (on the real state of Iranian warfighting capabilities, targeting the Western military establishments).**
  - **Deterrence (with the IRI military "might", targeting Western public opinion, delivered through the media).**
  - **Demonstration (of the outreach of its own power, targeting the Iranian people and the Moslem world).**

Source: Jahangir Arasli, "Obsolete Weapons, Unconventional Tactics, and Martyrdom Zeal: How Iran Would Apply its Asymmetric Warfare Doctrine in a Future Conflict," George C. Marshall European Center For Security Studies, Occasional Paper Series No. 10, April 2007.

IRGC Commander and Asymmetric Strategy - I

• On September 1, 2007, Khamenei promoted Mohammad Ali Jafari, then coordinator of the IRGC Research and Command Center, to the rank of major general and the post of commander in chief of the IRGC.

• Throughout his military career Jafari has emphasized asymmetrical warfare and developing Iran's ballistic missile capabilities throughout his military career

• In 1992, he was appointed commander of the ground forces. One of the tasks he carried out in this capacity was "to study and assess the strengths and weaknesses of America [as reflected] in its attacks on Afghanistan and Iraq."

• Jafari has outlined the strategy he means to promote as IRGC commander, reiterating his commitment to developing Iran's ballistic missile capabilities and the asymmetrical warfare capacities of the IRGC:

> **• Asymmetrical warfare... is [our] strategy for dealing with the considerable capabilities of the enemy. A prominent example of this kind of warfare was [the tactics employed by Hizbullah during] the Lebanon war in 2006... Since the enemy has considerable technological abilities, and since we are still at a disadvantage in comparison, despite the progress we have made in the area of equipment, [our only] way to confront [the enemy] successfully is to adopt the strategy [of asymmetric warfare] and to employ various methods of this kind."**

Sources multiple media outlets including: Rooz, Sharq, Baztab, Sobh-e Sadeq, Mehr, Aftab, Fars News Agency, MEMRI, Reuters, Associated Press, etc.

IRGC Commander and Asymmetric Strategy - II

- **IRGC commander Mohammad Ali Aziz Jafari statements on asymmetric strategy continued:**
  - **Jafari has said in the past that, in the case of a confrontation with the West, Iran will be willing to employ the organizations under its influence. In a January 2005 speech to intelligence commanders from the Basij and IRGC, Jafari - then commander of the ground forces - stated: "In addition to its own capabilities, Iran also has excellent deterrence capabilities outside its [own borders], and if necessary it will utilize them."**
  - **"the Revolutionary Guards [Corps] will invest efforts in strengthening its asymmetrical warfare capabilities, with the aim of successfully confronting the enemies."**
  - **"After September 11, [2001], all [IRGC] forces changed their [mode of] operation, placing emphasis on attaining combat readiness. The first step [towards achieving] this goal was to develop [a strategy] of asymmetrical warfare and to hold maneuvers [in order to practice it]."**

Sources multiple media outlets including: Rooz, Sharq, Baztab, Sobh-e Sadeq, Mehr, Aftab, Fars News Agency, MEMRI, Reuters, Associated Press, etc.

Some Tangible Examples

- **Iranian tanker war with Iraq**
- **Oil spills and floating mines in Gulf.**
- **Libyan "stealth" mining of Red Sea.**
- **Use of Quds force in Iraq.**
- **Iranian use of UAVs in Iraq.**
- **"Incidents" in pilgrimage in Makkah.**
- **Support of Shi'ite groups in Bahrain.**
- **Missile and space tests; expanding range of missile programs (future nuclear test?).**
- **Naval guards seizure of British boat, confrontation with US Navy, exercises in Gulf.**
- **Development of limited "close the Gulf" capability.**
- **Flow of illegal's and smuggling across Yemeni border.**

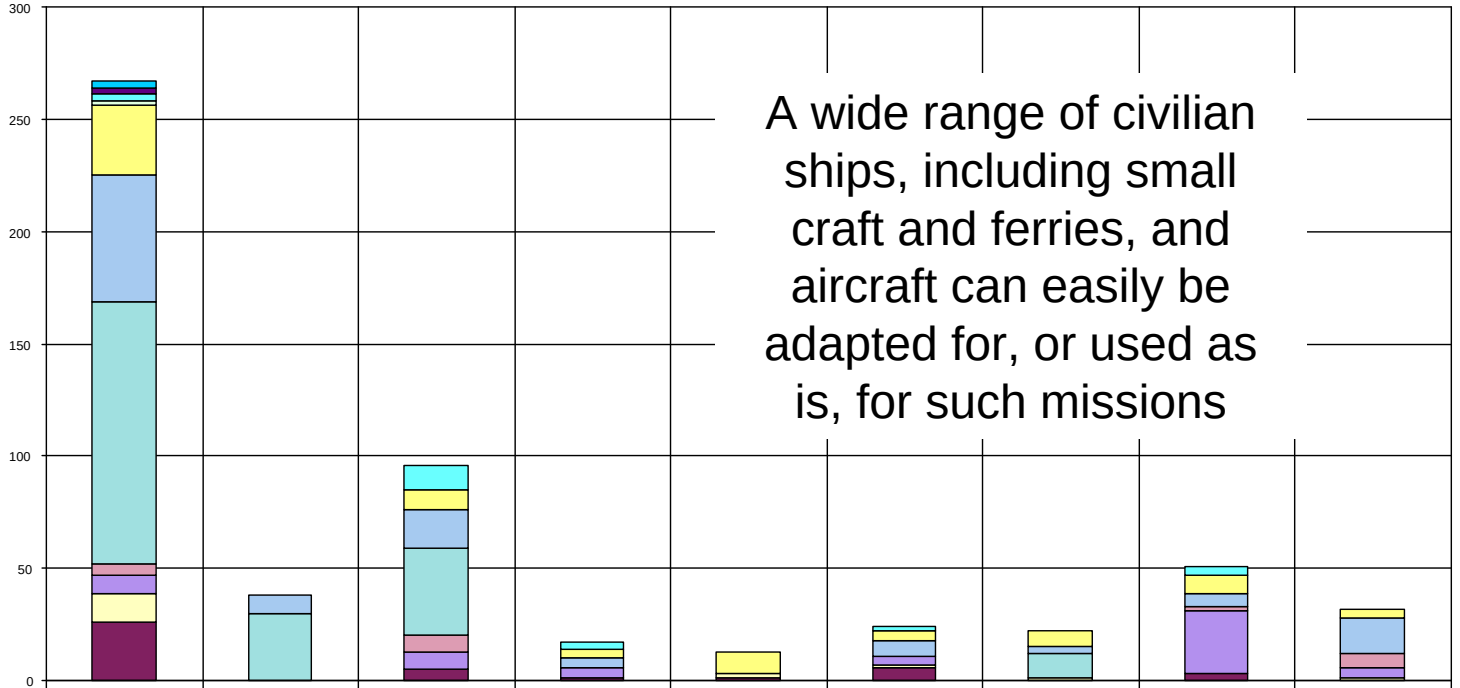
"Going Nuclear:" Intimidation as a Form of Terrorism and Asymmetric Warfare

- **Even the search for nuclear power is enough to have a major effect.**
- **Development of long range missiles add to credibility, and pressure.**
- **Crossing the nuclear threshold in terms of the bomb in the basement option.**
- **Threats to Israel legitimize the capability to tacitly threaten Arab states. Support of Hamas and Hezbollah increase legitimacy in Arab eyes -- at least Arab publics.**
- **Many future options: stockpile low enriched material and disperse centrifuges, plutonium reactor, underground test, actual production, arm missiles, breakout arming of missiles.**
- **Declared forces, undeclared forces, lever Israeli/US/Arab fears.**

"Going Asymmetric:" Substituting Asymmetric Forces for Weak Conventional Forces

- **Combined nuclear and asymmetric efforts sharply reduce need for modern conventional forces -- which have less practical value**
- **Linkages to Syria, Lebanon, other states, and anti-state actors like Hamas and Hezbollah add to ability to deter and intimidate/lever.**
- **Can exploit fragility of Gulf, world dependence on oil exports, GCC dependence on income and imports.**
- **Threats to Israel again legitimize the capability to tacitly threaten Arab states.**

Key Ships for Asymmetric Warfare

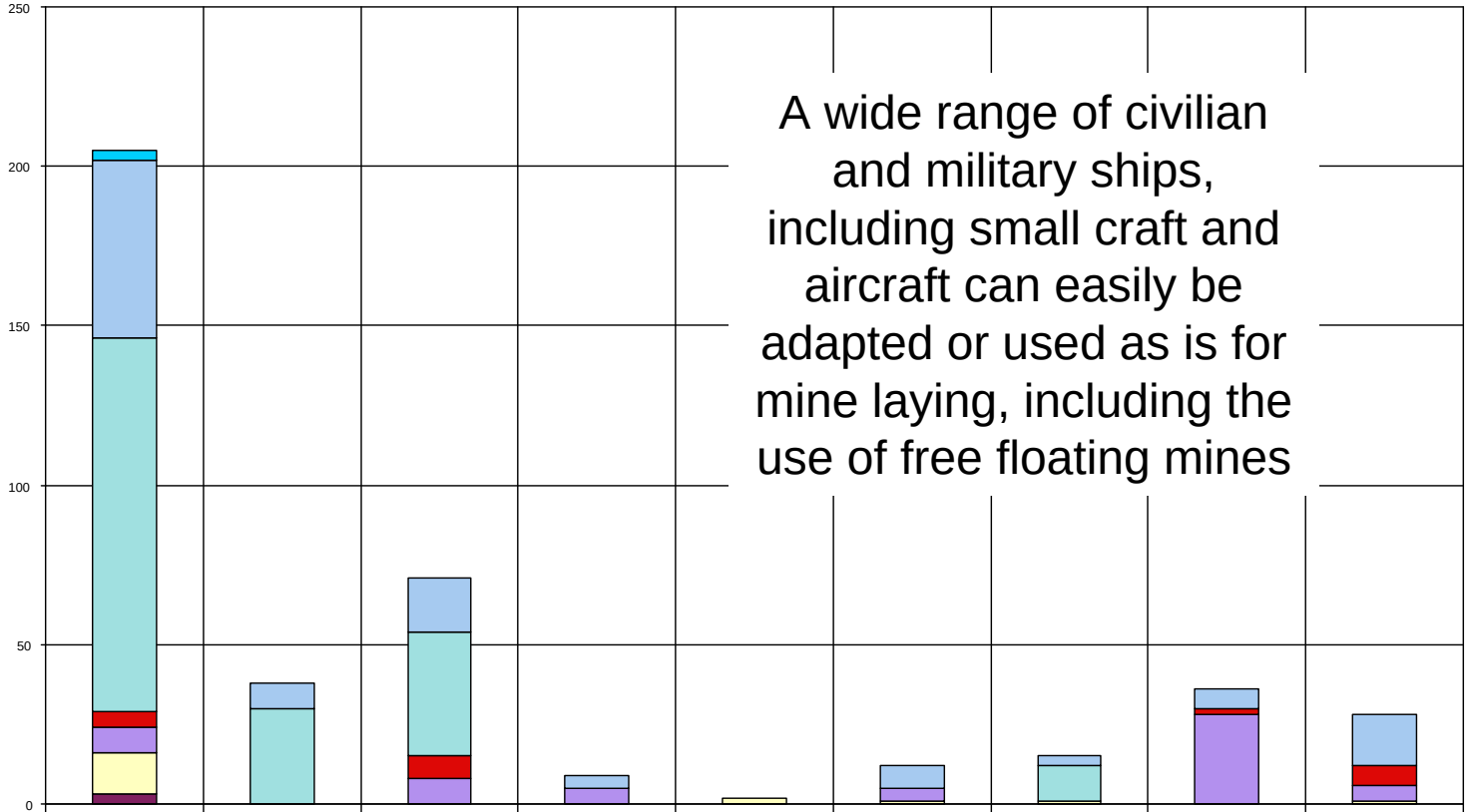


A wide range of civilian ships, including small craft and ferries, and aircraft can easily be adapted for, or used as is, for such missions

	Iran	Iraq	Saudi	Bahrain	Kuwait	Oman	Qatar	UAE	Yemen
Submarines	3								
Midget Submarines	3								
Major Missile Combat	3		11	3		2		4	
Major Other Combat	2								
Missile Patrol	31		9	4	10	4	7	8	4
Other Patrol	56	8	17	4		7	3	6	16
Armed Boats	117	30	39				11		
Mine	5		7					2	6
Landing Craft	8		8	5		4		28	5
Amphibious Ships	13				2	1	1		1
Support	26		5	1	1	6		3	

Source: Adapted by Anthony H. Cordesman from IISS, The Military Balance, various editions; Jane's Sentinel series; Saudi experts

Dedicated and Potential Mine Warfare Forces

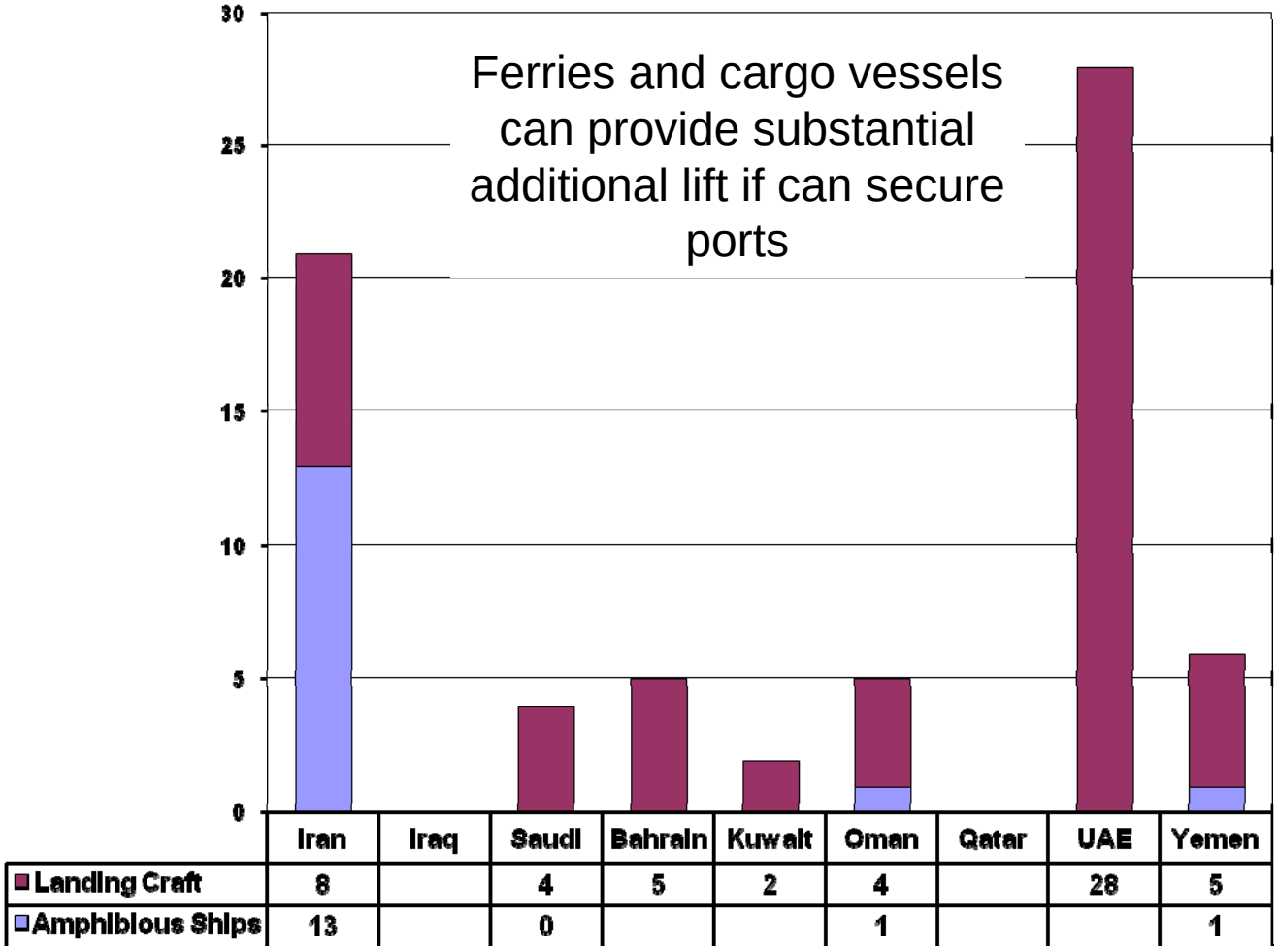


A wide range of civilian and military ships, including small craft and aircraft can easily be adapted or used as is for mine laying, including the use of free floating mines

	Iran	Iraq	Saudi	Bahrain	Kuwait	Oman	Qatar	UAE	Yemen
Submarines	3								
Other Patrol	56	8	17	4		7	3	6	16
Armed Boats	117	30	39				11		
Mine	5		7					2	6
Landing Craft	8		8	5		4		28	5
Amphibious Ships	13				2	1	1		1
RH-53D Helicopters	3								

Source: Adapted by Anthony H. Cordesman from IISS, The Military Balance, various editions; Jane's Sentinel series; Saudi experts

Amphibious Ships & Landing Craft



	Iran	Iraq	Saudi	Bahrain	Kuwait	Oman	Qatar	UAE	Yemen
Landing Craft	8		4	5	2	4		28	5
Amphibious Ships	13		0			1			1

Source: Adapted by Anthony H. Cordesman from IISS, The Military Balance, various editions, Jane's Sentinel series, and material provided by US and Saudi experts. Estimates differ on Saudi landing craft, because of different ways to count operational status. Some experts put the figure at 6 LCMs and 2 LCUs.

Planning for Defense Against Asymmetric Warfare: Converting the GCC from a Facade to a Force

- **Deterrence, passive defense, and conflict prevention areas critical as active defense.**
- **Need integrated GCC force planning and war planning efforts.**
- **Must show GCC will act together. Threats cannot divide or exploit weakest link.**
- **Exercise realistic "red-blue" war games to determine common options and requirements.**
- **Follow-up with realistic CPXs and FTXs.**
- **Emphasize joint warfare approaches that tie in paramilitary and security forces.**
- **Demonstrate have exercised a retaliatory capability.**
- **Interoperability with other Gulf states and with US, UK, France.**
- **Defend against strikes at critical nodes and infrastructure.**

The Islamic Revolutionary Guards Corps

- **125,000+, drawing on 1,000,000 Basij.**
- **Key is 20,000 Naval Guards, including 5,000 marines.**
  - **Armed with HY-3 CSS-C-3 Seersucker (6-12 launchers, 100 missiles, 95-100 km), and 10 Houdong missile patrol boats with C-802s (120 km), and 40+ Boghammers with ATGMs, recoilless rifles, machine guns.**
  - **Large-scale mine warfare capability using small craft and commercial boats.**
  - **Based at Bandar e-Abbas, Khorramshar, Larak, Abu Musa, Al Farsiyah, Halul, Sirri.**
- **IRGC air branch reported to fly UAVs and UCAVs, and control Iran's strategic missile force.**
  - **1 Shahab SRBM Bde (300-500-700 km) with 12-18 launchers, 1 Shahab 3 IRBM Btn (1,200-1,280 km) with 6 launchers and 4 missiles each.**

IRGC Key Assets and Capabilities

- **The IRGC has a wide variety of assets at its disposal to threaten shipping lanes in the Gulf, Gulf of Oman, and the Caspian Sea.**
- **3 Kilo (Type 877) and unknown number of midget (Qadr-SS-3) submarines; smart torpedoes, (anti-ship missiles?) and smart mine capability.**
- **Use of 5 minelayers, amphibious ships, small craft, commercial boats.**
- **Attacks on tankers, shipping, offshore facilities by naval guards.**
- **Raids with 8 P-3MP/P-3F Orion MPA and combat aircraft with anti-ship missiles(C-801K (8-42 km), CSS-N-4, and others).**
- **Free-floating mines, smart and dumb mines, oil spills.**
- **Land-based, long-range anti-ship missiles based on land, islands (Seersucker HY-2, CSS-C-3), and ships (CSS-N-4, and others. Sunburn?).**
- **Forces whose exercises demonstrate the capability to raid or attack key export and infrastructure facilities.**

IRGC Naval Branch Modernization

- **Large numbers of anti-ship missiles on various types of launch platforms.**
- **Small fast-attack craft, heavily armed with rockets or anti-ship missiles.**
- **More fast mine-laying platforms.**
- **Enhanced subsurface warfare capability with various types of submarines and sensors.**
- **More small, mobile, hard-to-detect platforms, such as semi-submersibles and unmanned aerial vehicles.**
- **More specialized training.**
- **More customized or purpose-built high-tech equipment.**
- **Better communications and coordination between fighting units.**
- **More timely intelligence and effective counterintelligence/deception.**
- **Enhanced ability to disrupt the enemies command, control, communications, and intelligence capability.**
- **The importance of initiative, and the avoidance of frontal engagements with large U.S. naval surface warfare elements.**
- **Means to mitigate the vulnerability of even small naval units to air and missile attack.**

IRGC Naval Branch

- **The IRGC has a naval branch consists of approximately 20,000 men, including marine units of around 5,000 men.**
- **The IRGC is now reported to operate all mobile land-based anti-ship missile batteries and has an array of missile boats; torpedo boats; catamaran patrol boats with rocket launchers; motor boats with heavy machine guns; mines as well as Yono (Qadir)-class midget submarines; and a number of swimmer delivery vehicles.**
- **The IRGC naval forces have at least 40 light patrol boats, 10 Houdong guided missile patrol boats armed with C-802 anti-ship missiles.**
- **The IRGC controls Iran's coastal defense forces, including naval guns and an HY-2 Seersucker land-based anti-ship missile unit deployed in five to seven sites along the Gulf coast.**
- **The IRGC has numerous staging areas in such places and has organized its Basij militia among the local inhabitants to undertake support operations.**
- **IRGC put in charge of defending Iran's Gulf coast in September 2008 and is operational in the Gulf and the Gulf of Oman, and could potentially operate elsewhere if given suitable sealift or facilities.**
- **Can deliver conventional weapons, bombs, mines, and CBRN weapons into ports and oil and desalination facilities.**
- **Force consists of six elements: surface vessels, midget and unconventional submarines, missiles and rockets, naval mines, aviation, and military industries.**

IRGC Naval Branch Facilities

- **The IRGC has numerous staging areas in such places and has organized its Basij militia among the local inhabitants to undertake support operations.**

- **The naval branch has bases and contingency facilities in the Gulf, many near key shipping channels and some near the Strait of Hormuz.**

    - **These include facilities at Al-Farsiyah, Halul (an oil platform), Sirri, Abu Musa, Bandaer-e Abbas, Khorramshahr, and Larak.**

- **Iran recently started constructing new naval bases along the coasts of the Gulf and the Sea of Oman for an "impenetrable line of defense."**

- **On October 27, 2008, Iran opened a new naval base at Jask, located at the southern mouth of the Strait of Hormuz, a strategic chokepoint for Persian Gulf oil.**

The Expanding Roles and Mission of the IRGC

- **Iran's Deputy Army Commander Brigadier General Abdolrahim Moussavi has announced that Iran is commitment to expanding its strategic reach, arguing that, "In the past, our military had to brace itself for countering regional enemies. This is while today we are faced with extra-regional threats."**

- **Iran upgraded a naval base at Assalouyeh in Iran's southern Bushehr province.**

  - **This base is the fourth in a string of IRGC bases along the waterway that will extend from Bandar Abbas to Pasa Bandar near the Pakistan border.**

  - **Part of, what IRGC's Navy Commander Rear Admiral Morteza Saffari describes as a new mission to establish an impenetrable line of defense at the entrance to the Sea of Oman.**

Expanding IRGC Capabilities

- **Forces can carry out extensive raids against Gulf shipping, carry out regular amphibious exercises with the land branch of the IRGC against objectives like the islands in the Gulf, and could conduct raids against countries on the southern Gulf coast.**
- **Iran could launch a coordinated attack involving explosives-laden remote-controlled boats, swarming speedboats, semi-submersible torpedo boats, FACs, kamikaze UAVs, midget and attack submarines, and shore-based anti-ship missile and artillery fire.**
- **Could "swarm" a U.S.-escorted convoy or surface action group transiting the Strait of Hormuz, and barrages of rockets with cluster warheads could be used to suppress enemy defensive fire and carrier air operations.**
- **Naval Guards work closely with Iranian intelligence and appear to be represented unofficially in some embassies, Iranian businesses and purchasing offices, and other foreign fronts.**
- **Iran has launched a domestic weapons procurement campaign aimed at improving its defense capabilities and has announced the development of 109 types of advanced military equipment over the past two years.**
  - **In December 2008 Iranian Navy Rear Admiral Habibollah Sayyari confirmed the delivery of two new domestically-built missile boats, Kalat (Fortress) and Derafsh (Flag), as well as a Ghadir-class light submarine to the Iranian navy.**
  - **The deputy commander of the IRGC's navy, Rear Admiral Ali Fadavi, told the Fars News Agency on 11 November 2008 that both unmanned speedboats and UAVs are now mass-produced in the country.**
  - **On December 6, 2008 the Iranian Navy test-fired a new surface-to-surface missile from a warship as part of exercises along a strategic shipping route. "The Nasr-2 was fired from a warship and hit its target at a distance of 30 km (19 miles) and destroyed it," Iranian state run radio reported.**

Iranian Military Exercises: 2006-2009 - I

January 27, 2006: Iran completes major military exercise that testes Teheran's ability to attack Gulf shipping and Arab oil facilities. Sources said the exercise was designed to test capabilities to strike U.S. and Arab targets throughout the area of the Gulf. According to a diplomatic source, the exercise was meant to show the West that Iran could stop all oil shipments in the Gulf and destroy numerous oil facilities in Gulf Arab countries," and included a range of fighter-jets and helicopters from the Iranian Air Force, with the Iranian navy contributed surface vessels and submarines.

August 19, 2006: Iran launches a series of large-scale military exercises aimed at introducing the country's new defensive doctrine, state-run television reported. The television report said the military exercise would occur in 14 of the country's 30 provinces and could last as long as five weeks.The first stage of the maneuvers began with air strikes in the southeastern province of Sistan va Baluchistan,. The military exercise, is said to involve 12 infantry regiments, and is called "The Blow of Zolfaghar," in reference to a sword that belonged to Imam Ali, one of the most revered figures for Shi'ite Muslims.

November 3, 2006: Iran's Revolutionary Guards began another series exercises on days after a United States-led naval exercise began in the Gulf. Iran began the 10 days of maneuvers in the Gulf by test firing dozens of missiles, including the long-range Shahab-3 (estimated range: 2000 km or 1,240 miles), and the Shahab-2, which Iran says can carry a cluster warhead that can deliver 1,400 bomblets at once.Major General Yahya Rahim Safavi, leader of the Revolutionary Guards, says on television that Iran's military exercises were not meant to threaten neighboring countries. "We want to show our deterrent and defensive power to trans-regional enemies, and we hope they will understand the message of the maneuvers," he said. "The first and main goal is to demonstrate the power and national determination to defend the country against possible threat." General Safavi said the exercises would last 10 days and would take place in the Gulf, the Gulf of Oman and several Iranian provinces.

Sources multiple media outlets including: Iranian State Radio, IRNA, Rooz, Sharq, Baztab, Sobh-e Sadeq, Mehr, Aftab, Fars News Agency, MEMRI, Reuters, Associated Press, etc.

Iranian Military Exercises: 2006-2009- II

March 23-30 2007: Iran's regular Navy launches week-long war-games on its southern shores. The military exercises are being carried out in the Gulf by Iran's regular Navy, the report said, adding that they would continue until March 30.

January 7, 2008: US ships harassed by Iran. Iranian boats approach three U.S. Navy ships in the strategic Strait of Hormuz, threatening to explode the American vessels. U.S. forces are reported to be on the verge of firing on the Iranian boats, when the boats - believed to be from the Iranian Revolutionary Guard's navy - turn and move away. A Pentagon official say. "It is the most serious provocation of this sort that we've seen yet," He says the incident occurs at about 5 a.m. local time Sunday as Navy cruiser USS Port Royal, destroyer USS Hopper and frigate USS Ingraham were on their way into the Gulf and passing through the strait - a major oil shipping route. to take evasive maneuvers. There were no injuries but the official said there could have been, because the Iranian boats turned away "literally at the very moment that U.S. forces were preparing to open fire" in self defense.

July 7, 2008: Iran's elite Islamic Revolutionary Guards Corps launch large-scale, five-day war-games, dubbed "Exercise Stake Net", was carried out in the Straits of Hormuz and the Sea of Oman, where an assortment of new weapons were brought into play. The Iranian military maneuvers take place on the same day the United States announces it too will holding naval exercises in the Gulf.

Iranian state media say that the military maneuvers by the IRGC's Navy and Air Force missiles unit are aimed at improving the force's military abilities. Separately, Brigadier General Mahmoud Chaharbaghi, commander of the IRGC Ground Forces artillery and missiles unit, announces that 50 of his unit's brigades are being armed with smart weapons and cluster bombs. Iran later test-fires nine missiles including what is claims is an upgraded version of Shahab-3 ballistic missile with a one-ton warhead capable of destroying targets within a 2,000-kilometer (1,245-mile) range.

Sources multiple media outlets including: Iranian State Radio, IRNA, Rooz, Sharq, Baztab, Sobh-e Sadeq, Mehr, Aftab, Fars News Agency, MEMRI, Reuters, Associated Press, etc.

Iranian Military Exercises: 2006-2009 - III

September 7, 2008: Iran's armed forces test the country's new weapons systems and defense plans in a three-day military maneuver. Iran's naval forces claim to have made a breakthrough in building various types of "radar evading" submarines to guard its territorial waters. The IRGC says it successfully test-fired advanced shore-to-sea, surface-to-surface and sea-to-air missiles. The Islamic Revolution Guards Corp (IRGC) and the Army take part in drills involving anti-aircraft defense systems. The main purpose of the maneuvers is to maintain and promote the combat readiness of relevant units and to test new weapons and defense plans. Iran's Chief Navy Commander, Rear Admiral Habibollah Sayyari, said Iran is upgrading its naval fleet with a new generation of domestically-built submarines.

September 15, 2008: The Islamic Republic Air Force tests Iran's domestic-made warfare in a joint military exercise with the IRGC, the Defense Ministry says. The joint aerial maneuver is aimed at boosting Iran's defensive capabilities and operational tactics, Iran's Defense Minister Brigadier General Mostafa Mohammad-Najjar said. The military exercise, which involves The Islamic Republic of Iran Air Force (IRIAF) and the Islamic Revolution Guards Corps (IRGC), comes in the wake of escalating US and Israeli threats to strike the country's nuclear facilities.

October 10, 2008: Islamist militiamen affiliated to Iran's Islamic Revolutionary Guards Corps (IRGC) stage military exercises in the suburbs of Tehran on Friday to defend the Iranian capital against "natural disasters" and "enemy assaults". Members of the paramilitary Basij take part in military drills under the command of the Tharallah Garrison in Tehran. Similar war games are held in Karaj, Islamshahr, Shahre Rey, Rabat Karim, and Varamin, said the acting deputy commandant of the IRGC, Brigadier General Mohammad Hejazi, who also commands the Tharallah Garrison. The maneuvers last for 48 hours. Meanwhile another senior Basij leader announces that the paramilitary force is giving specialized training" to its units across Iran."These units are receiving specialized air, sea and ground training to be prepared for defending the country, the ruling establishment, and the revolution", said Brigadier General Ahmad Zolqadr on the sidelines of a military parade in Zanjan, north-west Iran. Zolqadr is the operational commander of the Basij.

Sources multiple media outlets including: Iranian State Radio, IRNA, Rooz, Sharq, Baztab, Sobh-e Sadeq, Mehr, Aftab, Fars News Agency, MEMRI, Reuters, Associated Press, etc.

Iranian Military Exercises: 2006-2009 - IV

November 12, 2008: Iran launches a “new” type of long-range ballistic missile dubbed "Sajjil," but its general layout was indistinguishable from the description of the "Ashura," which was flight-tested about one year ago.

December 2-7, 2008: Iran announces recent upgrades to the Naval Base in Asalouyeh and the now online base facilities in the port of Jask. Iranian officers state that long range tactical missile silos and shore based anti-ship missiles have long been key aspects of planning of potential military operations in the event of an open conflict. Top Iranian Army commander Major General Ayatollah Saleh is quoted in *Presstv Nov 30* as saying "the heavy weight of the enemy warships provides the Iranian side with an ideal opportunity for launching successful counter-attacks" Iran announces that it is in the final stages of planning an extensive naval and military exercise 'Unity 87' due to commence in December 2008. Iran says it will seek to accomplish objectives that include defense against a Israeli and US threat, closing the Strait of Hormuz to local and international shipping, and the testing new and improved military equipment and tactics.

Admiral Qasem Rostamabadi tells states radio that "The aim of this maneuver is to increase the level of readiness of Iran's naval forces and also to test and to use domestically-made naval weaponry." He says the naval maneuvers cover an area of 50,000 square miles, including the Sea of Oman off Iran's southern coast. "In this six-day long maneuver there will be more than 60 combat vessel units," Kayhan quotes Admiral Habibollah Sayyari, commander of the navy as saying it will include destroyers, missile-equipped battleships, submarines, special-operations teams, helicopters, and fighter planes. Iran has previously claimed it could close the Strait of Hormuz to shipping, through which about 40 percent of the world's globally traded oil passes. The United States has pledged to protect shipping routes. An Iranian naval commander says a week earlier that the country's navy could strike an enemy well beyond its shores and as far away as Bab al-Mandab, the southern entrance to the Red Sea that leads to the Suez Canal. Iran test-fires a new surface-to-surface missile from a warship in a strategic shipping route, as part of the war games in the Sea of Oman and the Gulf region: State radio reports, "The surface-to-surface Nasr-2 missile was tested in the (Sea of) Oman operational region,". IRNA reports that, "The Nasr-2 was fired from a warship and hit its target at a distance of 30 km (19 miles) and destroyed it," adding it was the first test of the new, medium-range missile.

Sources multiple media outlets including: Iranian State Radio, IRNA, Rooz, Sharq, Baztab, Sobh-e Sadeq, Mehr, Aftab, Fars News Agency, MEMRI, Reuters, Associated Press, etc.

Iranian Military Exercises: 2006-2009 - V

Mach 8, 2009: Iranian officials reported "successfully" testing a new air-to-sea missile with a range of 110 kilometers (68 miles), the Fars news agency reported. It did not say when the test was conducted. "Iranian defense specialists are able to successfully install missiles with a range of 110 kilometers on fighter planes and launch them," the report said, adding that the high-precision weapon weighs about 500 kilos. The report said the latest test showed the Islamic republic's "ability to automatically direct the missile and carry warheads to destroy large targets at sea."

May 20, 2009: Iran test-fired a solid-fuel missile capable of reaching Israel or US bases in the Middle East. Iranian officials claim that the two-stage, solid-fuel Sajjil-2 surface-to-surface missile has a range of approximately 2,000km (1,240 miles). Iranian Defense Minister Mostafa Mohammad Najjar, claimed that in addition to the increase in range, the Sajjil-2 differs from the Sajjil missile launched in Novmeber 2008, because it "is equipped with a new navigation system as well as precise and sophisticated sensors," according to Iran's official news agency, and added that the missile landed “precisely on the target.

Reports also indicate that the Sajjil-2’s reaction times may be about 50-20 minutes faster than the Shahab series that came before it. Its solid fuel booster may also be is also reliable, particularly in a mobile basing; and haves less need for maintenance. Its mobility launcher might also be harder to detect since the TEL requires fewer support vehicles -- although the Shahab does use storable liquid fuels and the difference is might not be a serious as some sources indicate.

May 26, 2009: Iran sent six warships into international waters including the Gulf of Aden, a local newspaper reported, just days after it test-fired its Sajjil -2 missile. "We have dispatched six warships to international waters and the Gulf of Aden," naval commander Habibollah Sayari was quoted as saying in the Jomhuri Eslami. "This mission shows our increased capability in dealing with any foreign threat," he said. Iranian officials said on May 14 that the Islamic republic had dispatched two warships to the Gulf of Aden but it was unclear whether they were among the six announced by Sayari.

Sources multiple media outlets including: Iranian State Radio, IRNA, Rooz, Sharq, Baztab, Sobh-e Sadeq, Mehr, Aftab, Fars News Agency, MEMRI, Reuters, Associated Press, etc.

Iranian Military Exercises: 2006-2009 - VI

June 1, 2009: The Iranian air force has launched a large military exercise dubbed "Thunder 88" over its regional waters, official media indicated. Iranian TV said the Air Force carried out maneuvers using various types of combat aircraft, a move that coincided with the Defense Ministry's launching of three new Ghadir-class submarines for its naval fleet (bringing the total number of the sonar-evading vessels to seven) and 18 speedboats at the port of Bandar Abbas near the Straits of Hormuz, the Kuwait news agency KUNA reported. Officials said the exercises are meant to enhance the Iranian Air Force's capabilities and to train them to safeguard navy ships. Iran's Mehr news agency said the Bandar Abbas ceremony was attended by Army Commander Ataollah Salehi and Defense Minister Mostafa-Mohammad Najjar, KUNA reported.

The Ghadir class is a smaller vessel with a displacement of around 120 tons. The semiofficial Fars News Agency in 2007 said the Ghadir class was equipped with stealth technology. The news comes amid a flurry of Iranian defense activity. Iran in May inaugurated a production line for a military hovercraft, dubbed the Younes 6. Meanwhile, Iran announced the military production of some 20 other military devices, including laser systems and electronic warfare devices. Production also began on a 40mm anti-cruise cannon dubbed Fath, which is capable of reaching targets as far as 7 miles away with a firing rate of 300 rounds per minute. The Sejjil-2 surface-to-surface solid-fuel missile, meanwhile, was launched in May with a range capable of reaching Israel.

June 6, 2009: Iran has started production of a new ground-to-air missile system, Iranian media, amid persistent speculation that Israel might attack the Islamic Republic's nuclear facilities. "The range of this defense system (missile) is more than 40 km and it is able to pursue and hit the enemy's airplanes and helicopters on a smart basis and at supersonic speed," Defence Minister Mostafa Mohammad Najjar said, without specifying how the missile compared to previous such weapons.

June 22, 2009: Iran began three days of air force exercises on in the Gulf and the Sea of Oman to raise operational and support capability, Iranian media said. "Long-distance flights of around 3,600 km (2,237 miles) along with aerial refueling from tanker to fighter jet and from fighter jet to fighter jet will be part of this exercise," state broadcaster IRIB's website reported. "Low altitude flights over the waters of the ... Gulf and the Sea of Oman by Iranian fighter jets over distances of 700 km will also be tested.," it said. IRIB reported that the exercises were also aimed at raising the force's ability to use intelligence aircraft "to send signals and analyze threats“.

Sources multiple media outlets including: Iranian State Radio, IRNA, Rooz, Sharq, Baztab, Sobh-e Sadeq, Mehr, Aftab, Fars News Agency, MEMRI, Reuters, Associated Press, etc.

The Broader Patterns in Iranian Activity

Iranian Actors	Related States/ Non-State Actors	Target/Operating Country
Revolutionary Guards	Iran	Iraq
Al Qaeda force	Syria	Israel
Vevak/other intelligence	Hezbollah	Egypt
Arms transfers	Hamas	Kuwait
Military and security advisors	Mahdi Army	Bahrain
Clerics, pilgrims, shrines	Yemeni Shi'ites	Yemen
Commercial training	Bahraini Shi'ites	Lebanon
Finance/investment	Saudi Shi'ites	Afghanistan
Investment/training companies		Venezuela
Education: scholarships, teachers		
Cultural exchanges		
Athletic visits		

The Al Quds Force - I

- **Comprised of 5,000 - 15,000 members of the IRGC (Increased size of force in 2007)**
- **Equivalent of one Special Forces division, plus additional smaller units**
- **Special priority in terms of training and equipment**
- **Plays a major role in giving Iran the ability to conduct unconventional warfare overseas using various foreign movements as proxies**
- **Specialize in unconventional warfare mission**
- **Control many of Iran's training camps for unconventional warfare, extremists, and terrorists**
- **Has offices or "sections" in many Iranian embassies throughout the world**
- **Through its Quds Force, Iran provides aid to Palestinian terrorist groups such as Hamas, Lebanese Hizballah, Iraq-based militants, and Taliban fighters in Afghanistan.**
- **Despite its pledge to support the stabilization of Iraq, Iranian authorities continued to provide lethal support, including weapons, training, funding, and guidance through its Quds Force.**
- **General David H. Petraeus has stressed the growing role of the Quds force and IRGC in statements and testimony to Congress.**

Source: various news outlets, CRS reports, Congressional testimony, Intelligence assessments and official statements.

The Al Quds Force - II

- **Quds Force continue to provide Iraqi and Afghani militants with:**
  - **specialized training,**
  - **funding,**
  - **Iranian-produced advanced rockets,**
  - **sniper rifles,**
  - **automatic weapons,**
  - **mortars,**
  - **Improvised Explosive Devices (IEDs)**
  - **and explosively formed projectiles (EFPs) that have a higher lethality rate than other types of IEDs**
- **Since 2006, Iran has arranged a number of shipments of small arms and associated ammunition, rocket propelled grenades, mortar rounds, 107mm rockets, and plastic explosives, possibly including man-portable air defense systems (MANPADs), to the Taliban.**
- **Israeli defense experts continue to state that they believe the IRGC and Quds force not only played a major role in training and equipping Hezbollah, but may have assisted it during the Israeli-Hezbollah War in 2006, and played a major role in the Hezbollah anti-ship missile attack on an Israeli Navy Sa'ar-class missile patrol boat.**

Source: various news outlets, CRS reports, Congressional testimony, Intelligence assessments and official statements.

Iran and Hezbollah - I

- **Hezbollah was originally formed in 1982 by Iranian seminarians.**
- **Iran's aid packages (arms and money) to Hezbollah are said to exceed $100 million per year.**
- **Iran has gone from supplying small arms, short-range missiles and training to providing more sophisticated long-range missiles and other higher-end weaponry**
  - **Iran exported thousands of 122-mm rockets and Fajr-4 and Fajr-5 long-range rockets to Hezbollah in Lebanon, including the Arash with a range of 21–29 kilometers.**
  - **Between 1992 and 2005, Hezbollah received approximately 11,500 missiles and rockets; 400 short- and medium-range pieces of artillery; and Aresh, Nuri, and Hadid rockets and transporters/launchers from Iran.**
  - **In 2005, Iran sent Hezbollah a shipment of large Uqab missiles with 333-millimeter warheads and an enormous supply of SA-7 and C-802 missiles, two of which were used in an attack on an Israeli ship.**
- **Iran also supplied Hezbollah with an unknown number of UAV's, the *Mirsad*, that Hezbollah briefly flew over the Israel-Lebanon border on November 7, 2004, and April 11, 2005; at least three were shot down by Israel during the summer 2006 war.**
- **Iran supplied Hezbollah advanced surface-to-air missiles, including Strela-2/2M, Strela-3, Igla-1E, and the Mithaq-1. The same missiles were reported to have been used to target Israeli helicopters.**

Iran and Hezbollah - II

•During Hezbollah's summer 2006 war with Israel, Iran resupplied the group's depleted weapons stocks.

•Hezbollah has recovered from its 2006 confrontation with Israel and has been able to rearm and regroup, and Iran has been an important part of that recovery.

- **Various Types of Rockets, reportedly increasing its stockpile to 27,000 rockets, more than double what Hezbollah had at the start of the 2006 war.**
- **Among the deliveries were 500 Iranian-made "Zelzal" (Earthquake) missiles with a range of 186 miles, enough to reach Tel Aviv from south Lebanon.**

• Fighting in Lebanon in 2006 seems to have increased Hezbollah's dependence on Iran. Both Hezbollah's loss of weapons and fighters in the conflict with Israel and the resulting damage to its reputation and position within Lebanon made it more reliant upon Iran.

• Elements of Hezbollah planned attacks in Egyptian Sinai; operate in Iraq

Source Multiple news outlets and Congressional reports and Intelligence assessments including: "Israel's Peres Says Iran Arming Hizbollah." Reuters, February 4, 2002; Kenneth Katzman, Iran: U.S. Concerns and Policy Responses, Congressional Research Service Report for Congress RL32048, April 14, 2009, available at: http://www.fas.org/sgp/crs/mideast/RL32048.pdf; Robin Hughes, "Iran Answers Hizbullah Call for SAM Systems," Jane's Defence Weekly, August 7, 2006, available at: www.janes.com/defence/news/jdw/jdw060807_1_n.shtml; Rotella, Sebastian. "In Lebanon, Hezbollah Arms Stockpile Bigger, Deadlier." Los Angeles Times, May 4, 2008; Shadid, Anthony. "Armed With Iran's Millions, Fighters Turn to Rebuilding." Washington Post, August 16, 2006; MEMRI, "Iran and the Recent Escalation on Israel's Borders Reaction in Iran, Lebanon, and Syria," Special Dispatch Series no. 1207, July 17, 2006, available at: www.memri.org/bin/articles.cgi?Page=archives&Area=sd&ID=SP120706; Ali Nouri Zadeh, "130 Officers from the Iranian Revolutionary Guard Corps and Quds Force Aid Hezbollah: 11,500 Missiles and Rocket-Propelled Grenades Sent from Tehran to Hezbollah," Asharq Al-Awsat, July 16, 2006, available at: www.aawsat.com/details.asp?section=4&issue=10092&article=373305&search=C802 &state=true; "New Iranian capability is troublesome," The Washington Times, 19 February 2009; The Israel Project, "Hezbollah, Hamas Rearm as Israel Works to Resume Peace Process," press release, February 22, 2007, available at: www.theisraelproject.org/site/apps/nl/content2.asp?c=hsJPK0PIJpH&b=689705&ct=3601455.*, etc.*

Iran and Hamas

- **Iran openly supported Hamas and spoke out against the lack of support for Hamas by Arab regimes throughout the Middle East during engagements between the IAF and Hamas in late 2008 and early 2009 in Gaza.**
- **Iran provided training, arms and logistical support to Hamas during the fighting in Gaza between Israeli forces and Hamas militants in late December 2008 and early January 2009.**
- **Israeli intelligence sources continued to report Iranian efforts to rearm Hamas after a ceasefire agreement was reached in January 2009.**
- **Arms transfers come through Sudan and Sinai.**
- **Level of Iranian financial support uncertain.**

Source Multiple news outlets and Congressional reports and Intelligence assessments including: Kenneth Katzman, Iran: U.S. Concerns and Policy Responses, Congressional Research Service Report for Congress RL32048, April 14, 2009, available at: http://www.fas.org/sgp/crs/mideast/RL32048.pdf; Alon Ben-David, "Iranian influence looms as fragile Gaza ceasefire holds," Jane's Defence Weekly, 22 January 2009; Mike Shuster, "Iranian Support For Hamas Running High Post-Gaza," NPR, available at: 4 February 2009, available at: http://www.npr.org/templates/rundowns/rundown.php?prgId=3; The Israel Project, "Hezbollah, Hamas Rearm as Israel Works to Resume Peace Process," press release, February 22, 2007, available at: www.theisraelproject.org/site/apps/nl/content2.asp?c=hsJPK0PIJpH&b=689705&ct=3601455; *etc.*

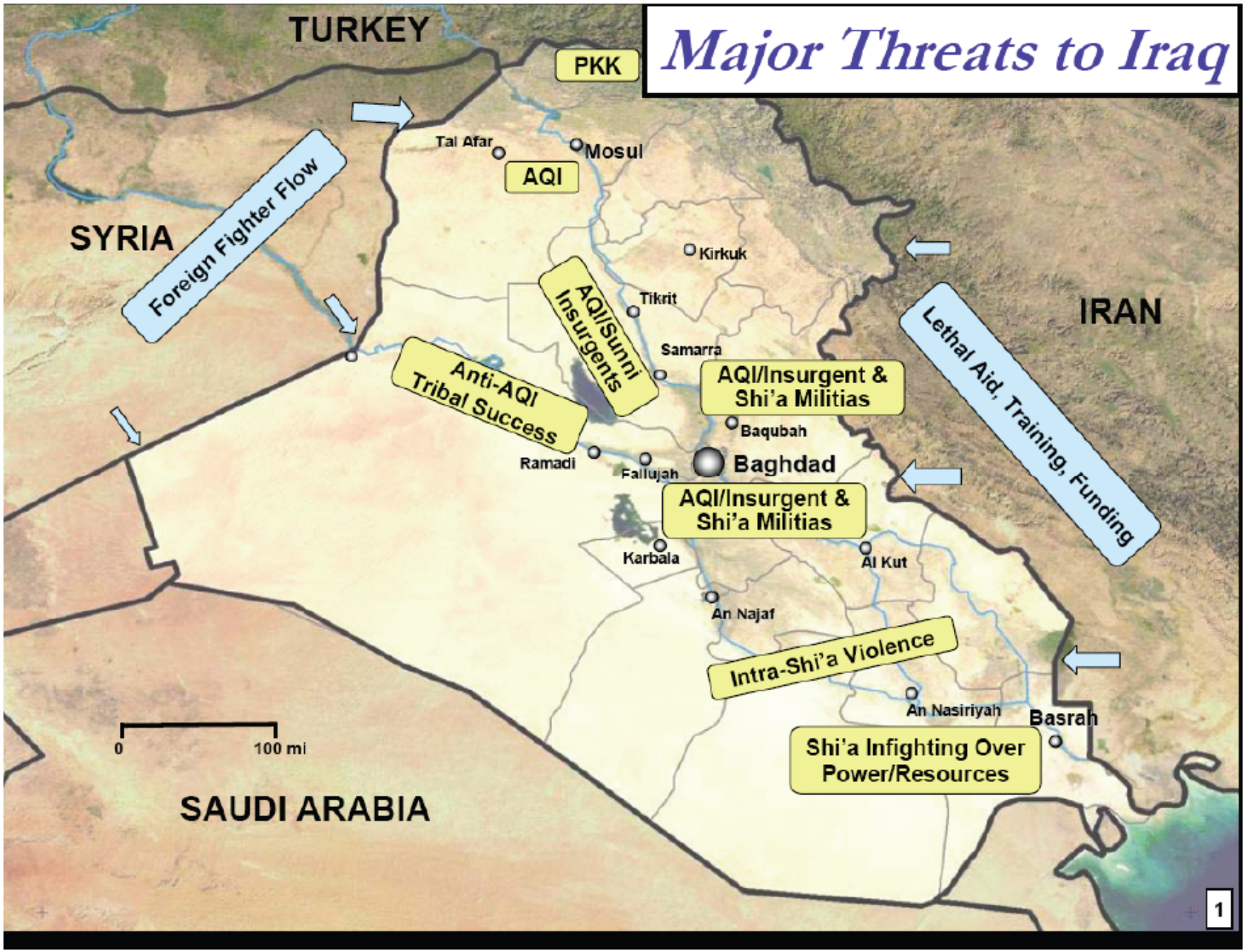
Regional Cooperation on Iran?

- **Limited regional cooperation among the Gulf nations with regards to Iran.**
- **Region-wide drive to bolster naval forces to countering the perceived growing threat from Iran, bnut national -- not coordinated or integrated effort.**
- **Oman, like Syria and Qatar, sees in Iran an important political and economic ally that is too powerful and too potentially dangerous to ignore, let alone antagonize; while defying Egypt, Saudi Arabia and other Arab nations in their efforts to curb Iranian influence and Nuclear ambitions.**
- **United Arab Emirates, which is battling with Iranian leaders over the title to three Persian Gulf islands, has done little to stop billions of dollars in annual trade with Iran.**
- **Sunni-led Arab countries are concerned over Tehran's influence with the Shiite-dominated government in Iraq.**
- **Qatar says it is mediating between Iran and Arab powers such as Egypt and Saudi Arabia, where the ruling family feels threatened by Iranian power.**
- **Continued developments in Saudi and Egyptian outreach to Arab nations to unite against Iranian influence and Nuclear Ambitions as well as outreach efforts to Syria in efforts to break Iranian-Syrian ties.**
- **Continued U.S. engagement and “security umbrella” seems to be key to any resemblance of Regional Cooperation in regards to Iran.**

The Challenge of Iraqi Instability

Iraqi Stability vs. Instability

- **Internal divisions:**
  - **Sunni vs. Arab: Baghdad and Diyala**
  - **Arab vs. Kurd vs. Turcoman vs. Minority: Ninewa, Kirkuk, Salah al Din, Diyala: Kurdish "federalism"**
  - **Sunni on Sunni: Tribal vs. parties vs. national.**
  - **Shi'ite on Shiite: Dawa vs. ISCI vs. Fadhila vs. Sadr vs. local: Three and Nine Province "federalism."**
  - **Secular vs. religion**
- **2010 Elections and possible future referendums**
- **Problems in governance and corruption**
- **Al Qa'ida in Iraq: Baghdad, Diyala, Ninewa**
- **Outside pressure: Iran and Turkey**
- **Budget and economic crisis; slow pace of petroleum development, industrial & agricultural failures.**
- **ISF development vs. pace of US withdrawals.**


Major Threats to Iraq
TURKEY
PKK
Tal Afar
Mosul
AQI
SYRIA
Foreign Fighter Flow
Kirkuk
AQI/Sunni Insurgents
Tikrit
IRAN
Lethal Aid, Training, Funding
Samarra
Anti-AQI Tribal Success
AQI/Insurgent & Shi'a Militias
Baqubah
Ramadi
Fallujah
Baghdad
AQI/Insurgent & Shi'a Militias
Karbala
Al Kut
An Najaf
Intra-Shi'a Violence
An Nasiriyah
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Shi'a Infighting Over Power/Resources
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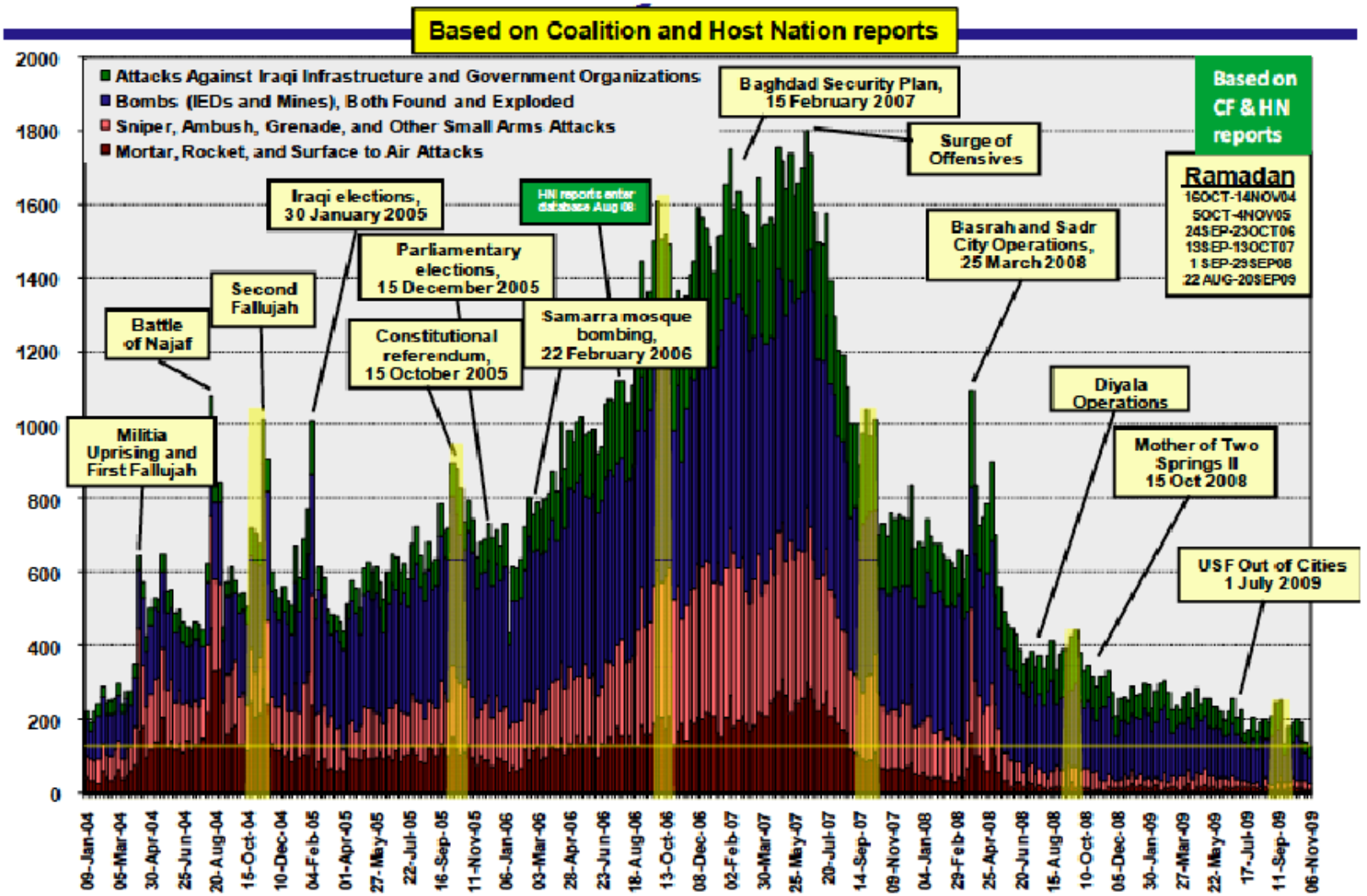
Iraq: Security Incidents: Jan 2004-Nov 2009



Source: Adapted from material provided by SIGACTS (CF & HN reports) as of 07-Nov-09

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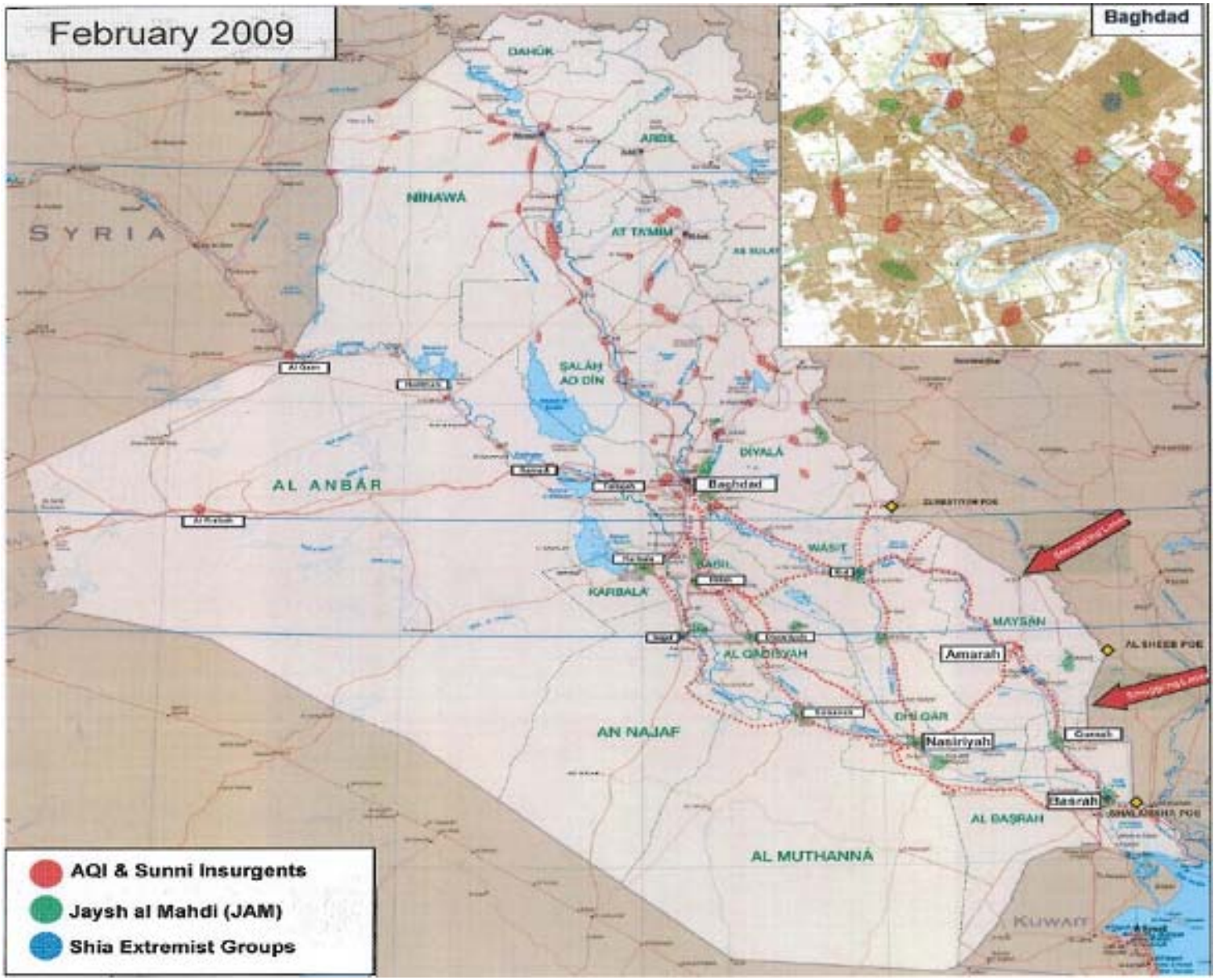
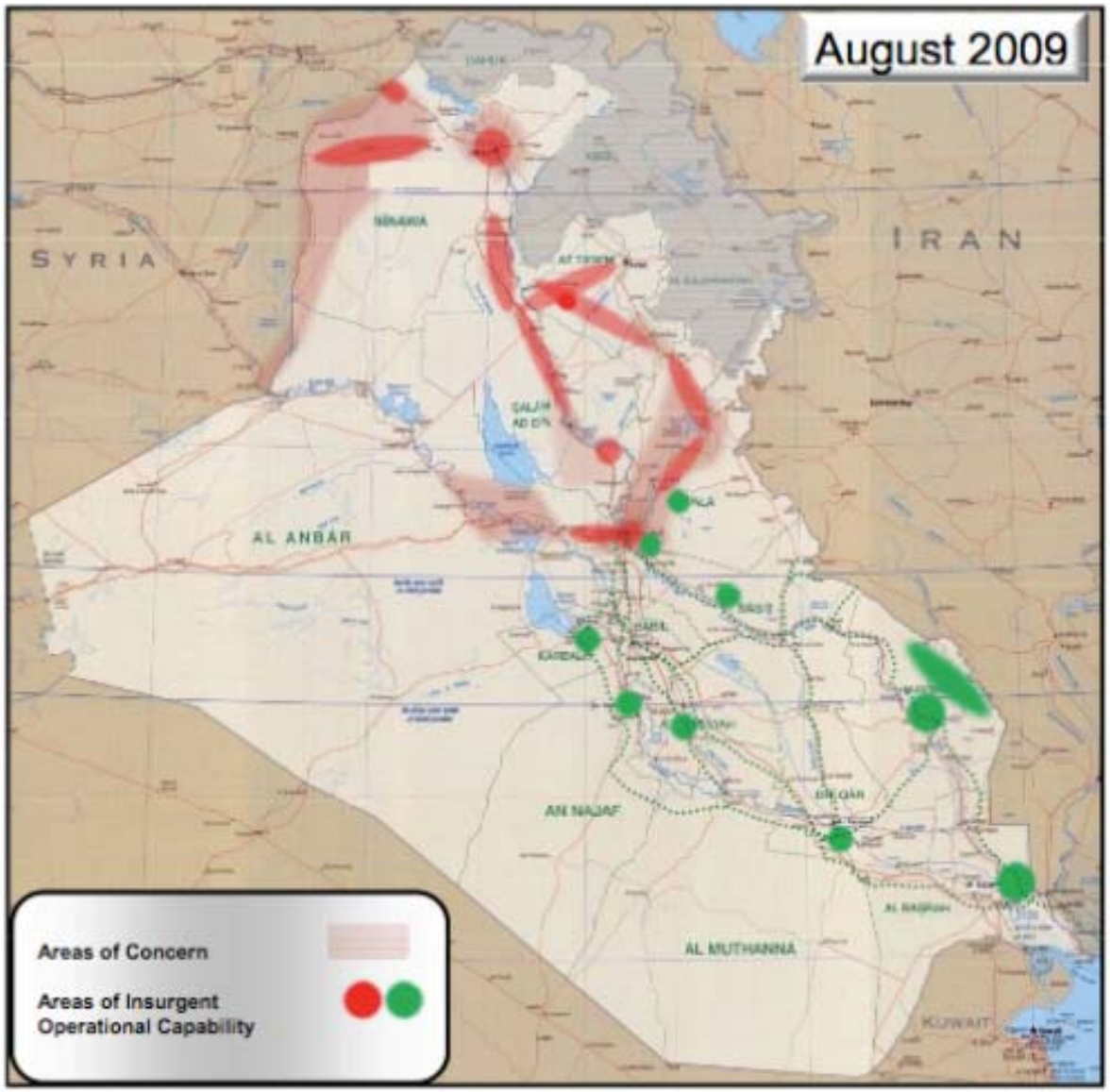
Key Insurgent, JAM, and Iranian Activity: February 2009

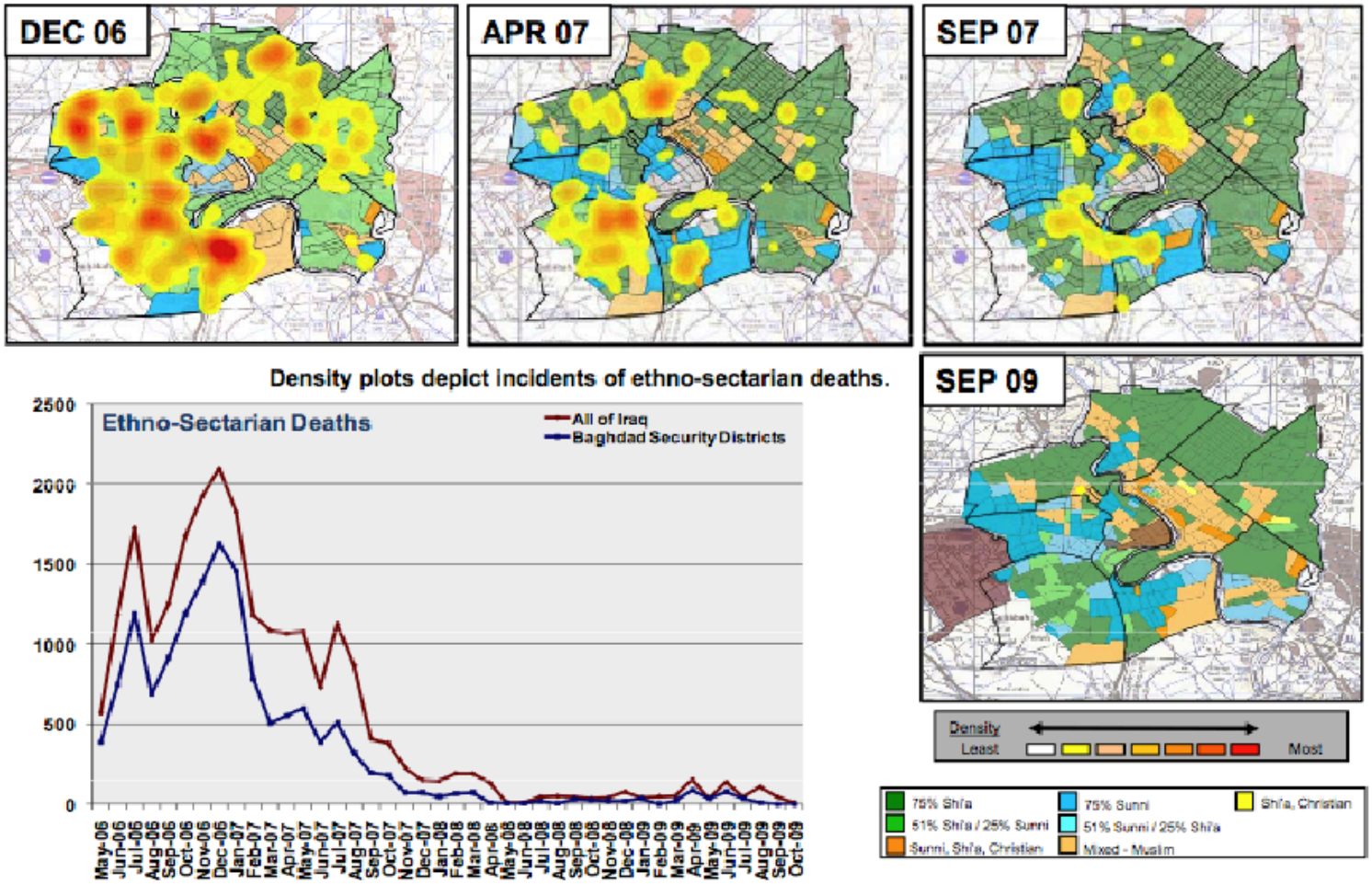


Location of Sunni and Shi'ite Insurgent Capability: August 2009



Source: USCENTCOM 9.28.09

Ethno-Sectarian Violence in Baghdad: May 2006-Oct 2009



Source: Adapted from material provided by SIGACTS (CF & HN reports) as of 07-Nov-09

Iraqi Security Patterns: 2004-2009

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are needed to see this picture.

SIGIR, Quarterly Report, January 30, 2010, p. .42

Iraq : The Saudi Case

- **1981 border treaty "resolved" the last uncertainty over the Saudi-Iraqi border and neutral zone issues but was never fully registered with UN.**
- **Fence would run for approximately 900 kilometers (560 miles), and add to an 7-meter high sand berm that runs along the border, and is in front of which there is a 8 kilometer stretch of no-mans-land that is regularly swept smooth, and patrolled so that infiltrators can be detected and tracked.**
- **In 2004, the Saudis invited 8 countries to nominate "national champion" companies to compete on the border guard development program. Raytheon undertook a huge border security survey in 2004 and gave the results to MoI.**
- **In 2006 the MoI hired Bearing Point to draft a comprehensive RFP for the 8 countries to respond to. In 2006 Saudi Arabia issued an RFP for construction of a separation barrier along its border with Iraq – partly because of infiltration, partly because of smuggling, and fear young Saudis were going to Iraq as volunteers for extremist groups.**
- **The RFP was issued to the 8 in mid 2007 and in early 2008, only 5 companies responded. The USG gave official advocacy to Raytheon.**
- **Also in 2007 The MoI split the project into two parts, separating out the Northern Border Fence project as an open tender. 14 companies responded, and in September of 2008, the $1.3 billion project was awarded to al-Rashed and EADS. The remainder of the BGDP was rebid in August 2008 with only Thales, EADS and Raytheon being invited to rebid on the $3 billion, 5 year project. The contract would create a sensor fence combining pressure sensors, razor-wire fence, and thermal imaging and radar equipment.**
- **Interior Minister Prince Naif Bin Abdul Aziz announced on 24 August 2008 that a contract would soon be issued.**
- **Project part of a wider defense plan to secure the country's 6,500 km (4,000 miles) borders, which could add hundreds of radar facilities, coastal detection centers, telecommunications networks and reconnaissance aircraft/UAVs.**

Source: Saudi Gazette, Reuters, Wikepedia, Saudi experts

Iraq and the Saudi Border

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Source: Saudi Gazette, Reuters, Wikepedia, Saudi experts

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The Challenge of Al Qa'ida in the Peninsula

The Scale of the Threat

- **In May 2003, suicide bombers kill 34 people, including eight Americans, at a housing compound for Westerners. A year later, the organization attacked oil installations taking hostage foreign workers and leaving 22 people dead, including an American. In June 2004, three American nationals were killed during one week. And in December that year, terrorists stormed the American consulate, killing five staff members.**

- **Attacks by Al Qa'ida in Peninsula have continued. More than 2,200 suspects arrested, and more than 120 militants killed, in ongoing activity during 2003-2008.**

- **As of May 2008, 18 of the 36 suspects on the most-wanted list issued by the Ministry of Interior on June 28, 2005 had been killed or captured as had 24 of the 26 suspects on the most-wanted list issued on December 6, 2003.**

- **In December 2007, Prince Nayef bin Abdulaziz announced that Saudi security forces foiled 180 planned terrorist plots within the Kingdom.**

- **During 2007-2008 more than 90 security officers killed and more than 200 wounded while carrying out their duties.**

Source: Saudi Embassy,, The Kingdom of Saudi Arabia Initiatives and Actions to Combat Terrorism, *May 2008*

AQIP Operating Area

Source: Google Maps

Developments: 2007-2008 - I

March 2008 Saudi authorities arrest 28 suspected Al-Qaeda militants of different nationalities. Evidence revealed the militants were attempting to rebuild the Al-Qaeda network and launch a terror campaign in Saudi Arabia.

•January 2008, new law states anyone convicted of setting up a website supporting terrorism will be sentenced to 10 years in prison and fined five million riyals (about $1.3 million).

•December 2, 2007 press conference at King Saud University, Saudi Interior Minister Prince Naif bin 'Abd Al-'Aziz criticized mosque preachers who call for jihad, saying: "The efforts on the ideological front still leave much to be desired. Security measures in themselves are not sufficient [to stop terrorism] - it is mainly action on the ideological [front] that prevents extremist ideas from infiltrating the minds of the youth.“

• November 2007 – Saudi security forces arrested 208 suspected militants planning a series of attacks within the Kingdom, the Ministry of Interior said. Of the 208 captured, eight were plotting an attack on an auxiliary oil installation in the Eastern Province, 22 promoted terrorism and had planned assassinations of Muslim scholars and security forces, 18 plotted to smuggle rockets into Saudi Arabia with the intention of carrying out terrorist operations, 112 were suspected of associating with terrorist cells abroad, 32 provided financial support to terrorists and 16 were arrested in Madinah for promoting and supporting terrorism.

•October 14, 2007 Saudi authorities arrested Abdullah Al-Mohammadi, the fourth and final suspect wanted in the April 27, 2007, Ministry of Interior announced the arrests of 172 militants who were planning major terrorist attacks both in Saudi Arabia and abroad. The massive security sweep resulted in the seizure of weapons, more than $5 million in cash, documents and computers.

Developments: 2009 - II

Yemen and Saudi al-Qaeda branches merge: January 2009

- **Al-Qaeda groups in Yemen and Saudi Arabia have announced they are merging their operations, and their that the joint forces would carry out operations across the Arabian peninsula and beyond.**
- **Nasir Wuhaishi was named as the head of the new combined al-Qaeda unit. Wuhaishi's appointment was confirmed by Ayman Al-Zawahiri, key deputy in al-Qaeda,. His deputy was named as Said Ali al-Shihri, a former prisoner at the United States' Guantanamo Bay detention facility, released from Saudi custody in 2007.**
- **Yemeni authorities said they had stepped up security following the announcement.**
- **The announcement follows a number of attacks by al-Qaeda in Yemen. An attack outside the US embassy in Sanaa that week is believed to have been carried out by the group. Yemeni police arrested three men on Monday after they fired on security forces near the embassy. No one was hurt in the incident. Nineteen people died in an attack targeting the US embassy last September for which al-Qaeda claimed responsibility.**

Saudi Arabia issues list of 83 wanted militants living overseas, calling on them to return and resume normal life. All are Saudis, except for two from Yemen. Kingdom has put many militants through rehabilitation programs. But officials have acknowledged recently that some of these have rejoined armed groups.

Work with US and Yemen in joint targeting and various programs against AQIP in Yemen.

Developments: 2010 - III

In March, 2010, Ministry of Interior announced s that 113 militants have been arrested in round-ups throughout the kingdom in the past five months -- 47 of them are Saudi, 51 Yemeni, and at least one each from Somalia, Bangladesh and Eritrea. (detained 2,800 in 2008, but released 200.)

The sweep is among the largest anti-terrorism actions in several years. Gen. Mansour Al-Turki, spokesman for the Saudi Ministry of Interior, says the arrests not only had prevented the attacks, but broken up a network of Al Qaeda-affiliated radicals that included two suicide bombing cells.

Al-Turki does not identify which facilities were targeted, but says one of the suspects, a Saudi national, was employed by a private Saudi industrial security company responsible for protecting oil sites and other critical infrastructure. "As an employee, he had access to all of those sites and to current plans for protecting them."

Two bombing teams had put together plans for attacks, had secured weapons for the strikes and had conducted surveillance of targets. Two cells were composed of six members each – two key players and four militants who were to provide logical support and other backup. One is a relative of a senior AQAP leader whom he identified as "Al Ahdel." News reports that the militants were exchanging e-mails with a man in Yemen believed to be a senior leader of Al Qaeda in the Arabian Peninsula, or AQAP.

Some used used legal channels—employment and pilgrimage—for the infiltration of their operatives in the country. Some entered illegally

Saudi Reactions Since 2003

. Massive investment in counterterrorism capabilities: Force size, training, technology intelligence assets.

• New levels of MoI and MODA cooperation.

• Close cooperation with US and other states. New US advisory mission.

• Campaign against terrorism financing. Active support of FATF and other international efforts. Use of SAMA.

•Emphasis on border security. 15,000 in land and naval border patrol on borders with Yemen, Iraq, ands Jordan.

•Focus on Yemen and role of Iran's al Quds force.

•Broader campaign against AQI - Afghanistan, Pakistan

• Range of social programs: Rehabilitation

• Counter-Radicalization Program.

•Public and religious education. Global Interfaith Dialogue Initiative

•Public Awareness Campaign.

The Broader Challenge of Terrorism

Global Patterns in Terrorism versus Terrorism in Middle East, Afghanistan, and Pakistan in 2008

- **Approximately 11,800 terrorist attacks against noncombatants occurred in various countries during 2008, resulting in over 54,000 deaths, injuries and kidnappings.**
- **Compared to 2007, attacks decreased by 2,700, or 18 percent, in 2008 while deaths due to terrorism decreased by 6,700, or 30 percent.**
- **As was the case last year, the largest number of reported terrorist attacks occurred in the Near East, but unlike previous years, South Asia had the greater number of fatalities. These two regions were the locations for 75 percent of the 235 high-casualty attacks (those that killed 10 or more people) in 2008.**
- **Attacks in Iraq, Afghanistan and Pakistan accounted for about 55 percent of all attacks**
- **Of the 11,770 reported attacks, about 4,600, or nearly 40 percent, occurred in the Near East where approximately 5,500 fatalities, or 35 percent of the worldwide total, were reported for 2008.**
- **Attacks in Iraq have continued to decline since 2007.**
- **Another 35 percent of the attacks occurred in South Asia with Afghanistan and Pakistan registering increased attacks.**
- **Attacks in Pakistan more than doubled in 2008.**

National Counterterrorism Center, *2008 Report on Terrorism*, 30 April 2009,http://www.nctc.gov/, p. 11.

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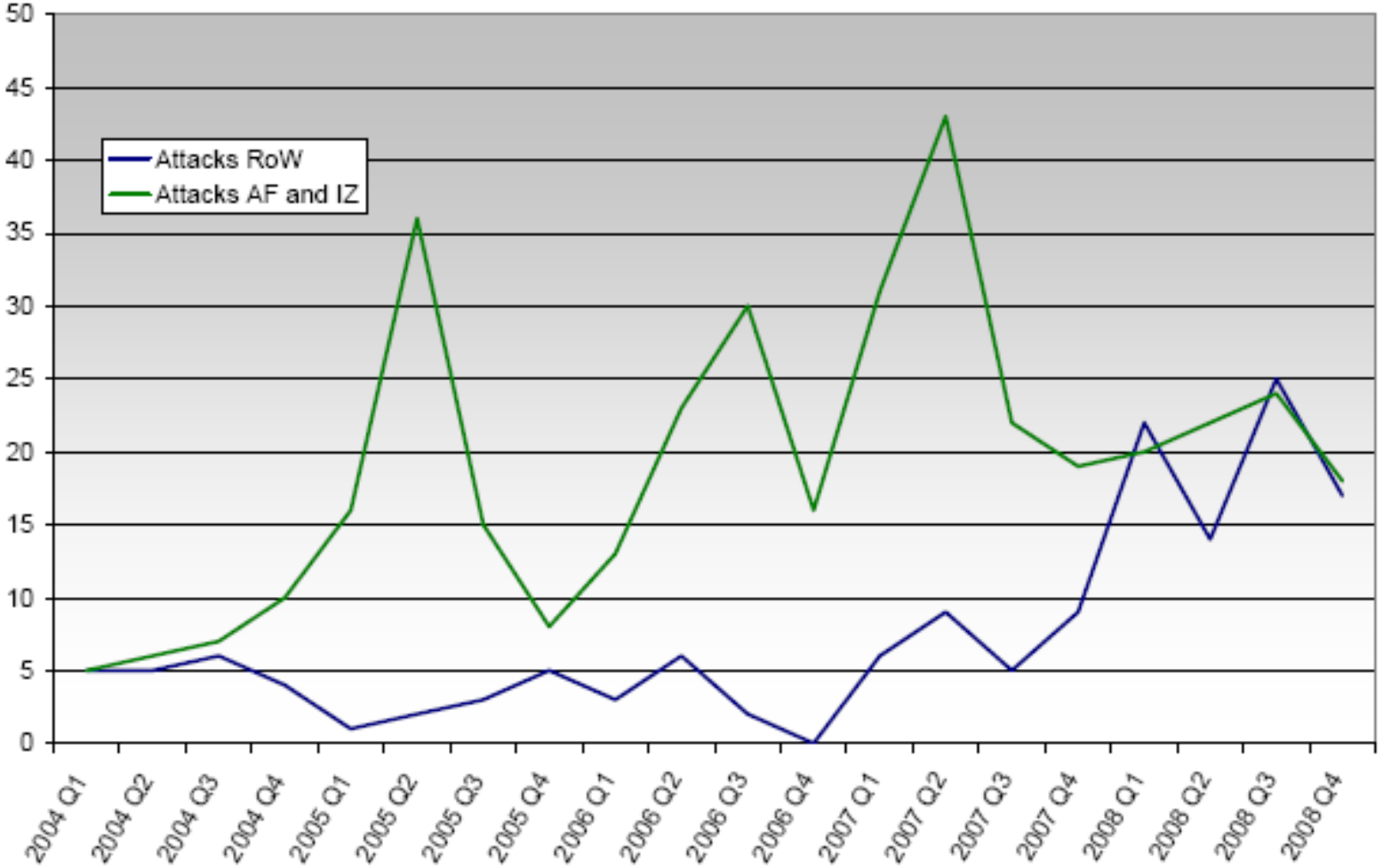
National Counterterrorism Center, *2008 Report on Terrorism*, 30 April 2009,http://www.nctc.gov/, p. 11.

The Broader Strategic Area

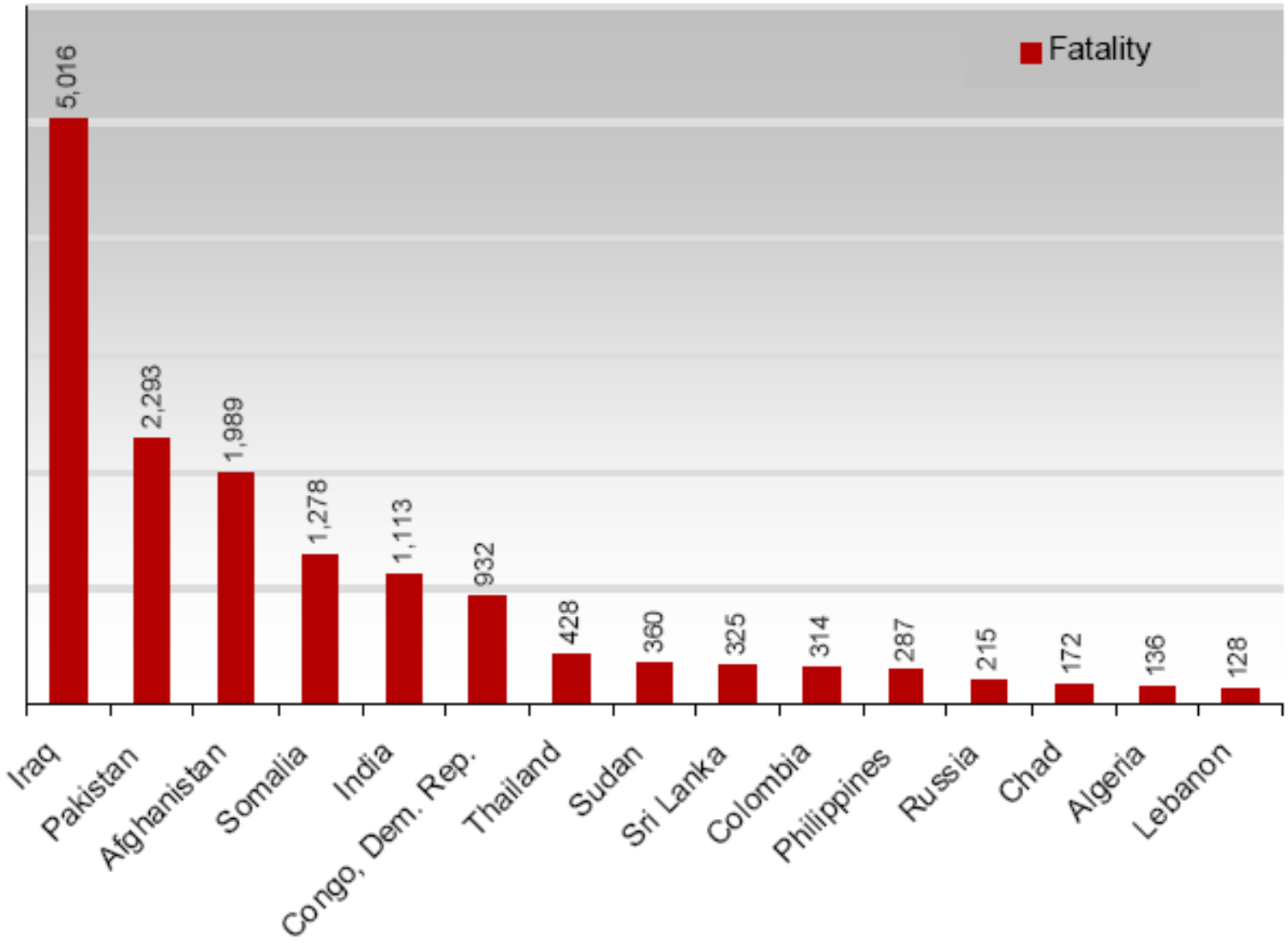
Source: Google maps.

Comparison of High-Fatality Sunni Attacks in Iraq and Afghanistan versus Rest of World from 2004 to 2008



National Counterterrorism Center, *2008 Report on Terrorism*, 30 April 2009, http://www.nctc.gov/, p. 17.

Terrorism Related Deaths: Pakistan, Afghanistan, Iraq & Rest of World:



National Counterterrorism Center, *2008 Report on Terrorism*, 30 April 2009, http://www.nctc.gov/, p. 24.

The Challenge of Yemen

Yemen

- First serious fighting since 1991: air-ground operations.

- Strategically important, only country on the Arabian Peninsula from which oil can reach the open seas without passing through a narrow strait — either the Strait of Hormuz or the Suez Canal.

- Massive population for small country, constant inflow into Saudi Arabia because of poverty. (23 million with per capita income of only $2,300 ppp.)

- 1,458 kilometer border with Saudi Arabia, 288 kilometer with Oman.

- Controversial border demarcation; past tensions over claims to Asir in Saudi Arabia

- Has reinforced its concrete-filled security barrier along sections of the now fully demarcated border with Yemen to stem illegal cross-border activities. Poor border security in spite of fence; smuggling, illegal immigration, etc.

- Infiltration: Base for Al Qa'ida in the Peninsula; history of Marxism, Dhofar Rebellion in Oman, PDRY radicalism.

- Internal conflicts: Struggle for tribal influence in border area; Shi'ia-Sunni tribal tensions. Rivalry between North and South.

Yemen's Strategic Geography

The "Vulnerable" State?

- **"Dancing on the head of snakes." Can Saleh govern forever? 31 years in office. First electoral challenge in 2006, but won new seven year term.**
- **Zaidi sect uprising in Northwest triggered broader war involving Saudi forces**
- **De Facto "sanctuary" for AQIP: Al-Qa'ida groups in Yemen and Saudi Arabia merge operations in January 2009.**
  - **Nasir Wuhaishi named head and confirmed by Ayman Al-Zawahiri, the deputy chief of al-Qa'ida chief. Deputy is Said Ali al-Shihri – a Saudi national.**
- **Serious North-South tension from YAR and PDRY merger in 1990, fighting in 1994: Significant radical legacy.**
- **Flow of illegals, smuggled goods across Saudi-Yemeni border as well as into Somalia..**
- **23 million people; 3.5% population growth, 46% 14 or younger, 526,000 (268,000 male) enter labor force each year.**
- **Economy of Qat, expatriate payments, token petroleum. World Bank says per capita income is $870. (2.91% of land is arable, 0.25% has permanent crops. Massive water crisis.**
- **Deep dependence on energy production for revenue, creating a growing risk of militant attack on oil and gas infrastructure.**

Three Insurgencies

- **Shi'ite rebels under Abdul Malik al Houthi making significant gains in Saada Province in the Northwest.**
- **Renewal of rebellion and tension with former PDRY inm the Abyan Province area. Defection of Tariq al-Fahli from President Ali Abdullah Saleh.**
- **Al Qa'ida and affiliated tribal activity in Marib Province to the southeast of Sana.**

Yemeni Border Issue - I

- **Saudi Arabia started construction of separation barrier along border with Yemen began in the fall of 2003, after terrorist infiltration and attacks, and problems with smuggling and illegal labor migration.**
- **The border demarcation treaty signed in Jeddah in 2000 included a 20 kilometer-wide neutral zone as grazing land whose use was permitted to both sides.**
- **Saudi Arabia constructed, variously reported as 75 and 95 km-long, in an open area between two mountains along its 1,800 kilometer (1,100 mile) border with Yemen to block smugglers in cars from infiltrating Saudi lands. It was north of the region of the agreed upon 20 km-wide strip.**
- **The barrier consisted of a network of sandbags and pipelines, three metres (10ft) high, filled with concrete and fitted with electronic detection equipment.**
- **Saudi Arabia indicated it would construct a more sophisticated set of barriers and sensors.**
- **Yemeni government objected as did a heavily armed Shi'ite tribe, the Wayilah, which has been a source of violence in the area.**
- **Saudi officials told the London Arabic-language daily Al-Sharq Al-Awsat that the "barrier of pipes and concrete" could in no way be called a "separation fence." Saudi Border Police Commander Talal 'Anqawi said: "What is being built within our borders is a barrier of pipes full of concrete, aimed at deterring infiltration and smuggling… This barrier does not in any way resemble a fence. The site chosen to establish it is located within sovereign Saudi territory."**
- **Saudi government promised to finish construction in co-operation with Yemen in February 2004, after extensive US and Egyptian mediation., Yemen agreed that the two sides would conduct joint patrols and set up security watch towers along the frontier to curb cross-border smuggling and infiltration.**
- **October 2006, reports were made of Saudi plans to build improved security barriers to cut down on the 400,000 illegal immigrants who cross it every year**

The Yemeni Border Issue - II

•In February 2007, Saudi and Yemeni security officers met in Jeddah to discuss measures to improve security.
•Lt. Gen. Talal Mohsen Angawi, director general of the border guards the largest number of smuggling operations was taking place through the Kingdom's southern border. Border guards recently foiled the smuggling of four anti-tank missiles, one rocket propelled grenade, 390 bombs, 3,190 dynamite sticks and 819 kg of explosives into the Kingdom.
•An annual report issued by the border guards said they had stopped 344,781 intruders and 2,894 smugglers and confiscated 12,000 kg of hashish, 32 kg of opium, 10,000 narcotic tablets and more than five million kg of qat.
• "The foiling of large-scale operations to smuggle weapons and drugs reflects the vigilance of our officers along the Kingdom's vast borders," Angawi said. "We, the border guards are considered the first defense line of the country," he said, and emphasized the need for protecting young Saudi men and women from the influence of drug mafias.
•Angawi said he had noticed a considerable rise in the smuggling of weapons, drugs, cattle and foodstuffs though number of intruders from Iraq through the Kingdom's northeastern border had declined considerably. "But the number of intruders through the southern border is increasing and they include Eritreans, Somalis and other Africans," he said.
•In July 2008, the Saudi border guards reported that they had seized a ton of explosives and large quantities of arms and drugs on Yemen's border over the past three months, making hundreds of arrests. Okaz newspaper reported that the guards had said these include 13 hand- and rocket-propelled grenades, 99 sticks of dynamite, 100 fuses, 12 detonators, more than 100 guns and 15,000 cartridges figured in the seizures. As many as 800 suspected arms and drugs dealers were arrested over the same period, along with 83 illegal immigrants, the report said. The seizures also included 1,600 kilograms (2,640 pounds) of hashish, two million amphetamine pills and 280 bottles of alcohol.

Source: MEMRI, Wikipedia, AFP, Al Hayat, Reuters

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The Threat of Piracy and Somali Instability

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Security Challenges of Weak Somali Governance

- **Fourteen attempts to restore central government have failed since 1991, and a 15th one is in its infancy.**
  - **International officials are hopeful that the administration of President Sheikh Sharif Ahmed, set up earlier this year, is the best chance in recent times of bringing peace to Somalia.**
  - **Ahmed is a moderate Islamist with widespread support inside and outside Somalia.**
    - **But he faces a growing insurgency by pro-al Qaeda militant Islamists;**
    - **His government controls little but a few parts of the capital Mogadishu.**
- **Weapons are cheap ,easy to obtain, and there is no functioning authority to stop them.**
  - **Yemen is reportedly where the pirates get most of their weapons from.**
- **On again - off again regional and civil conflict and Islamic fundamentalist groups have hindered government efforts to effectively govern many regions leaving niches for clans, terrorists and pirates to fill.**
- **Continued and intensifying armed conflict between government forces and Islamic fundamentalist since May 2009 has led to decreased government control throughout Somalia.**

Source: Multiple outlets including Reuters, AP, AFP, CNN.com, The New York Times, The Washington Post, BBC

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Security Challenges of Weak Somali Governance: Pirates

- **Piracy initially started along Somalia's southern coast but began shifting north in 2007 - and as a result, the pirate gangs in the Gulf of Aden are now multi-clan operations.**
- **Most Somali pirates are based in villages and small towns along Somalia's long coast, in lairs like Eyl, Hobyo and Haradheere.**
- **Local rulers take a share to allow the pirates to operate unchecked out of their territories.**
- **Piracy has become a mainstay of the Puntland economy where the Pirate population is greatest.**
  - **Number of pirates who actually take part in a hijacking is relatively small, but the whole industry of piracy involves many more people.**
  - **Businessmen and former fighters for the Somali warlords moved in when they saw how lucrative piracy could be.**
  - **Many officials believe that the Puntland administration and beyond have links with piracy.**

Source: Multiple outlets including Reuters, AP, AFP, CNN.com, The New York Times, The Washington Post, BBC

Statements Re: DNI Testimony on US Intelligence Community's Assessment of Somalia (Terrorist Threat) to Senate Armed Services Committee March 10, 2009

• In his written testimony, DNI Blair explained the US Intelligence Community's assessment of East Africa and Somalia thusly:

> **• "We judge the terrorist threat to US interests in East Africa, primarily from al Qaeda and al Qaeda-affiliated Islamic extremists in Somalia and Kenya, will increase in the next year as al Qaeda's East Africa network continues to plot operations against US, Western, and local targets and the influence of the Somalia-based terrorist group al Shabaab grows. Given the high-profile US role in the region and its perceived direction – in the minds of al Qaeda and local extremists – of foreign intervention in Somalia, we assess US counterterrorism efforts will be challenged not only by the al Qaeda operatives in the Horn, but also by Somali extremists and increasing numbers of foreign fighters supporting al Shabaab's efforts."**

• Lieutenant General Maples elaborated further on Blair's and the Intelligence Community's concerns. Shabaab and al Qaeda have long been allied and there are indications that the two will formally merge. Maples explained:

> **• "Recent propaganda from both al Qaeda and the Somalia-based terrorist group al Shabaab highlighting their shared ideology suggests a formal merger announcement is forthcoming. Al Shabaab has conducted near-daily attacks against regional government and security forces in Somalia, including suicide VBIED [Vehicle Born Improvised Explosive Devices] attacks in Puntland and Somaliland. Cooperation among al Qaeda inspired extremists throughout the region strengthens al Qaeda's foothold in Africa."**

Source: Thomas Joscelyn, "Somalia's rising tide of extremism," The Long War Journal, March 12, 2009, available at: http://www.longwarjournal.org/archives/2009/03/somalias_rising_tide.php.

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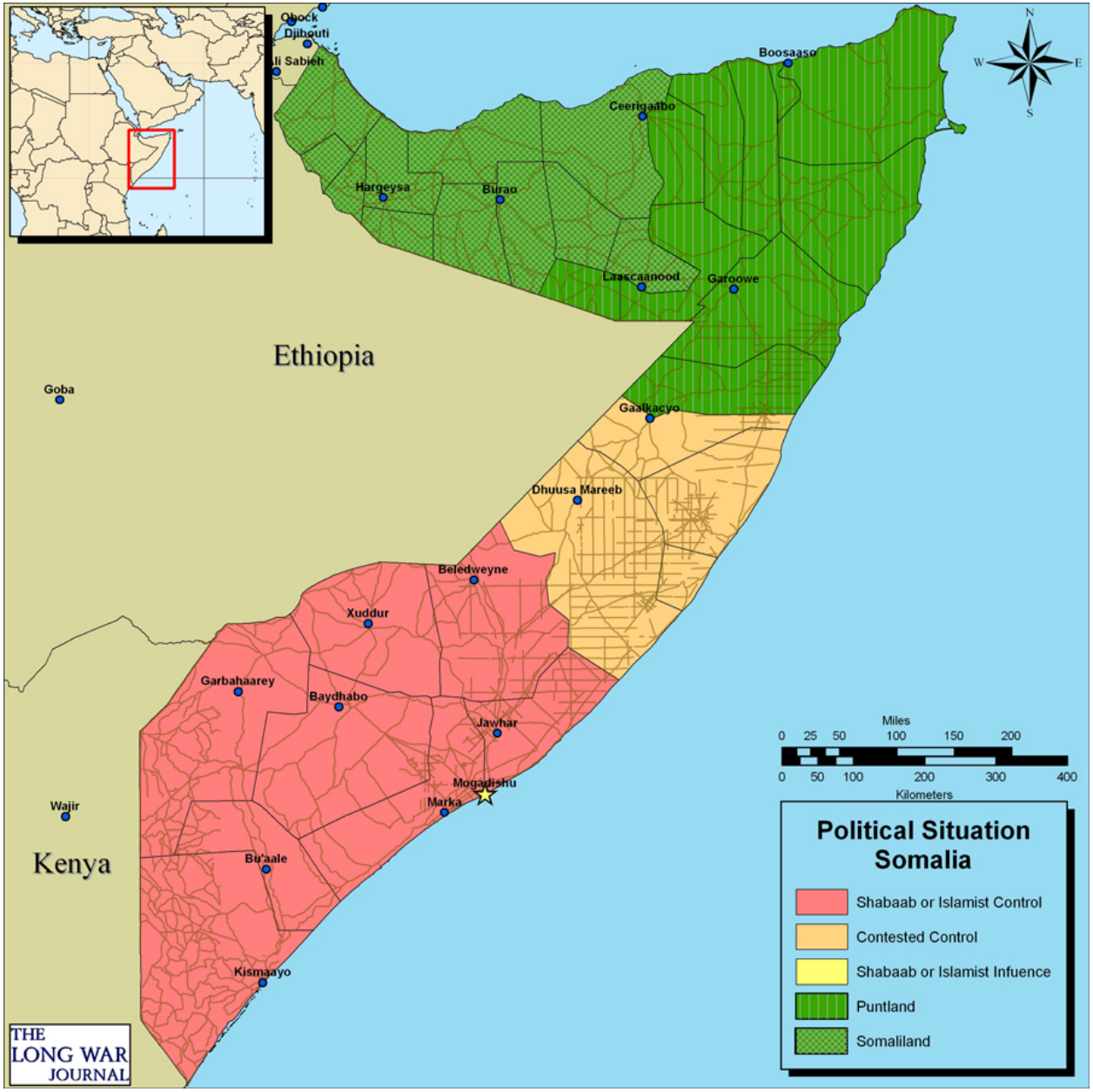
Map of Political Situation in Somalia



Source: Bill Raymond, *The Long War Journal*, available at: http://www.longwarjournal.org/maps.php

The Shifting Threat of Piracy: 2008- I

- **Nearly 20,000 ships pass through the Gulf of Aden each year, heading to and from the Suez Canal.**
- **No direct ties between pirates looking for a fast buck and the Islamic extremists looking to attack America or her allies. But informal links are there, mired in Somalia's complex and combative clans.**
- **In 2008 there were 293 incidents of piracy against ships worldwide -- 11 percent up on the year before. Attacks off Somalia and in the Gulf of Aden increased nearly 200 percent.**
- **Organizations tracking global piracy trends said Somalia recorded the highest number of attacks in recent years in 2008.**
- **Experts estimate that ransoms during 2008, when 42 vessels were captured, ranged from $500,000 to $2 million, but some were as high as $6 million.**
- **In 2008 alone, experts estimates vary, but indicate that that merchant shipping companies paid between $40 million and $150 million to the Somali pirates.**
- **According to data from the IMB Piracy Reporting Center the number of worldwide piracy incidents was close to a 3 year high in September 2008.**

Source: Multiple outlets including Reuters, AP, AFP, CNN.com, The New York Times, The Washington Post, BBC

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The Shifting Threat of Piracy: 2009 - II

- **In 2009, numerous reports by officials in Yemen and Somalia state that Somali Pirates are smuggling Islamic extremists, including members of al Qaeda, into Somalia from Yemen and Pakistan.**

- **On April 8, 2009, The International Maritime Bureau reported that 260 crew on 14 hijacked ships were, at that time, being held off the coast of Somalia.**

- **June 12, 2009 seizure of a commercial ship off the coast of Oman marked a new departure for the pirates, who have never struck so close to the Strait of Hormuz.**

- **Piracy attacks worldwide more than doubled to 240 for the first half of 2009, driven by a rise in waters off Somalia, according to the IMB, compared to 114 attacks in the first half of 2008.**

  - **Ships were boarded in 78 cases and 31 vessels were hijacked, with 561 crew taken hostage, 19 injured and six killed, the IMB reported in its quarterly report.**

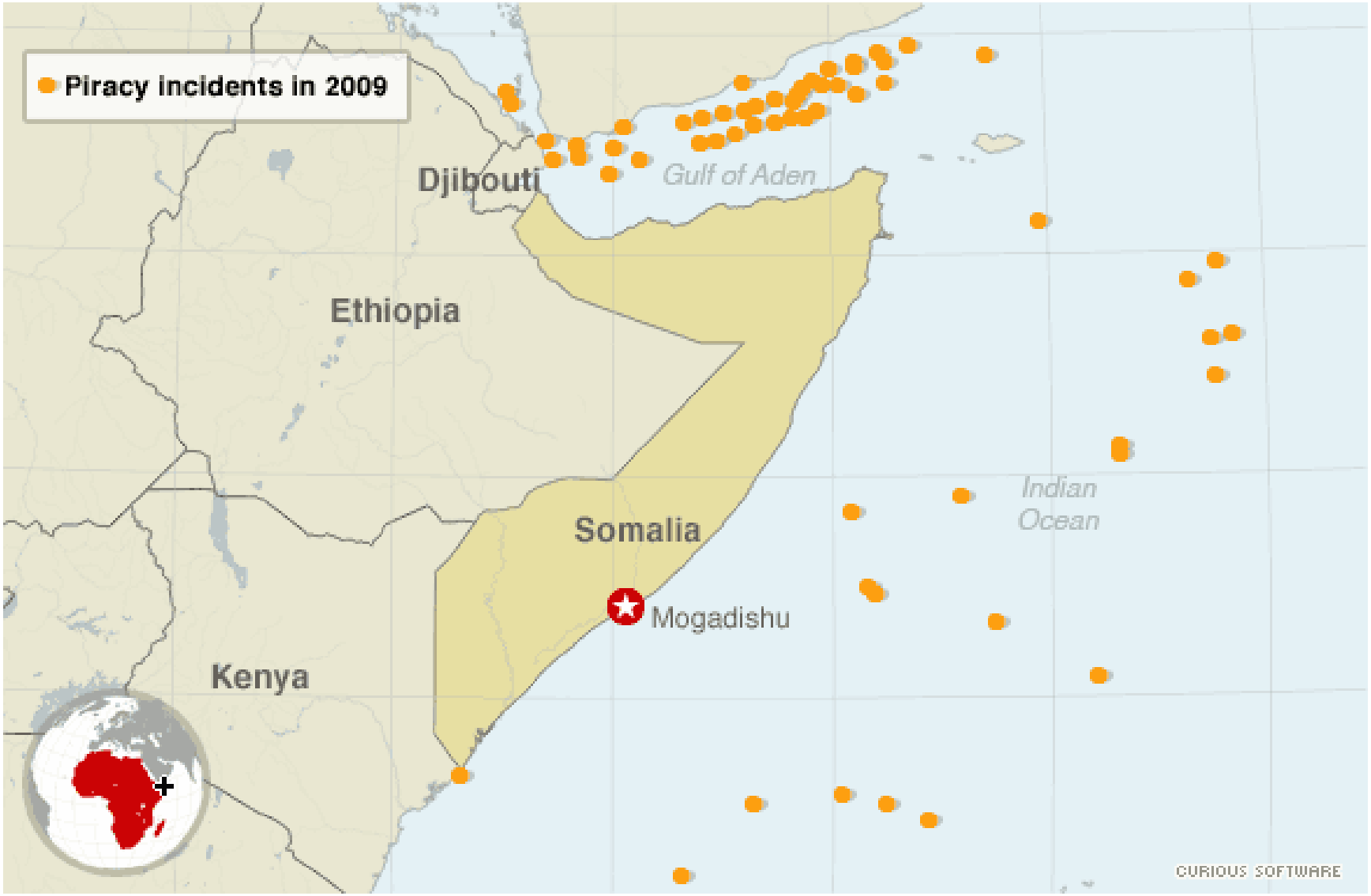
  - **Increased Somali pirate activity off the Gulf of Aden and east coast of Somalia, which combined accounts for 130 of the 240 cases.**

  - **The IMB said Somali attacks peaked in March and April, with no attacks recorded in June due to monsoon season, and are expected to rise in August.**

- **All types of vessels have been targeted. The pirates boarding the vessels were also better armed than in previous years and prepared to assault and injure the crew.**

  - **July 2009 report by IMB stated that violence against crews continued to increase.**

Source: Multiple outlets including Reuters, AP, AFP, CNN.com, The New York Times, The Washington Post, BBC



Source: CNN.com, S"omali pirates take in millions from kidnappings," April 9, 2009 available at: http://edition.cnn.com/2009/WORLD/africa/04/09/larsen.pirates/#cnnSTCOther1

Pirates Evolving Tactics - I

•With foreign naval patrols focused on the Gulf of Aden, pirates have moved hundreds of miles off the coast into the Indian Ocean.

•Becoming increasingly more sophisticated, using mother ships in many cases, from which they send out the small speedboats out to both track and assault tankers and container ships in the gulf.

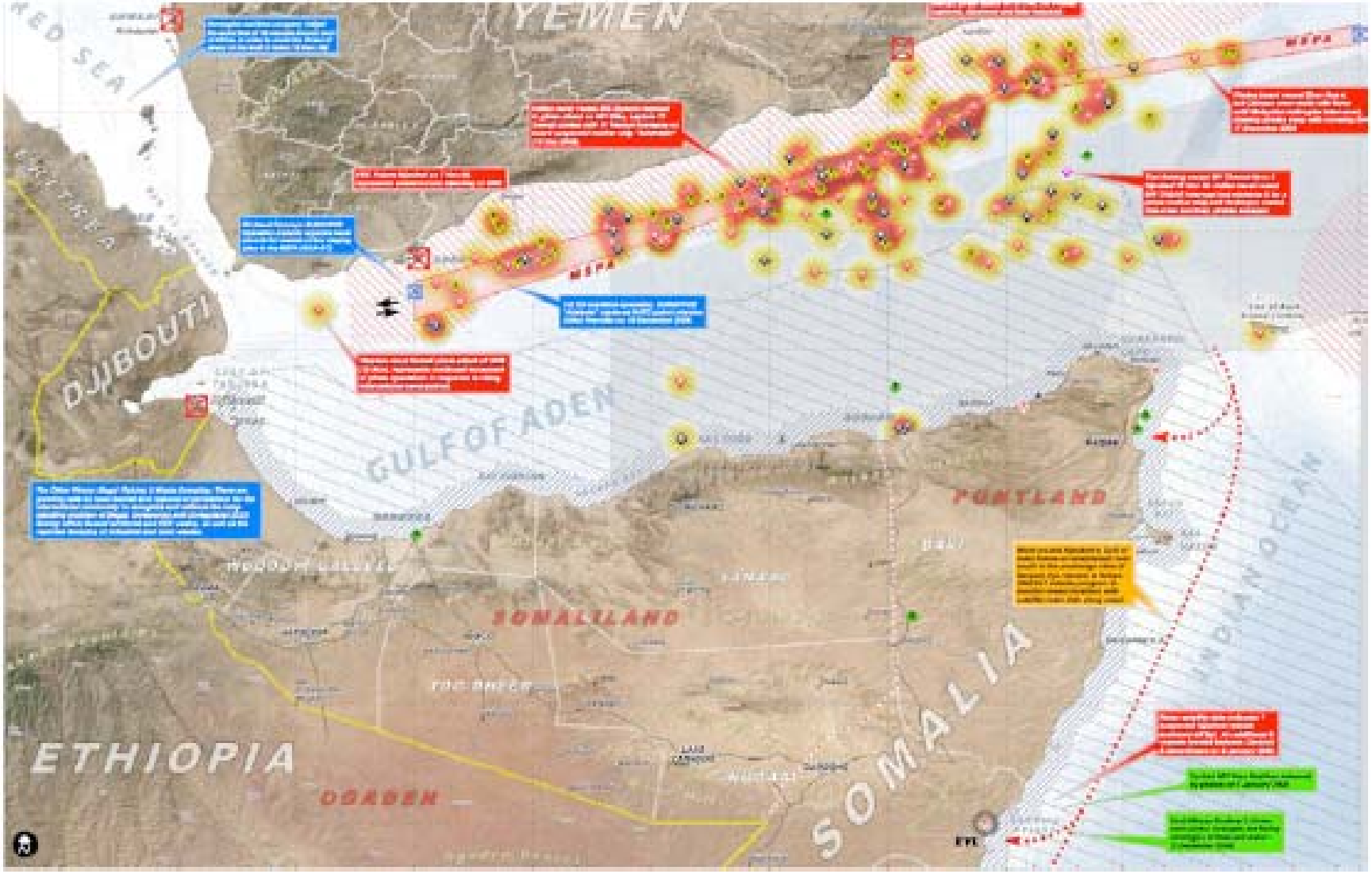
•Now firing rocket propelled grenades directly into the crew quarters. Idea being to start a fire so the crew has to stop the defense of the ship (deploying fire hoses) and put the fire out. When focus changes to getting fire out the pirates board the vessel.

•According to naval and security risk management sources, pirates are getting increasingly vicious, no longer just firing warning shots into the air.

- **•Pirates are now targeting the bridges and deliberately shooting out the windows in an attempt to intimidate the crew.**
- **•The fact pirates are now boarding container ships, which are fast, over 20 knots, and they have a high freeboard, indicates that the Somali pirate capability and competence are increasing.**
- **•Container ships are fast and they have a high freeboard.**
- **•The bigger the freeboard, the more difficult it is for pirates to get on board.**
- **•When those boats are moving and the vessels are bucking in the water, it's extremely difficult to get on board.**

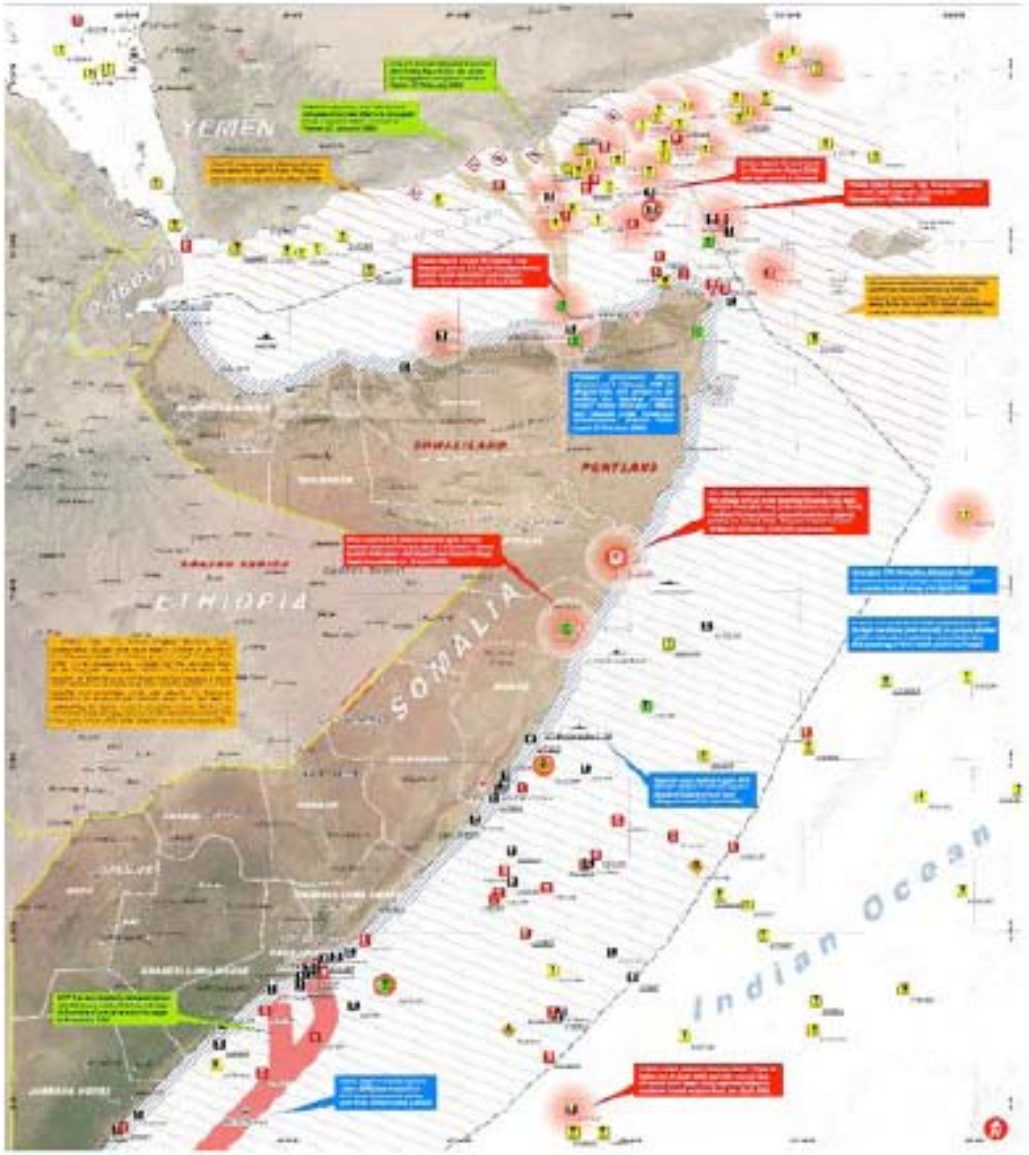
Source: Multiple outlets including Reuters, AP, AFP, CNN.com, The New York Times, The Washington Post, BBC

Acts of Piracy in the Gulf of Aden: 2008



Source: UNOSAT, April 21, 2009

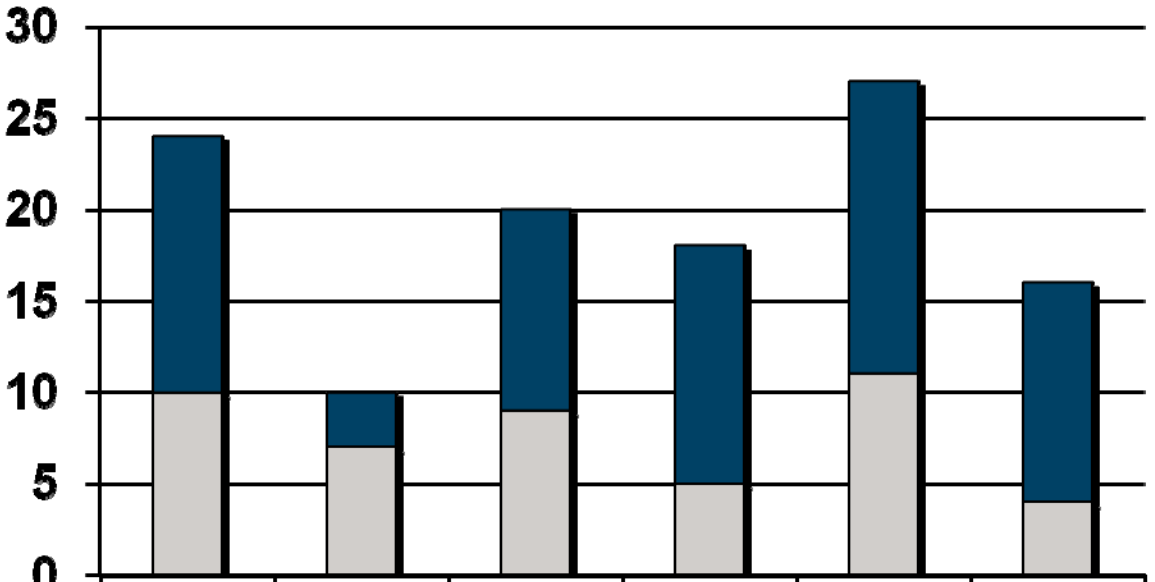
Acts of Piracy Near Somalia: 2008



Source: UNOSAT, April 21, 2009

Acts of Piracy Off the Somalia Coast: 2008

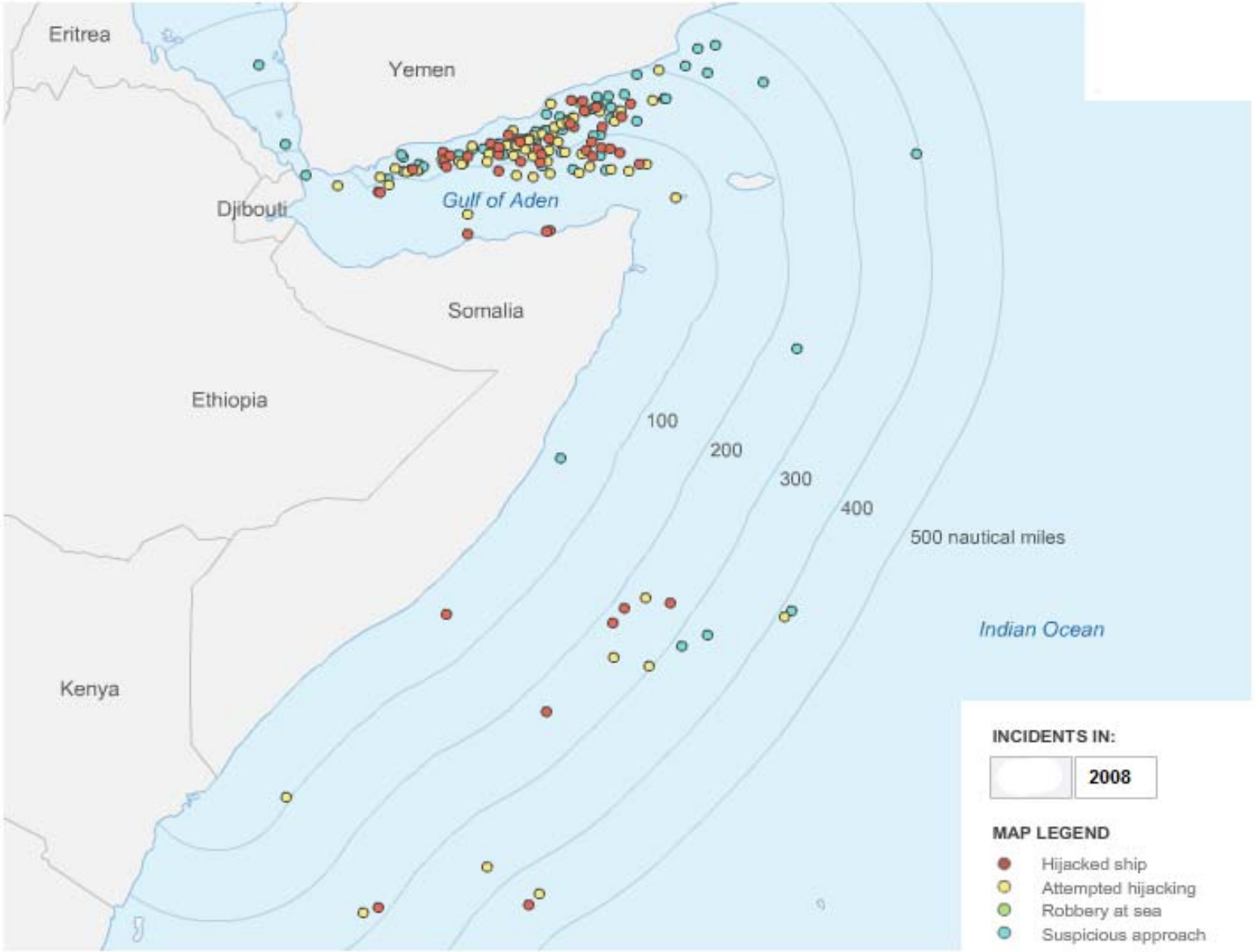
Total of 115 known hijackings in 2008, not counting 65 more suspect ship movements. Overall success rate: 40%



	Jan-Jul	Aug	Sept	Oct	Nov	Dec
Percent Successful	0	0	0	0	0	0
Attempted	14	3	11	13	16	12
Successful	10	7	9	5	11	4

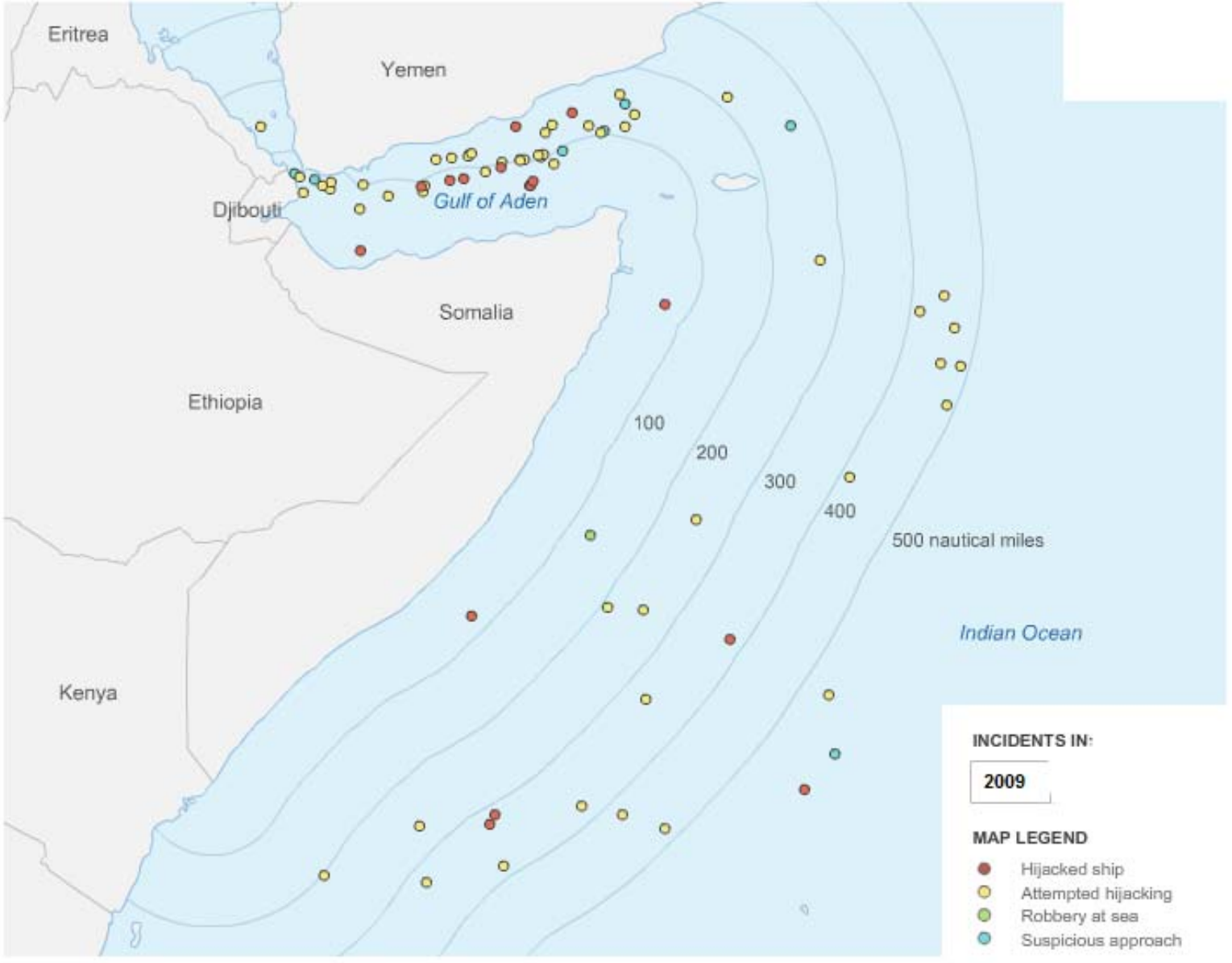
Source: UNOSAT, April 21, 2009

Acts of Piracy Near Gulf of Aden & Somalia: 2008



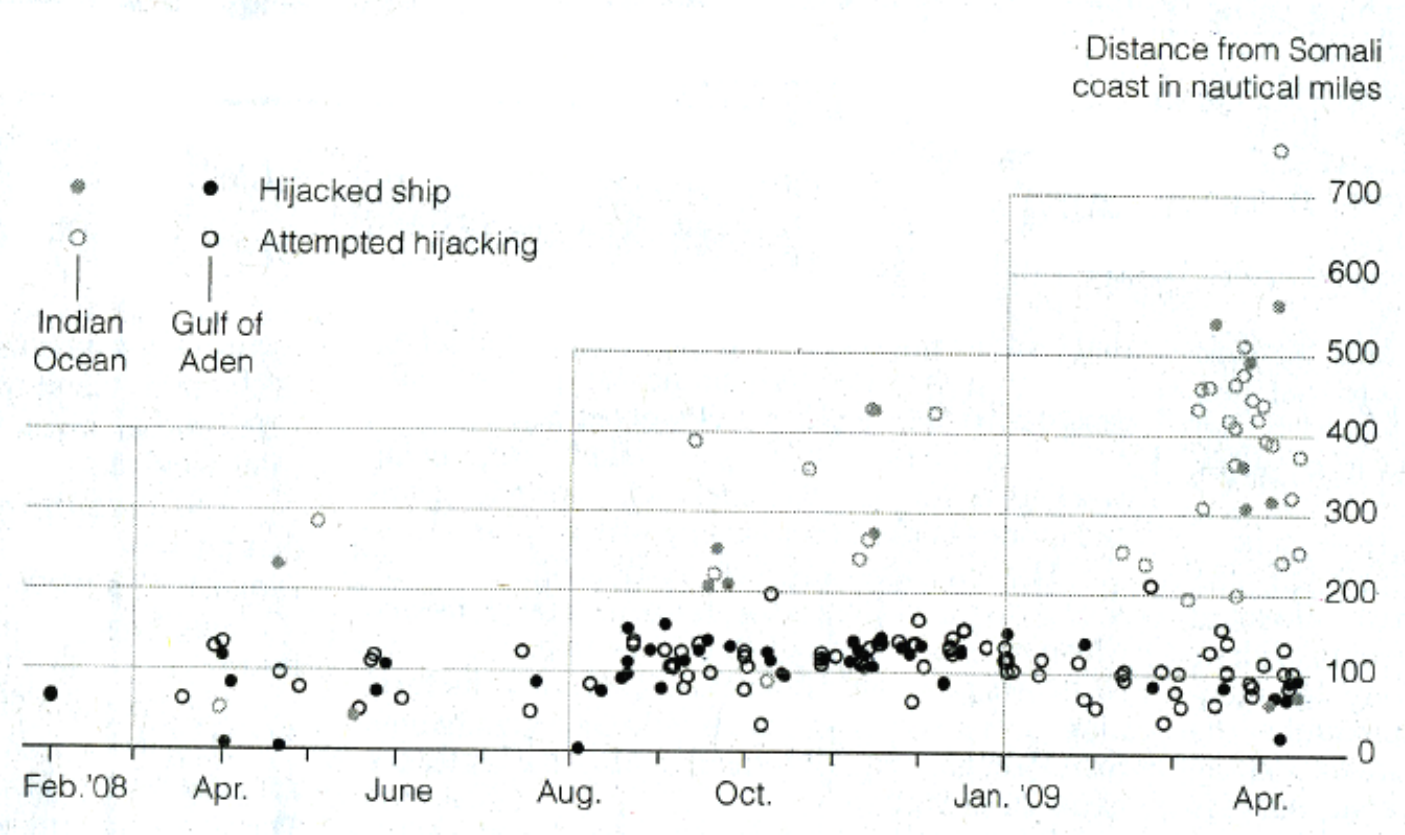
Source: Source: Aigner, Erin, "Pirates Map: Hot Spots Off Somalia," *The New York Times*. April 19, 2009. Pg. 3; and UNOSAT, April 21, 2009

Acts of Piracy Near Gulf of Aden & Somalia: 2009



Source: Source: Aigner, Erin, "Pirates Map: Hot Spots Off Somalia," *The New York Times*. April 19, 2009. Pg. 3; and UNOSAT, April 21, 2009

Distance of Piracy From Somalia Coast: 2008-2009



Source: Source: Aigner, Erin, "Pirates Map: Hot Spots Off Somalia," *The New York Times*. April 19, 2009. Pg. 3; and UNOSAT, April 21, 2009

Pirates Evolving Tactics - II

- **June 12, 2009 seizure of a commercial ship off the coast of Oman marked a new departure for the pirates, who have never struck so close to the Strait of Hormuz.**
  - **Pirates operated from a mother ship and were equipped with night-vision systems and heavy weapons**
  - **This, and recent reports of attacks several hundred miles east of the African coast, indicate that pirates are more organized for long-range attacks well beyond the waters patrolled by the NATO force of some 35 warships from 16 countries.**

Source: Multiple outlets including Reuters, AP, AFP, CNN.com, The New York Times, The Washington Post, BBC

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Confronting the Threat:

•Many analysts agree that the best way to suppress piracy off Somalia is to achieve stability onshore, where civil conflict has raged for the last 18 years.

•Many major merchant lines with ships transiting the Gulf of Aden have contracts with professional crisis teams that are called when hijackings occur.

- **•Teams include former Special Forces commandos and trained hostage negotiators who deal with the hijackers and their ransom demands, as well as with deliveries of supplies to ships during lengthy negotiations.**

•More than a dozen countries have provided ships for naval patrols off Somalia since the end of 2008.

- **•Brought an initial dip in the number of attacks, especially in the Gulf of Aden, where the patrols were concentrated.**
- **•But some pirates have simply moved their operations further out into the Indian Ocean.**
- **•Sixteen nations have warships in the Indian Ocean region off the Somali coast, which covers 1.1 million square miles and difficult to patrol**

• Pentagon planners are beginning to adjust the American arsenal to deal with the threat posed by pirates and other stateless, low-tech foes.

- **•Defense Secretary Robert M. Gates recently announced plans to outfit the Navy with more combat vessels for patrolling coastlines and to slash programs building ships designed for open sea battles against traditional rivals.**

•Some experts have proposed that the U.N. Security Council should prohibit all ransom payments to pirates others have proposed a naval blockade of Somalia.

Source: Multiple outlets including Reuters, AP, AFP, CNN.com, The New York Times, The Washington Post, BBC

Petraeus on Piracy:

"We need the maritime shipping companies to do more than they have. We started off by saying that if you would just speed up when the pirates approach you, that will help. If you take evasive action, that's even better. And if you unbolt the ladder that allows the pirates to climb onto your ship before you set sail, you get extra credit for that. These were not being taken before. This was strictly viewed as a business proposition up until recently. And they figured, well, we'll go park -- if the ship -- you know, you only get 1 percent -- less than 1 percent gets pirated anyway. If it is, we have insurance, and it just goes, parks off Somalia; they'd negotiate.

Well, that price is going up, and, of course, the violence is going up. And the pirates have moved farther and farther and farther out. As you know, originally it was in the Gulf of Aden, just south of Yemen and between the Horn of Africa. Now they're as far out as 450 nautical miles off the coast of Somalia proper.

And so I think that they are going to have to take a very hard look at not just taking additional defensive preparations, in terms of just simple things like concertina wire to make it harder to climb over the side or, again, up over a railing, but also looking at the employment of armed guards or security forces on those. We put them on many of the ships that have our equipment on them, and, again, I think that's something that they're going to have to look hard at.

There is no way that the limited number of vessels from the U.S., the coalition maritime force that we have, NATO, EU, and even others is going to be enough, given the thousands of vessels that transit that area and the vast size of it. You know, it -- there's disputes about how many times the size of Texas that actually is. I'd ask the chair -- I'd defer to the chairman on that. But again, this is a problem that we have to get much more seized with.

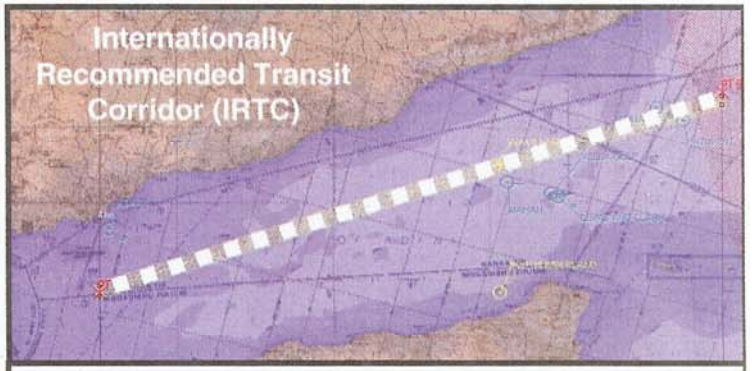
We also -- you can do a risk analysis. I mean, you can look at the ship, and there are certain characteristics of ship -- that make them more vulnerable to piracy. And again, I think the maritime shipping industry is going to have to look very hard at whether they keep those ships going through these particular waters. And there's a variety of others. We are going to do a review of this with the leadership in the Pentagon over the course of the next couple weeks, and with the interagency. And then we will propose going back.

Source: ABC News, April 24, 2009

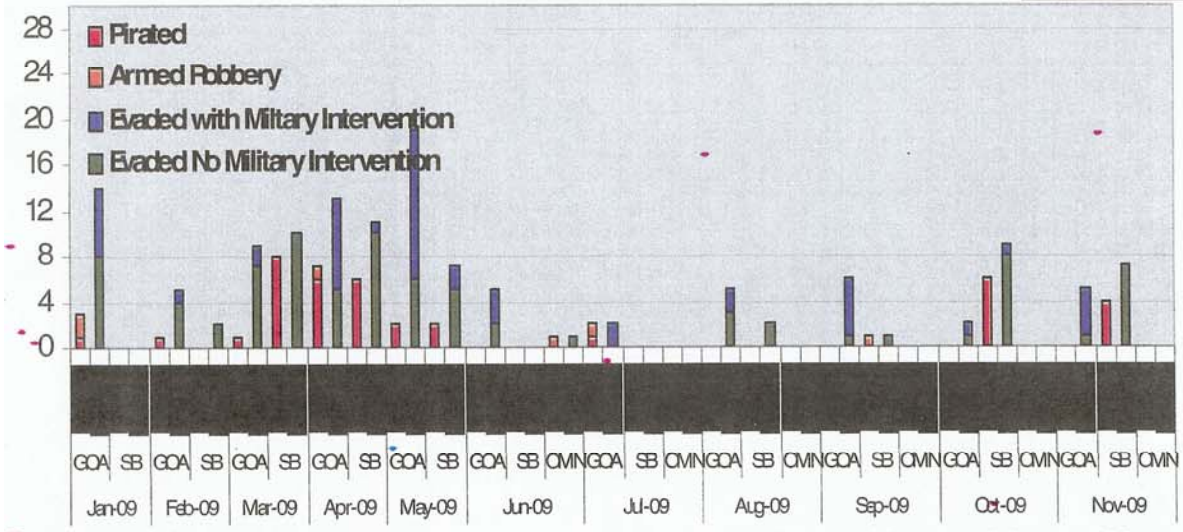
The Campaign to Date: 8/08-11/09

Campaign start – 22 AUG 08, 11 vessels held w/ 252 crew members

- >33,000 vessels transit the Gulf of Aden / yr
- International navies patrol >1.1 Million sq miles
  - Average 17 Coalition / non-Coalition ships on patrol
  - IRTC extends 464 miles
- Industry best practices – Critically important
  - Speed and maneuver, onboard security teams
  - Since CTF-151 standup, 114/135 ships that evaded pirate attacks reported having performed evasive maneuvers
- Implement legal framework to hold pirates accountable
  - 09 NOV 09: Seven suspect pirates captured by FGS KARLSRUHE were turned over to Kenya for prosecution



GOA Sea State Over Past 48 Hours: 1-4ft
GOA Sea State Over Next 24 Hours: 1-4ft



Average Monthly Assets in CP Campaign: 12 | 16 | 18 | 30 | 30

International Response

- 667 pirates encountered:
  - 387 disrupted (catch & release)
  - 257 turned over for prosecution
    - 46 trial complete - incarcerated
    - 23 trial complete - released
  - 11 killed
  - 12 pending
- Pirate vessels destroyed: 38
- Pirate vessels confiscated: 14
- Weapons confiscated: 228 small arms, 49 RPG, 109 RPG projectiles
- Other paraphernalia confiscated: 63 boarding equipment, 23 GPS, 42 phones

Combined Maritime Forces — *Ready Together*

UNCLASSIFIED

Regional Efforts to Combat Piracy

- **Eleven Arab states in the Gulf and the Red Sea to establish a joint naval task force to go after Somali pirates plaguing the Gulf of Aden and now extending their operations to the mouth of the Strait of Hormuz**
    - **At a June 29, 2009 conference in Riyadh, naval commanders from Bahrain, Djibouti, Egypt, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, Sudan, the United Arab Emirates and Yemen decided that the littoral states had to take action.**
    - **Joint statement by 11 Arab states stated that this was necessary to counter "the danger posed to shipping, particularly vital oil and gas exports which pass the Red Sea to the Suez Canal and the Mediterranean.“**
- **Pirate attacks are also beginning to present a greater threat to the Persian Gulf and Strait of Hormuz creating greater urgency in the region for cooperation on combating piracy.**
- **Yemen has moved to secure its regional waterways despite dealing with a fragile economy, using scarce funds to enhance its marine forces by building security centers along its coast and by purchasing boats worth more than $150 million.**
- **Yemen is working with the nations of the Indian Ocean Rim Association for Regional Cooperation to establish an anti-piracy center in the capital, Sanaa, which was discussed at the June 2009 IORARC meeting on security in the Gulf of Aden.**
    - **IORARC Member states include Australia, Bangladesh, India, Indonesia, Iran, Kenya, Madagascar, Malaysia, Mauritius, Mozambique, Oman, the Seychelles, Singapore, South Africa, Sri Lanka, Tanzania, Thailand, the United Arab Emirates and Yemen. China, Egypt, France, Japan and the United Kingdom are dialogue partners.**

Rising Arab-Israeli Tensions:

Hamas- Hezbollah-Syria-Iran Linkages

Rising Arab-Israeli Tensions

- **Settlements for terrorism vs. territory for peace: "peace process" has been "war process" since 2000.**
  - **Israel political divisions: Shift towards "existential" security vs. search for peace.**
  - **Palestinian civil conflict: Fatah vs. Hamas**
  - **Palestinian Authority: Ineffective and corrupt; slow progress in reform and security forces.**
  - **Legacy of "Hezbollah War" in 2006 and "Hamas War" in 2008**
- **US and Western failure to push forward, act on Saudi-Arab League peace initiative: "Road map to nowhere"**
- **Lebanese divisions and paralysis.**
- **Jordanian fear of "one state" solution; Jordanian popular anger.**
- **Egyptian tensions over supporting peace process, Gaza, popular anger.**
- **Syrian links to Iran, Hezbollah, Hamas (?)**

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Saudi National Security and the Saudi-US Strategic Partnership:

Part Four: The Defense Aspects of Security

Anthony H. Cordesman
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CSIS | CENTER FOR STRATEGIC & INTERNATIONAL STUDIES | Burke Chair in Strategy

Working Draft: Revised April 28, 2010

Saudi Arabian Defense (and Security) Policies

Strategic Priorities and Threat Perceptions

Saudi Arabian Defense Policies

- ***Internal security and stability first*.**
- **Use diplomacy and aid to secure the Kingdom against neighbors.**
- **Rely on mix of external powers to deter outside threats while limiting their involvement in Saudi Arabia;**
- **GCC more image than real.**
- **Create overlapping security forces for internal security;**
- **Focus military development on outside threats: Iran, Iraq, Yemen; regional challenges like Israel and India**
- **Focus military forces on airpower and land based air defense, defense of upper Gulf and Yemen, coastal areas, Gulf, and Red Sea. Emerging Gulf and Red Sea fleets.**
- **Land forces in military cities backed by air bases at critical borders: Yemen-Iraq. Airpower provides strategic mobility, compensates for limited manpower and forces.**
- **Constantly assess ballistic missile and nuclear threats.**

Defense Policy Decision-Making Process

Defense Policy Decisions

- **King Abdullah and Royal Court.**
- **Prince Sultan, Sons, and MODA.**
- **National Guard and Abdullah's son.**
- **Prince Saud and Foreign Ministry.**
- **Prince Bander and National Security Council.**
- **Prince Naif, Ministry of Interior, and son..**
- **External partners: US, Britain, France**
- **Crisis-driven needs**
- **Formal decision-making structure and military/defense hierarchy.**
- **End run by key personality.**

"Military Chain of Command"

Head of State, Prime Minister and Commander of the National Guard	King Abdullah al-Aziz al Saud
Crown Prince, First Deputy Prime Minister and Minister of Defence and Aviation	H.R.H Prince Sultan bin Abdul al-Aziz al Saud
Chief of General Staff	General Saleh Ibn Ali al-Muhaya
Commander of the Army	Lt. Gen. Hussian al- Quvial
Commander of the Air Force	Lt. Gen. Abd a-Rahman ibn Fahd al-Faisal
Commander of the Navy	Vice-Admiral Prince Fahd bin Abdullah Bin Mohammed

Source: Jane's Sentinel Series, Saudi experts

Key Saudi Officials

Prime Minister and Commander of the National Guard:	King Abdullah bin Abd al-Aziz al-Saud
First Deputy Prime Minister and Minister of Defence and Aviation:	Crown Prince Sultan bin Abd al-Aziz al-Saud
Minister of Foreign Affairs:	Prince Saud al-Faisal bin Abd al-Aziz al-Saud
Minister of Interior:	Prince Nayef bin Abd al-Aziz al-Saud
Minister of Justice:	Dr Abdullah bin Muhammad bin Ibrahim al-Sheikh
Minister of Petroleum and Mineral Resources:	Ali Ibrahim Naimi
Minister of Transport:	Dr Jabara bin Aid al-Suraisri
Minister of State for Shura Council Affairs:	Dr Saud bin Said bin Abd al-Aziz al-Mutahammi
Minister of State:	Prince Abd al-Aziz bin Fahd al-Saud
Minister of State for Foreign Affairs:	Dr Nizar Madani
Minister of State and President, Higher Council of Ulama:	Abd al Aziz al-Sheik
Director of Commission for the Prevention of Vice and Promotion of Virtue:	Sheikh Ibrahim bin Abdullah al-Gaith
Director for General Intelligence:	Prince Muqrin bin Abd al-Aziz al-Saud
Head of National Security Council:	Prince Bandar bin Sultan bin Abd al-Aziz al-Saud
Ambassador to the United States:	Adel Al-Jubeir

Key Decision Makers - I

- The Saudi National Guard remains under a separate chain of command. King **Abdullah bin Abdul Aziz** has commanded the National Guard since 1962.

- **Prince Mitiab**, the Assistant Vice Commander for Military Affairs, has long help shaped the development of the Saudi National Guard and acts as the de facto commander of the National Guard for his father.

- **Prince Sultan bin Abdul Aziz Al Saud** makes most decisions affecting the regular armed forces. He has been the Minister of Defense and Aviation since 1963, and the Second Vice Prime Minister since 1982. Prior to these positions, Prince Sultan held numerous government posts including: Governor of Riyadh, Minister of Agriculture and Minister of Communications. He has now spent four decades shaping and modernizing Saudi Arabia's armed forces, shaped most critical policy decisions relating to military procurement, and supervised the construction of modern military bases and cities throughout the Kingdom.[i]

- His son, **Prince Khalid bin Sultan**, led the Arab coalition forces in the Gulf War and is Assistant Minister of Defense. He now plays a leading role in shaping defense policy, and in managing the day-to-day decisions of the Ministry of Defense and Aviation (MODA).

- **Prince Abdul Rahman ibn Fahd Al-Faisal,** Deputy Defense Minister, is a highly experienced officer and former commander of the RSAF.

Source: Jane's Sentinel Series, Saudi experts

Key Decision Makers - II

- **Prince Nayef bin Abdul Aziz Al Saud** has been the Minister of Interior (MOI) since 1975. He controls the General Security Services (internal intelligence services), the Public Security Administration Forces (the police), the Civil Defense Forces (fire service), the Border Guard, the Coast Guard, the Passport & Immigration Division, the Mujahideen Forces, the Drug Enforcement Forces, the Special Security Forces, and the General Investigative Bureau. Like the other senior princes, Prince Nayef has held prior gubernatorial and ministerial posts such as: Governor of Riyadh, Vice Minister of Interior, and Minister of State for Security Affairs.

- **His son, Prince Muhammed**, acts as his deputy. He has helped shape the reform and expansion of Saudi internal security forces and has played a key role in leading the fight against terrorism.

Source: Jane's Sentinel Series, Saudi experts

Political Influences on Saudi Arabian Defense Decisions and Reactions

Political Influences

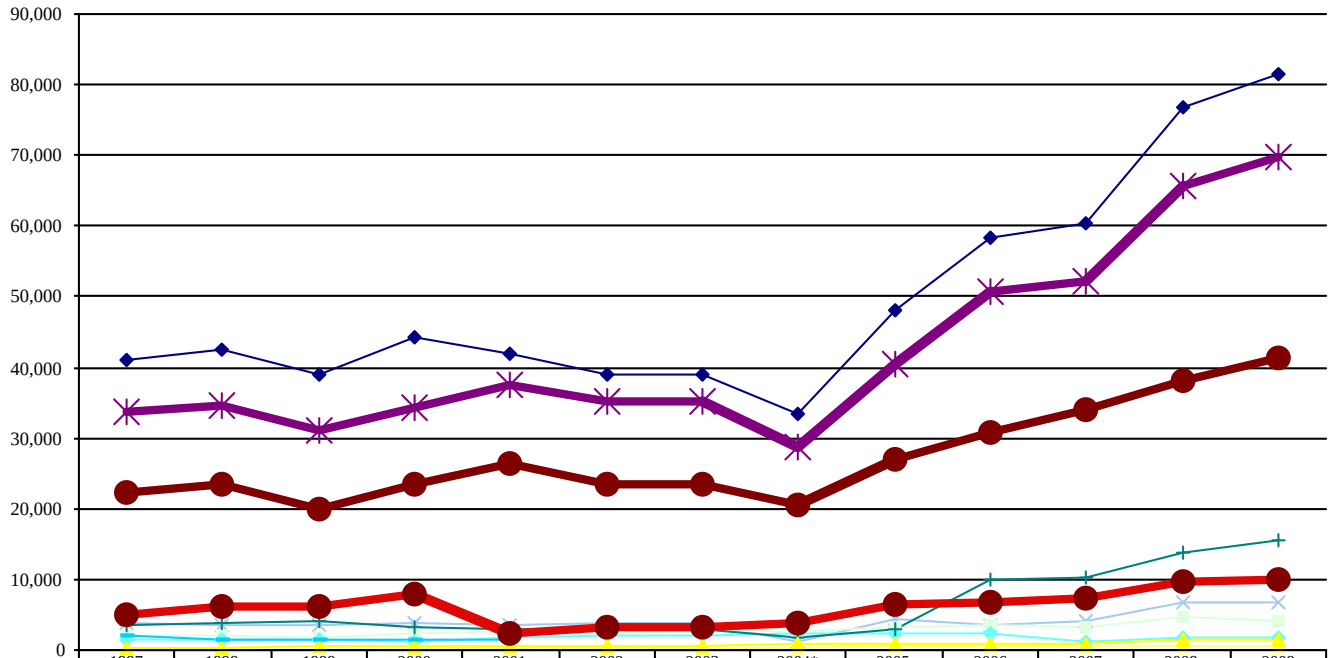
- Royal family politics and pecking order.
- Internal stability and balancing act.
- Security structure, business, leading families, clerics (Al Shaikhs), business.
- Majlis As Shura
- Educated elite.
- Gulf politics: Southern Gulf tensions, Iraq, Iran.
- Relations with US, European states, and outliers like Russia and China.
- Pan-Arab and Islamic issues
- Islamic legitimacy and great world of Islam.
- Arab-Israeli
- OPEC and oil/gas/product export revenues.
- Yemen and Red Sea security

Resourcing Saudi National Security

Past, Current, and Future Trends and Needs

- **Effective internal security forces;**
- **Military forces that are loyal and do not threaten system of government;**
- **Defense of borders and Gulf and Red Sea coasts;**
- **Secure exports and lines of communication.**
- **Technology and advanced arms to reinforce and compensate for evolving forces, limited manpower skills.**
- **Airpower to defend country and provide capability to retaliate; ground based-air defense (and missile defense) to supplement airpower.**
- **Slow creation of Gulf and Red Sea naval forces.**
- **Balance dependence on foreign allied forces like US against political and security risks.**

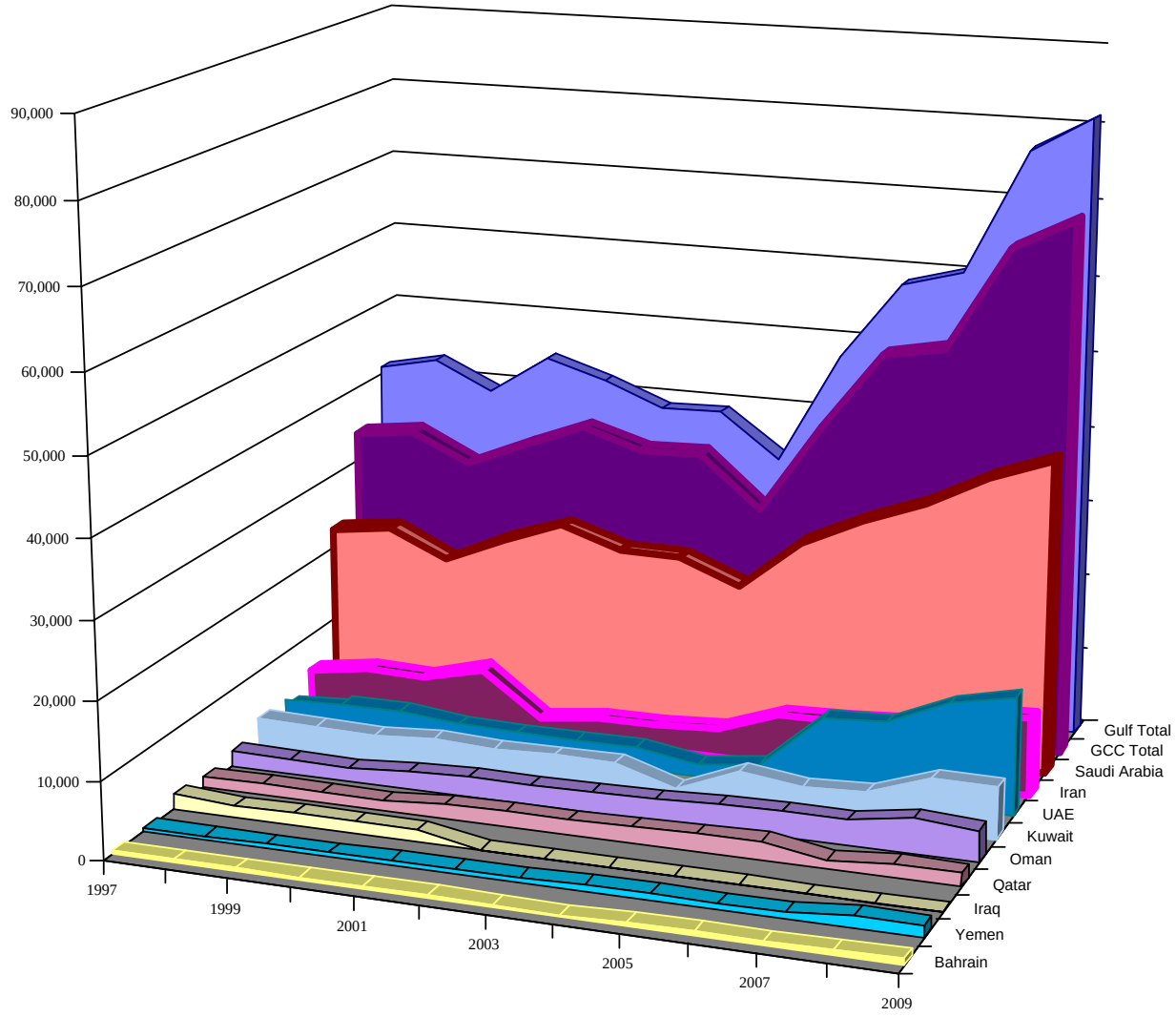
Comparative Military Spending: 1997-2009



	1997	1998	1999	2000	2001	2002	2003	2004*	2005	2006	2007	2008	2009
Bahrain	387	427	472	342	355	352	350	191	559	498	550	552	697
Kuwait	3,827	3,614	3,401	3,933	3,614	3,720	3,720	1,275	4,539	3,640	4,002	6,810	6,650
Oman	2,126	1,913	1,701	2,232	2,551	2,445	2,657	2,764	3,210	3,410	3,298	4,657	4,060
Qatar	1,382	1,382	1,488	1,275	1,807	2,020	2,020	2,232	2,327	2,430	1,090	1,750	1,750
UAE	3,614	3,933	4,039	3,189	2,976	2,976	2,976	1,701	2,817	9,888	10,292	13,730	15,470
Saudi Arabia	22,323	23,386	19,878	23,386	26,256	23,599	23,599	20,515	27,000	30,810	34,020	38,200	41,200
GCC Total	33,659	34,655	30,979	34,357	37,559	35,112	35,322	28,678	40,452	50,676	52,142	65,699	69,827
Yemen	437	421	456	529	570	547	596	940	1,001	858	927	1,490	1,550
Iraq	1,982	1,382	1,488	1,488	1,488	?	?	?	?	?	?	?	?
Iran	4,996	6,165	6,060	7,972	2,232	3,189	3,189	3,720	6,590	6,759	7,310	9,590	10,000
Gulf Total	41,074	42,623	38,983	44,346	41,849	38,848	39,107	33,338	48,043	58,290	60,379	76,779	81,377

Derived from IISS, Military Balance, various editions

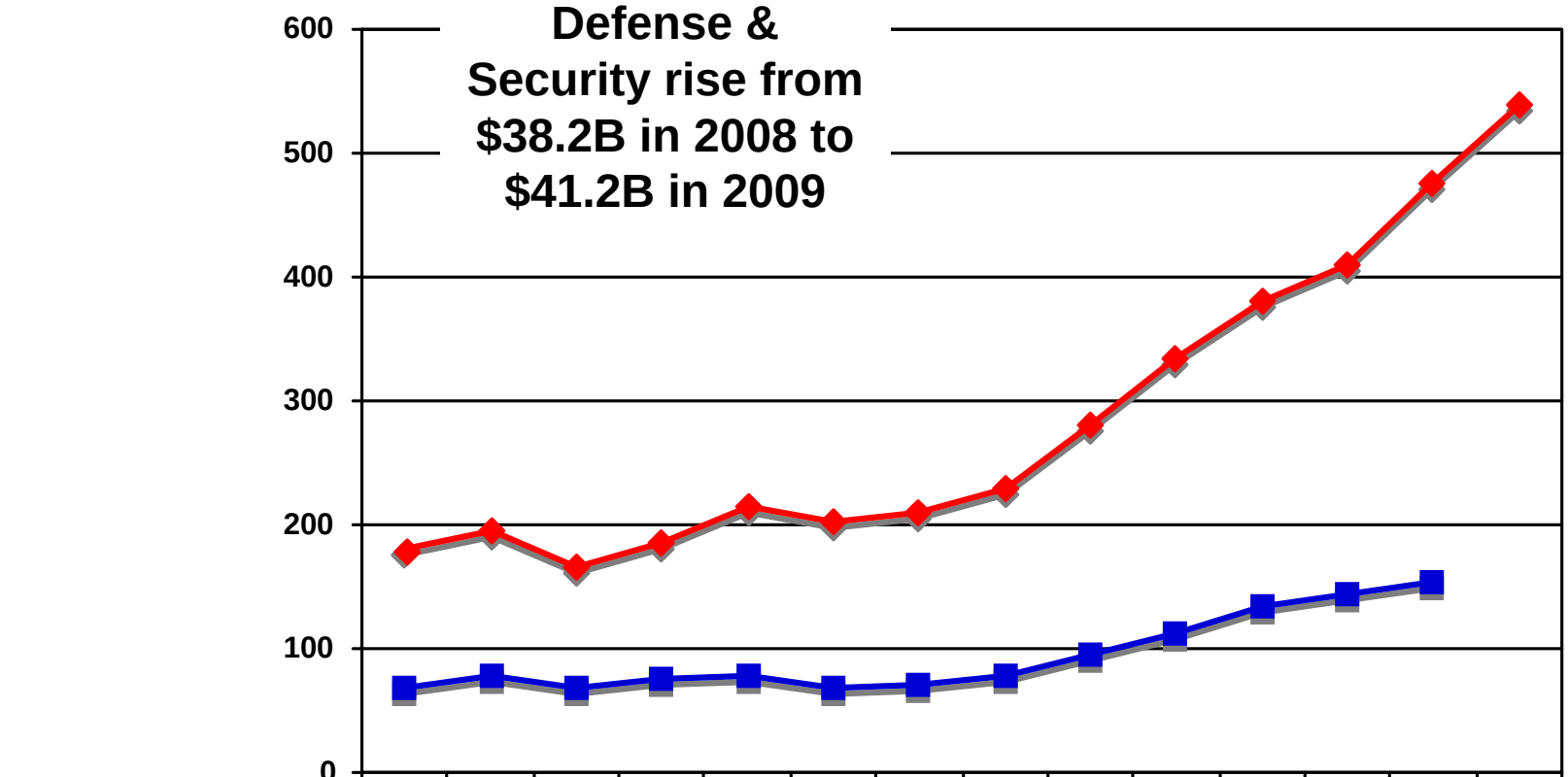
Comparative Military Spending: 1997-2009



Derived from IISS, Military Balance, various editions

Saudi Budget Projections: National Security vs. Total

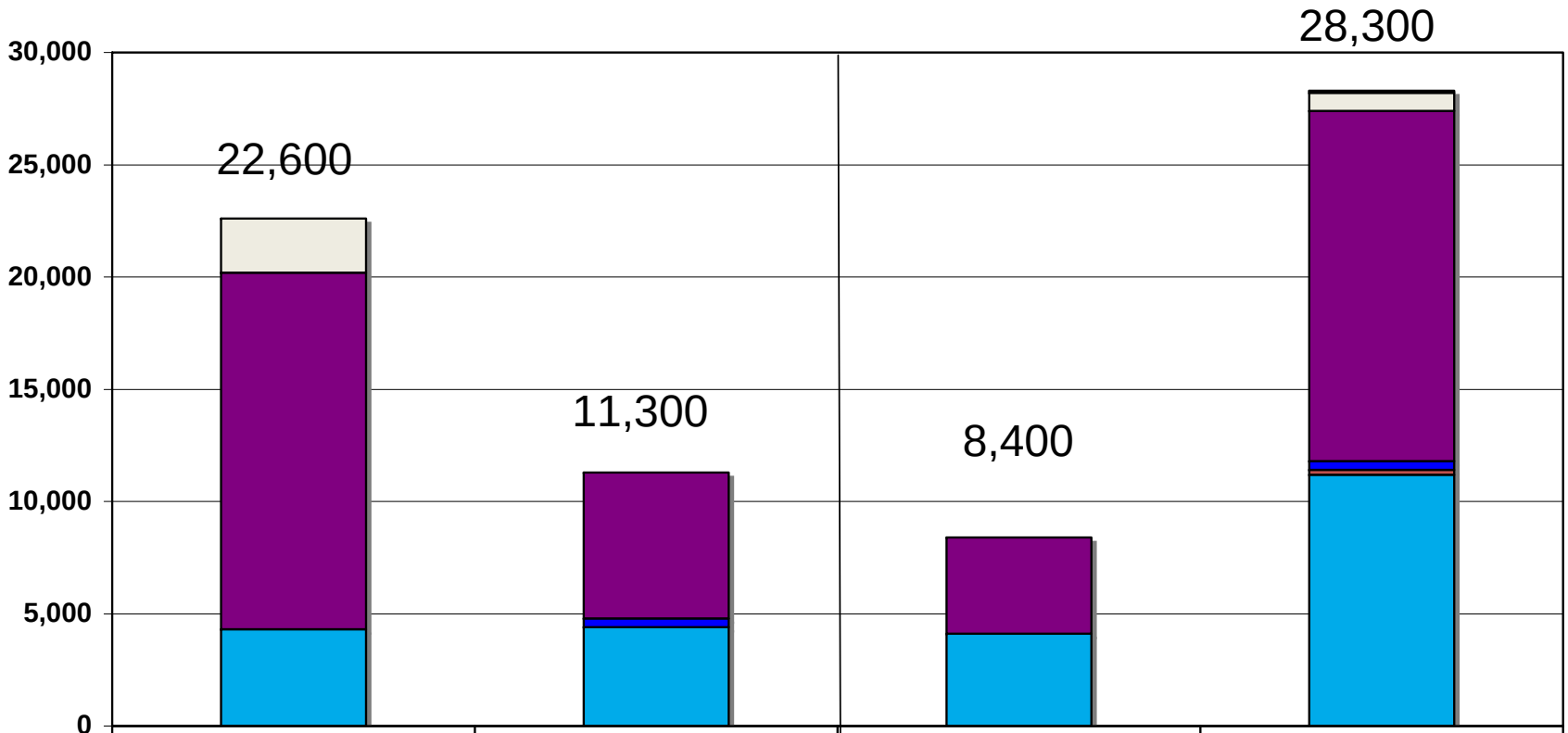
(In Billions of Current Riyals)



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total Budget	181	196	165	185	215	202	209	230	280	335	380	410	475	540
Defense & Security	68	78	69	75	79	68	70	78	95	111	133	143	154	

Source: SAMA, 2008

Saudi Arms Sales by Supplier: 2001-2008



	01-04 Delivery	05-08 Delivery	01-04 NewAgree	05-08 NewAgree
#REF!	1			
All Other	0	0	0	100
Other Europe	2,400	0	0	800
Fr, Ger, UK, It	15,900	6,500	4,300	15,600
China	0	400	0	400
Russia	0	0	0	200
US	4,300	4,400	4,100	11,200

Source: Richard F. Grimmett, CRS

Key Arms Deliveries: 2001-2008

• **M-113 APC Upgrade**: 300 at cost of $200M. FNSS. Ordered in 2007. Deliveries Start 2008.

•**Eurofighter (Typhoon) FGA**: 72 at cost of $8.9B. Eurofighter. Ordered in 2005, Deliveries start in 2008.

•**A330 MRTT Tanker**: 6 at cost of $600M. EADs. Order in 2008. Deliveries start 2011. (3 more ordered in 2009 for unknown cost)

•**E-3A Sentry Upgrade**: 5 at cost of $16M. Data Link Solutions. Ordered 2006.

•**UH-60 Helicopters**: Cost of $286M. Sikorsky. Ordered in 2008, Deliveries start in 2010.

•**AIM-9X Sidewinder AAMs**: 250 at cost of $164M. Raytheon. Ordered in 2009. (in addition, 84 AIM-9X for training & 12 AIM-9x dummy.

•**AN/AAQ-33 replacements for LANTIRN**: Lockheed Martin. Ordered 2009.

Source: IISS, Military Blaance 2010

Arms Orders from US: 2001-2008

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decompressor
are needed to see this picture.

QuickTime™ and a
decompressor
are needed to see this picture.

U.S. Arms Sales: Agreements with and Deliveries to Major Clients, 2001-2008, Richard F. Grimmett,, CRS R40959, Specialist in International Security December 2, 2009

Past, Current, and Future Force Trends and Needs

Range of Saudi Forces

Military branches of Ministry of Defense:

- Saudi Arabian Army (Royal Saudi Land Forces)
- Royal Saudi Naval Forces (including a Naval Air Wing and Marines)
- Royal Saudi Air Force
- Royal Saudi Air Defense

Independent Military branches

- Saudi Arabian National Guard
- Saudi Royal Guard Regiment
- General Intelligence Directorate (Al Mukhabarat Al A'amah)
- Military Police Force
- Lightning Force (Qowwat Al-Sa'eqah - Commandos)

Military branches of Ministry of Interior

- General Security Forces
  - Saudi Arabian Police Force
  - Saudi Arabian Traffic Police Force
  - Saudi Special Emergency Force (Counter-Terrorists / Anti-Roit)
  - Mission-Security Force (Amn Al-Mahammaat)
  - Secret Service (Al Mabaahith Al Jena'eyah)
- Saudi Arabian Border Guard
  - Saudi Border Guard
  - Saudi Coast Guard
  - Al-Mujahidoon (support force for Border Guards)
- Civil Defense of Saudi Arabia

Source: Saydi MODA

Army/National Guard Needs

- **Improved "jointness" with air force, coast guard, and army/national guard in variety of local defense missions.**
- **Refocus force development to improve irregular warfare capabilities, expand special forces and air mobility.**
- **Develop true interoperability with other Southern Gulf forces.**
- **Standardize equipment; remove older types.**
- **Develop sustainability and maneuver capability away from bases, military cities.**
- **Manpower quality.**
- **CPX, FTX, and more realistic exercise capability.**

Saudi Army

- **125,000 nominal strength**
- **4 armored brigades, 5 mechanized brigades, 1 airborne brigade, 1 artillery brigade, one Royal Guard regiment, and 1 aviation command.**
- **861 operational Main battle tanks: 315 M1A2, 401 M-60A3, 145 AMX-30 plus 155 in reserve.**
- **300 AML-60/AML-90; 36 Fuchs 2 NBC chemical warfare vehicles.**
- **780 AIFV: 200 Otto Melara VCC-1 (upgraded M-113) with TOW, 499 Piranha (including engineering and special mission vehicles), 400 M-2A2 Bradley with cannon turrets and TOW.**
- **2,484 variants of the M-113 APC.**
- **282 artillery weapons: 111 155mm M109A1/2 self-propelled; 18 French 155mm self-propelled, 18 M-102 155mm towed howitzers, 54 155mm M-198 towed howtizers, 81 ASTROS II multiple rocket launchers (MRLs)**
- **400 mortars.**
- **280 armored ATGM systems with HOT and TOW/TOW-2A; 1000 Dragon, 750 TOW/TOW2, HOT crew served ATGMs.**
- **Crotale, 500 Redeye, 500 Stinger.**
- **12 AH-64, 20 UH-60 Blackhawk, and 15 CS406 Scout combat, transport, and support helicopters.**

Key Military Cities

- **Riyadh: Headquarters and service branches or Corps commanders.**
- **King Faisal Military City (KFMC) in Tabuk area (Northwestern Area Command): 12th Armored Brigade, 7th Armored Brigade, 8th Mechanised Infantry Brigade, 14th Mechanized Brigade, 1st Airborne Brigade/85th Sepcial Forces Battlaion, to protect against threats from Israel, Syria or Jordan.**
- **King Khalid Military City (KKMC) near Hafr al-Batin in north-central Saudi Arabia, close to the Iraqi and Kuwaiti borders (Northern Area Command): Formations include 6th Armored Brigade and 20th Mechanized Infantry Brigade, 1st Aviation Group, 9th Light Infantry Battalion (Special Forces), Cadre strength GCC brigade. KKMC now covers the Saudi-Iraqi border and protects against potential Iranian moves through Iraq against on Kuwait or the Kingdom. KKMC is the largest of the military cities, and was built near the strategic Trans-Arabian Pipeline (Tapline) road connecting Ad-Dammam with Jordan. It has fund erground command bunkers and surface-to-air missile sites. KKMC was the location of GCC Peninsula Shield until 1990. This force was revived in a 2008 GCC meeting.**
- **Western Area Command (Near Jiddah),**
- **Taif Area Command.**
- **King Abd al-Aziz Military City (KAAMC) in the Khamis Mushayt area: 4th Armored Brigade, 11th Mechanized Brigade, 18th Light Infantry Brigade, and 2nd Aviation Group. Protects against threats from Yemen.**
- **Sharurah (Sub Area Command) is east of Najran and North of As Sharawran. It has the 19th Light Infantry Brigade to help defend the border area.**
- **Building a fourth military city at Jizan, on the Red Sea, near Yemen. Facilities will include a naval base and air base.**

The King's Force? The National Guard

- **De facto commander is son of King Abdullah, Prince Mitiab. Originally organized primarily to keep the army in check, to reinforce internal security, and to provide a fighting force based on Islamic teachings and tribal values and traditions. It is drawn from Bedouin tribes who are regarded as being particularly loyal to the crown.**
- **In recent years the SANG has received new priority in terms of building up its capabilities and strength.**
- **In 2009, the Guard was organized into four mechanized brigades (three of which have been modernized with LAVs), five light infantry brigades and one ceremonial cavalry squadron. The three mechanized brigades have with some 800 men and a total of around 360 vehicles, including 106 LAVs..**
- **SANG had 75,000 actives and 25,000 tribal levies or Fouj.**
- **The Guard's operational forces are equipped with about 1,137 LAVs in its mechanized units, plus 45 in FMS storage. According to Saudi and US experts, these include 383 LAV-25s with 25mm cannon (the primary fighting vehicle), 182 LAV-CC command vehicles, 111 LAV-ATs with M901 TOW anti-tank guided missile turrets, 136 LAV-AG with 90mm guns, 59 LAV-M with 120 mm mortar turrets, 48 LAV personnel carriers, 74 LAV-R recovery vehicles, 79 LAV ambulances, 37 LAV engineering vehicles, 18 LAV ammunition carriers.**
- **They also include 720 Piranha IIs, 290 V-150 Commandos (810 more in store). The Guard had a significant number of towed artillery weapons. This artillery includes 27 US-supplied M198 155-mm howitzers and 50 M102 105-mm howitzers and some 81-mm mortars. Each LAV battalion is also equipped with a platoon of LAV mortars..**
- **The SANG has a large US military and contract advisory effort. Like the rest of the Kingdom's forces, ithas diversified foreign military purchases given concern about long term support by the U.S. and other allies they have counted on in the past. Recent purchases of equipment include artillery and air defense systems from France, and rumors of the purchase of equipment from Russia.**
- **In May 2007, was reported to have ordered hundreds of armored vehicles and a network-centric warfare (NCW) command system from BAE Systems in May 2007 because of concerns over Iran, more sophisticated terrorist attacks..**

Source: IISS, Military Balance, 2008; Jane's Sentinel series; Saudi experts

Air Force Needs

- **Improved "jointness" with air defense force, navy, coast guard, and army/national guard in variety of defense missions.**
- **Improve Combined Air Operations Center capability in EW, joint warfare.**
- **Develop true interoperability with GCC air forces.**
- **Maintain edge in standoff/BVR air-to-air combat.**
- **Create standoff precision strike capability; near real time targeting capability and inflight retargeting.**
- **Upgrade AWACS for better jointness, better ELINT/EW, MPA functions.**
- **Improve Netting and IFF with RSAF USAF, USN, GCC air forces, and Saudi and GCC land-based air defenses.**
- **Develop SEAD mission capabilities.**
- **Readiness**
- **Manpower quality.**
- **Replace phased out Tornado ADV and F-5s with Typhoon**

Saudi Air Force - I

- **60,000 men; 257-278 active combat aircraft;.**
- **Fighters: 121: 66 F-15C, 18 F-15D,**
- **Strike/FGA: 70 F-15Ss, 66 F-15Cs, 18 F-15Ds, 85 Tornado IDSs (10 of which are Tornado GR.1 RECCE-attack equipped), and 5 E-3A AWACS. 4 of 72 Typhoon have arrived.**
- **F-5s are no longer in service and its Tornado Air Defense Variants (ADVs) seem to have been withdrawn from service.**
- **5 EA-3A AWACS. Beibng upgraded.**
- **7 KE-3A, 8 KC-130H tankers. European tankers on order.**
- **45 transports: 7 C-130E, 29 C-130H.**
- **123 trainers: 25 Hawk MK65, 18 Hawk MK65A, 45 PC-9.**
- **78 utility helicopters.**
- **12 AH-64 and 55 utility & support helicopters in Army**

Saudi Air Force - II

RSAF operates USD8.4 billion 'Peace Shield' system.

Completed in 1995. Jane's reports that has 17 AN/FPS-117(V)3 long-range, 3-D radar systems linked to AN/TPS-43 and AN/TPS-72 short- and medium-range radars.

A command operations center in Riyadh controls five sector command centers at Dhahran in the east, Al Kharj in the central zone, Khamis Mushait in the south near the Yemen border, Taif in the west, and Tabuk in the northwest.

Each major air base has a sector operations centre and the system integrates the RSAF's E-3A Sentry AWACS aircraft as well as air defence fighters, SAM batteries and some AAA pieces.

Source: IISS, Military Balance, 2008; Jane's Sentinel series; Saudi experts

Eurofighter, Tornado Upgrades, Trainer,

On 10 September 2006 BAE won a £2.5bn (€3.7bn, $4.6bn) contract for the upgrade of 80 RSAF Tornado IDSs, similar to the RAF's Tornado GR4 standard. Three RSAF Tornado IDSs arrived at their Warton facility for design evaluation tests with the ultimate aim being "to improve serviceability, address obsolescence, and enhance and sustain the capability of the aircraft".

“Project Salem: ” In September 2007, BAE and Saudi Arabia signed a 4.43-billion-pound contract for 72 Eurofighter Typhoon and substantial training and support, plus munitions. Will replace Tornado ADV and F-5Es

Meteor, Brimstone, Storm, and advanced AAMs from MBDA?

AFP/FT report on 11-8-08 Saudi Arabia has begun discussions to buy a second batch of Eurofighter Typhoon jets from British group BAE Systems and could double its fleet to 144, "The Gulf kingdom could buy up to 40-72 more of the multi-role aircraft, an adviser to the Saudi government confirmed last night (Sunday)," (FT)

Buys of French Helicopters?

- **French say in August 2006 that Saudi Arabia will buy 142 helicopters from France:, as well as tanker aircraft and other weapons in the largest arms export deal ever signed by France. IISS reports initial buy was 10 NH-90 and 30 Fennec helicopters, ans 2 A330 MRT tankers.**

- **The deal is reported to eventually cover 64 NH-90 battlefield helicopters; 20 Eurocopter Cougar utility helicopters in Combat Search and Rescue version; 42 Eurocopter Fennec light helicopters; four Panther navalSearch and Rescue helicopters; and an initial batch of 12 Tiger attack helicopters.**

- **The contract also includes the provision of weapons, spare parts,training services and support equipment, as well as the construction ofseveral helicopter bases, boosting its total value to well over 7billion euros, sources say. It is the largest single arms export dealever signed by France.**

- **The NH-90 order includes 10 naval NFH-90s for the Saudi navy; 42 TTH-90 battlefield helicopters for the Saudi Army and 12 more for the Saudi Arabian National Guard, while the Fennec order comprises 30 helicopters for the Saudi air force and 12 for the national guard.**

- **A separate contract will cover an unspecified number of Airbus A33 0aerial tankers, similar to the KC-30 that EADS, the corporate parent of both Airbus and Eurocopter, has offered to the US Air Force.**

Source: Jane's Sentinel Series, Reuters, AFP

Air Defense Force Needs

- **Improved "jointness" with air force, navy, coast guard, and army/national guard in variety of defense missions.**
- **Clear plan ahead and architecture for future IHawk, Patriot, and TMD force.**
- **Modernize SHORADS, integrate better into layered defense and with army air defense capability.**
- **Improve Netting and IFF with RSAF USAF, USN, GCC air forces, and Saudi and GCC land-based air defenses.**
- **Readiness**
- **Manpower quality.**

Source: IISS, Military Balance, 2008; Jane's Sentinel series; Saudi experts

Air Defense Forces - I

RSADF established in 1984. In time of war, becomes subordinate to the air force's Command, Control, Communications, Computers, & Intelligence (C4I) system.

Estimated strength of the RSADF is 16,000 personnel. Has an inventory of gun systems, self-propelled SHORAD systems, and HIMAD missile systems.

RSADF has an Air defense Operations Center (ADOC) located in each of the six group commands, which is turn linked to the main air defense command centre in Riyadh.

RSADF's AA guns are used in support of maneuver units and other air defense operations. Close-in, as well as medium range, systems can be found within all Group commands.

RSADF deploys 16 batteries with I-Hawk III SAMs (128 launchers). It is also equipped with the French Crotale SAM system, possessing 16 acquisition units and 40-48 firing units; IISS reports 141 Shahine, and 68 Crotale/Shahine. In addition, the RSADF deploys Anti-Aircraft Artillery (AAA) pieces.

Raytheon Patriot SAMs form part of the Kingdom's theatre anti-ballistic missile defenses although the exact numbers in service are unclear. The Saudis bought two batches of Patriot equipment and missiles. The first batch was ordered in September 1990 just after Iraqi forces invaded Kuwait. Jane's reports export application to Congress included the purchase of 48 launchers and 384 missiles in a package worth some USD984 million, although IISS reports 96

Source: IISS, Military Balance, 2008;
Jane's Sentinel series; Saudi experts

Air Defense Forces - II

In December 1992, Jane's reports placed second order for a further 13 launcher units and 761 PAC-2 missiles was placed for $1.03 billion. Now have 18 batteries equipped with 108 PAC-2 launchers.

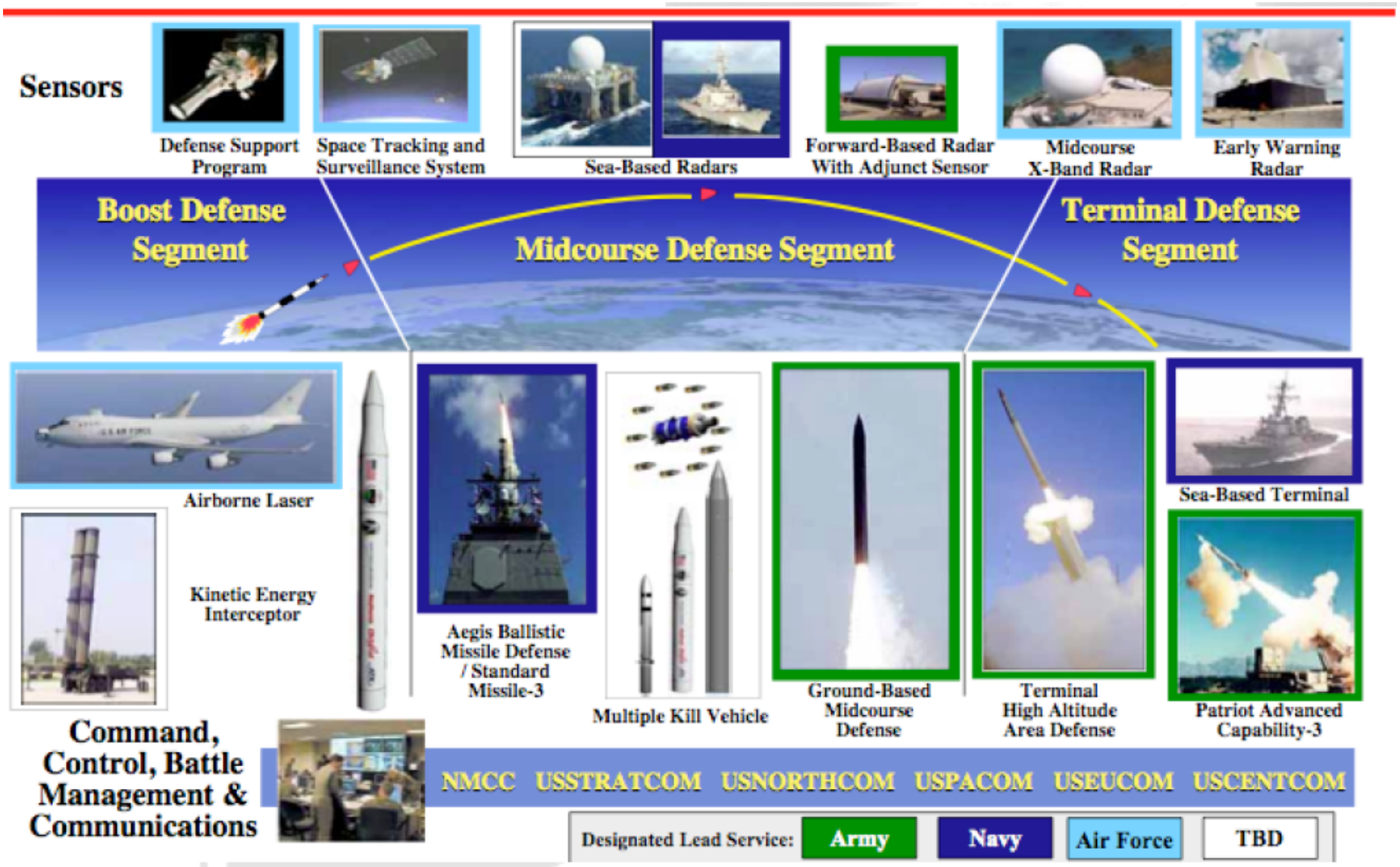
RSADF now has ability to establish Patriot firing sites to protect between 18 and 20 locations. Commercial satellite imagery from 2007 located two Saudi Patriot sites near Riyadh and six in Eastern Province.

Raytheon awarded a USD300 million training and support contract for the Saudi Patriot force, in June 2000. Got a USD100 million support contract in followed in October 2007. US Army maintained a Patriot task force in Saudi Arabia until 2003, and the US Army and RSADF continue to maintain close links. A US and contractor training and advisor team remain in Kingdom.

RSADF operates CSS-2 surface-to-surface ballistic missiles obtained from China in the 1980s.

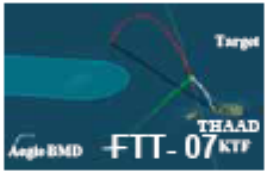
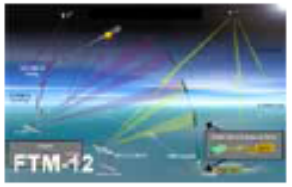
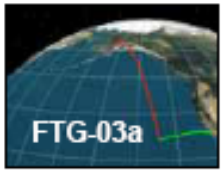
Source: IISS, Military Balance, 2008;
Jane's Sentinel series; Saudi experts

Options for Missile Defense



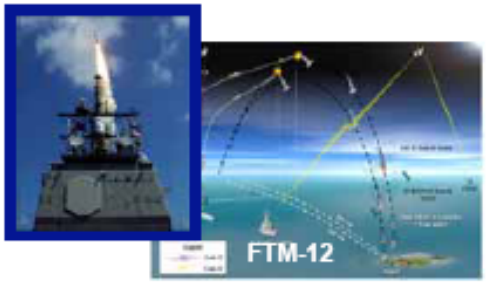
US Test Developments - I

35 Of 43 Terminal And Midcourse Hit-To-Kill Intercepts In The Atmosphere And Space Since 2001

Hit-To-Kill Since 2001		Since September 2005	
Terminal High Altitude Area Defense (5 of 5)		✓ July 12, 2006 ✓ January 26, 2007 ✓ April 5, 2007 ✓ October 27, 2007 ✓ June 25, 2008	VM313
Aegis Ballistic Missile Defense (13 of 15)		✓ November 11, 2005 X December 7, 2006 ✓ June 22, 2006 ✓ April 26, 2007 ✓ June 22, 2007 ✓ August 31, 2007 ✓ ✓ November 6, 2007 ✓ December 17, 2007	VM339C
Ground-based Midcourse Defense (6 of 9) Note: Patriot PAC-3 (11 of 14)		✓ September 1, 2006 ✓ September 28, 2007	VM348C
Blast Fragmentation Aegis Sea-Based Terminal (2 of 2)		✓ May 24, 2006 ✓ June 5, 2008	VM377

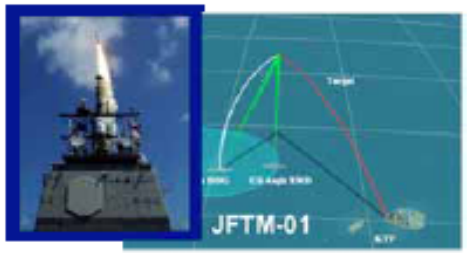
US Test Developments - II

- 11 of 11 successful hit-to-kill intercepts in 2007 and 2008 to date against medium- and short-range missiles using land- and sea-based defenses, including
  - Ground-based midcourse defense intercept of long-range target in operationally realistic conditions
  - First intercept of separating warhead – THAAD
  - First simultaneous destruction of two short-range ballistic missiles at sea
  - First sea-based intercept by an ally

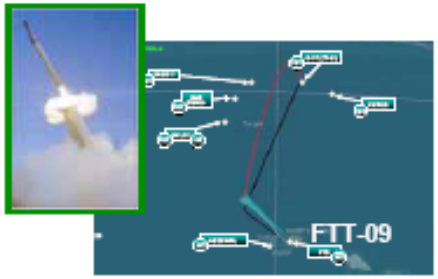


June 22, 2007

September 28, 2007



December 17, 2007



June 25, 2008

CSS-2

- Acquired 50 conventionally-armed Chinese CSS-2 (Dong Feng 'East Wind' 3) missiles in ult i-billion dollar deal. The missiles were upgraded version of the Dong Feng 3, desi gnated as the DF-3A, with range of 2,400 km with a 2,500 kg payload and improved accuracy of 1,000 m Circular Error of Probability (CEP). Large 70-ton systems, and have a special, large conventional warhead.
- 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. Actual readiness rates are normally far lower. Prelaunch preparation is believed to take two or three hours
- Deployed in two battalions. One at the As-Sulayyil Oasis, roughly 475 kilometers south to southwest of Riyadh. As-Sulayyil isl also be the site of one of Saudi Arabia's new air bases for its Tornado fighter-bombers.
- Second battalion is located at Al-Juaifer near the Al-Kharj air base south of Riyadh. Further training facility that may have a launch capability, seems to exist in southwestern Saudi Arabia at al-Liddam.[i]
- None now armed with weapons of mass destruction.
- Reports is seeking to replace these Chinese-built IRBMs.

Source: IISS, Military Balance, 2008;
Jane's Sentinel series; Saudi experts

Naval Needs

- **Improved "jointness" with air force, air defense force, coast guard, and army/national guard in variety of defense missions.**
- **Higher training and readiness standards.**
- **Develop true interoperability with US, UK, France, GCC naval forces.**
- **Improved mine warfare, counter infiltration, coastal defense capability.**
- **Better training of East (Gulf) fleet.**
- **Make Red Sea (West) fleet fully operational.**
- **Higher naval helicopter readiness.**
- **Clear mission concept for 3,000 man marine force.**
- **Upgrade AWACS for better jointness, better ELINT/EW, MPA functions.**
- **Improve Netting and IFF with RSAF USAF, USN, GCC air forces, and Saudi and GCC land-based air defenses.**
- **Readiness**
- **Manpower quality.**

Naval Forces

Western (Red Sea) Fleet

- **3 x La Fayette Type F-3000S frigates (One damaged when run aground)**
- **4 ×Al -Madina class frigates**
- **2 ×As -Siddiq class fast attack craft (missile)**
- **Halter class patrol craft**
- **Simmoneau 51 class inshore patrol craft**
- **2 ×Durrance class re plenishment ships**

Eastern (Gulf) Fleet

- **4 ×Badr class missile corvettes**
- **7 ×As -Siddiq class fast attack craft (missile)**
- **3 ×Al -Jawf class (UK Sandown) coastal minesweepers**
- **Halter class patrol craft**
- **Simmoneau 51 inshore patrol craft**
- **4 ×LCU 1610 class landi ng craft**

Source: IISS, Military Balance, 2008;
Jane's Sentinel series; Saudi experts

Study Buys of More Ships

- **Study expansion of Eastern fleet. No specific types of ships are yet determined.**
- **Replace older coastal defense vessels (four Badr-class corvettes and nine Al Siddiq-class patrol boats) with much larger missile corvettes, displacing around 2,000 tons. France's DCN has offered its Gowind design for this requirement.**
- **French propose future purchase of four to six French-Italian FREMM new-generation multi-purpose frigates to replace French-supplied Medina-class (Sawari I project) frigates. These frigates are valued at 3 billion euros. No RSN studies as yet.**
- **Royal Saudi Navy would like to introduce a submarine flotilla comprising about six conventionally-powered attack submarines. DCN is offering its Marlin design, derived from the Scorpene submarine it developed jointly with Spain's Navantia shipyards group. But, studies only; no current purchase plans.**

Source: IISS, Military Balance; Jane's Sentinel series; Saudi experts

Internal Security Needs

- **Keep as much of threat as possible external.**
- **“Jointness” in MODA. MOI, MOJ operations**
- **Combine facility security, border and coastal security, counterterrorism, intelligence, and military support in integrated defense in depth.**
- **Expand facilities security force.**
- **Cooperation in counterterrorism with GCC, UN, US, UK, and France.**
- **Find better defenses for border with Yemen,**
- **Create Iraqi border defenses.**
- **Use technology to compensate for manpower quality problems.**

Source: IISS, Military Balance, 2008;
Jane’s Sentinel series; Saudi experts

General Intelligence Presidency

Also known as the Saudi Intelligence Service, or General Intelligence, reports directly to King.

Responsible for external intelligence activities and co-ordinating the intelligence collecting and reporting of Saudi Arabia's other intelligence services, including the intelligence branches of the Army, Air Force, Navy and National Guard, and the intelligence services that come under the interior ministry. Also responsible for liason with foreign intelligence services.

Al Qai'ida in Peninsula and terrorism is a key focus, and are potential dissidents in pilgrimage and stability of Shi'ite minority.

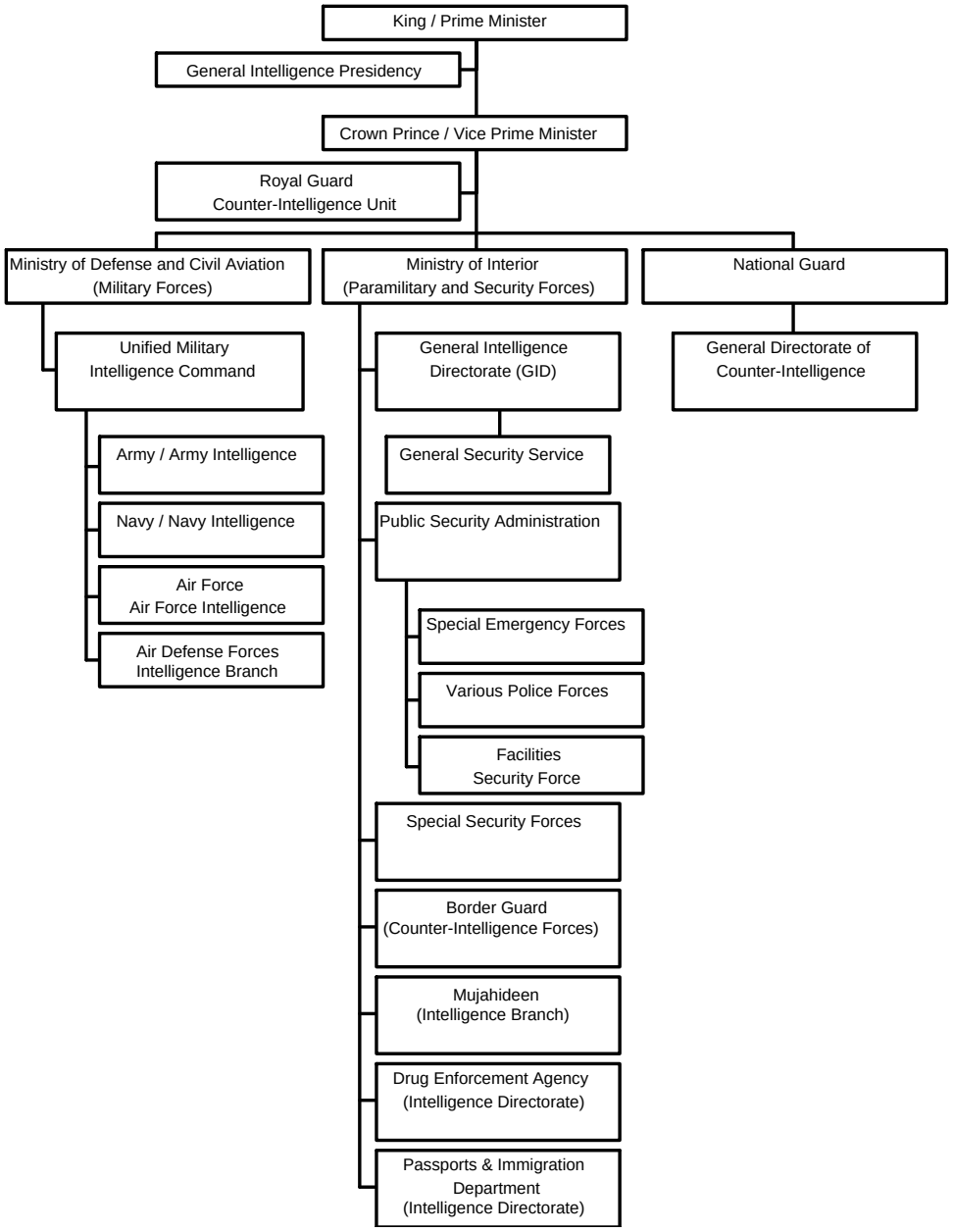
In October 2005, King Abdullah made his half-brother Prince Muqrin bin Abdel Aziz as head of the intelligence service. Post had been vacant since January 2005, when Prince Nawaf bin Abdul-Aziz stood down.

In November 2007, Prince Muqrin announced plans to develop and restructure the service. The plans include building of a new headquarters for the GIP in the Al-Nakhil area of north Riyadh. Prince talked of efforts to limit the activities of Western concerns that hosted internet sites used by Al-Qa'ida and announced that the intelligence service was to set up its own internet site, with a link enabling citizens to provide information to the GIP about threats to Saudi security.

Prince Abdel Aziz Bin Bandar Bin Abdel Aziz, who holds the title assistant chief of general intelligence. His tenure was extended in December 2007 for four years by royal decree.

Source: Jane's Sentinel Series, Saudi experts

Internal Security Structure

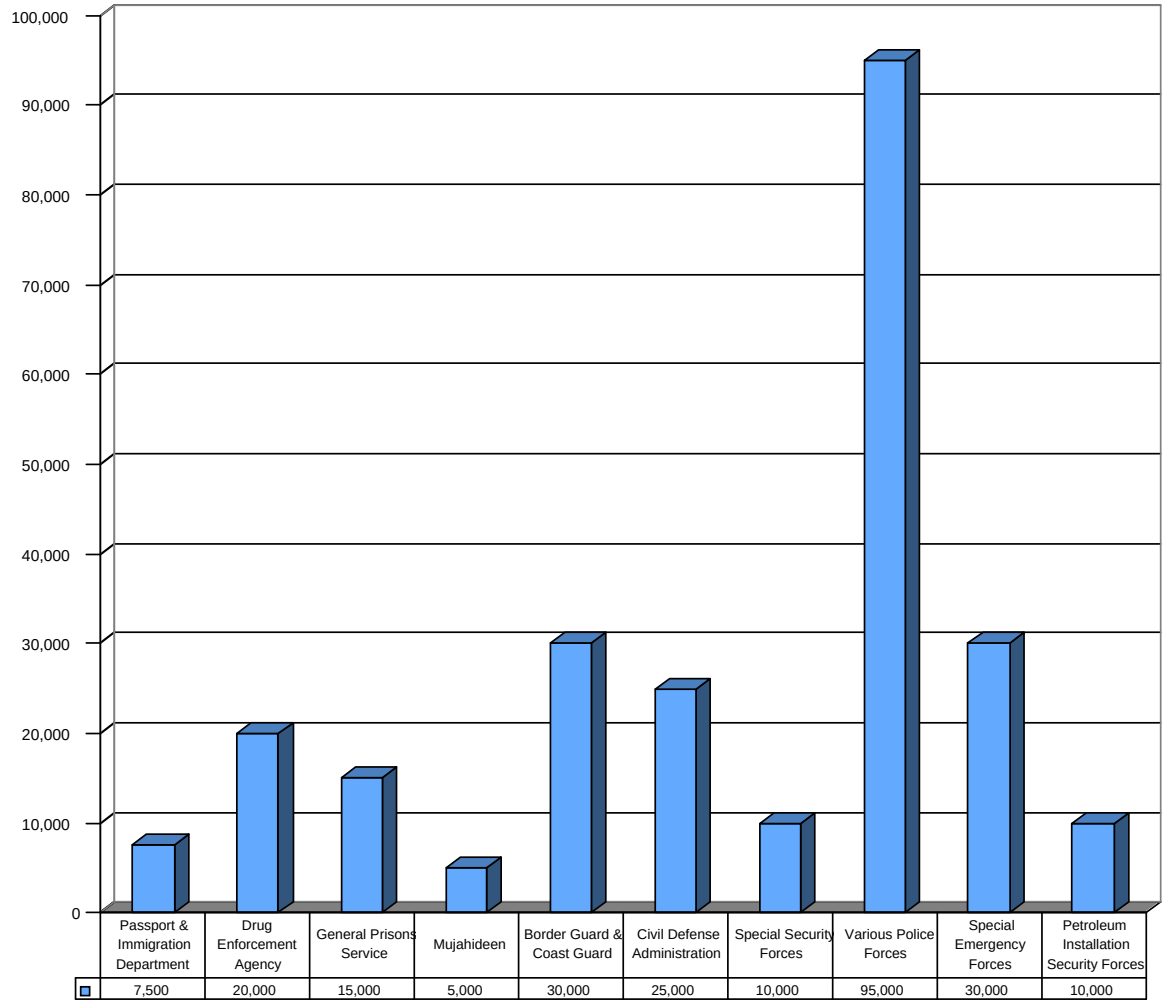


Internal Security: Key Elements

- **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 May 2003. It is estimated 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.
- **Al Haya:** This is an independent paramilitary organization 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.

Source: IISS, Military Balance, 2008; Jane's Sentinel series; Saudi experts

Internal Security: Manning Goals for MoI Forces



- Data are extremely uncertain and represent goals, not actual manning.
- Numbers do not include those of the General Security Service (*Mabahith*), since those numbers are classified.
- Border guard forces include the coast guards.
- 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

Source: Estimates are adapted from interviews and estimates published by Anthony H. Cordesman and Nawaf Obaid, *National Security in Saudi Arabia* (Praeger/CSIS, 2005).
Notes:

Growing Role of Security/ Paramilitary Forces - I

Border Guards:

The Saudi Border Guards have taken an increasingly active role in internal security, counterterrorism and terrorist infiltration operations. Headed by Lieutenant General Talal Bin Mohsin Ali-Al Angawi, the force is equipped with light weapons, sport utility vehicles (SUVs), helicopters and a broad range of security and surveillance equipment, including thermal cameras and radars. Saudi Arabia is installing 225 radars to detect border incursions as part of an $8 billion plan that was developed in 2006. The plan also includes buying 20 helicopters, unmanned aerial vehicles (UAVs), patrol boats for coastal interdiction and an enhanced communications network. In 2007, the Kingdom invited tenders for the development and construction of a high security fence for the 900 km border with Iraq.

The Coast Guard

The Coast Guard is a force within the Border Guard that carries out interdiction and anti-smuggling operations on using fast patrol craft, helicopters, and hovercraft. The Saudi Coast Guard is a 7,500-strong force.

The Special Security Force

Similar to U.S. Special Weapons and Tactics (SWAT) forces, SSF units are trained to combat and neutralize terrorist threats and hijackings, maintaining action ready teams in all major Saudi cities. Given its expertise, the SSF has been an instrumental factor in the Saudi fight against Islamisit militants. Operating under the Ministry of the Interior, the SSF counts 10,000 men and originally enjoyed German counter-terrorism training.

The Facilities Security Force

The Facilities Security Force (FSF) is a specialized force tasked with protecting the Kingdom's oil infrastructure as part of a broader effort to ensure not only Saudi but global access to the free flow of oil supplies. It also protects other aspects of Saudi Arabia's critical infrastructure.

The Mujahideen

The Mujahideen is an independent security force that appears to operate similarly to the country's religious police, the Commission for the Promotion of Virtue and Prevention of Vice. However, it is more professional and has a a force of 5,000 men carrying out mainly night-time patrols and participating in counterterrorism operations. The organization falls under the jurisdiction of the Ministry of the Interior, but is under the direct operational control of the Assistant Minister for Security Affairs

Growing Role of Security/ Paramilitary Forces - II

Police security forces c under Ministry of the Interior maintaining order and dealing with routine crime and internal security matters across the country. The forces are equipped with small arms and are organized on a provincial and local level, with the relevant provincial governor responsible to the Minister of the Interior for public order. The police security forces are divided into two main directorates: the Public Security Directorate (PSD) and the General Directorate of Investigation (GDI).

Other security agencies under the Ministry of Interior include Special Security Forces (10,000); Mujahideen (5,000); Drug Enforcement Agency (20,000); General Prisons Service (15,000); Passport and Immigration Department (7,500), Border Guard (22,500); Coast Guard (7,500) and Civil Defense Administration (25,000). It is understood that the latter three agencies, the Border Guard, Coast Guard and Civil Defense, come under the same chain of command within the Ministry of the Interior.

Civil Defense structure includes a rapid reaction force to deal with terrorist attacks and natural disasters. Civil Defense maintains its own helicopter fleet, supported by a number of helicopter bases around the kingdom.

A specialized Financial Intelligence Unit (FIU) exists in the Security and Drug Control Department of the Ministry of the Interior.

A liaison group specializing in the detection of terrorist finances co-ordinates activities between the Ministry of the Interior and the Saudi Arabian Monetary Agency (SAMA).

Source: IISS, Military Balance, 2008;
Jane's Sentinel series; Saudi experts

Growing Role of Security/ Paramilitary Forces - III

Commission for the Promotion of Virtue and Prevention of Vices, or religious police, ensures the public observance of religious requirements, May number around 20,000. Most members are salaried and are regarded as government employees.

Al Haya is an independent paramilitary organization based in Riyadh with a strength of about 5,000. The force comes under the Minister of the Interior for administrative reasons, but is under the operational control of the Assistant Minister for Security Affairs. The force, which largely patrols at night, has taken part in counter-terrorism operations and fulfils some of the roles of a religious police, but is seen as more professional than the Commission for the Promotion of Virtue and Prevention of Vices.

Customs service, is under the control of the Ministry of Finance, is responsible for customs inspections at airports, seaports and land frontier crossings. There are 32 customs posts throughout the kingdom.

Border Guard (22,500) is responsible for patrolling the country's extensive land borders. Headed by Lit. Gen Talal Bin Mohsin Ali-Al Angawi, is equipped with light arms, four-wheel-drive vehicles, a fleet of helicopters and employs an extensive range of surveillance equipment. Installed new surveillance systems along the land and sea borders, including thermal cameras and radar, in 2002.

Improving security along borders, especially the frontiers with Yemen and Iraq, under a border surveillance program known as the Saudi Border Guard Development Program. In May 2006 the Saudis invited international defense contractors to tender for a contract estimated to be worth USD8 billion involving the supply of 225 radars to detect incursions along its borders. Also involved in the deal are sensors, surveillance aircraft, about 20 helicopters, unmanned aerial vehicles (UAVs), patrol boats and a communications network.

In 2007 the Saudis invited tenders for the construction of a double-lined razor wire fence along the 900 km border with Iraq, complete with thermal imaging and radar equipment, to support the Border Guard in its efforts to prevent terrorists infiltrating into the kingdom.

Coast Guard (7,500) is a branch of the Border Guard that patrols the territorial waters, and has a base at Azizam, and units operating out of ports in the Gulf and Red Sea. Operates large patrol craft (based at Jiddah and Al-Dammam) and coastal patrol craft, as well as several hundred inshore patrol craft. There are also hovercraft and one Bell 206B helicopter.

Source: IISS, Military Balance, 2008;
Jane's Sentinel series; Saudi experts

US Engagement with Saudi Arabian Defense Departments and Adjunct Government Organizations

US-Saudi Strategic Partnership

- US withdrawal from Iraq makes even more critical partner in the Gulf and region
- Key Partner in any effort to contain Iran and Iranian influence, deal with Iranian threats.
- Has emerged as major partner in counter terrorism intelligence.
- Smaller Gulf states too small to play major role, have no strategic depth.
- US academics, media, think tanks, etc.
- Critical to integrated efforts at maritime operations and surveillance, missile defense, air defense.
- Key air power in Gulf.
- Two fleet Navy: One in Gulf, one in Red Sea.
- Saudi petroleum facilities and critical infrastructure are critical to US and global economy.
- Saudi peace plan, sponsorship of inter faith dialog, attacks on religious terrorism serve Saudi, regional, and US strategic interests.

US Engagement with Saudi Arabia

- White House, NSC, Department of Defense, State, Treasury,
- Interagency forum.
- US intelligence community: CIA, attaches, DIA, etc.
- US law enforcement and counterterrorism;
- Defense Security Cooperation Agency for FMS and other arms sales in Department of Defense, subject to review through – State – NSC -- Congress
- Congress
- US Embassy
- Military advisory teams; Pol-Mil section; USMTM for Air Force, Army, Navy, Marines
- Office of the Program Manager-Saudi Arabian National Guard (OPM-SANG)
- Office of the Program Manager-FSF (MOI) Critical Infrastructure Protection
- US academics, media, think tanks, etc.

Key Areas for Strengthening Engagement

Education

- Sustain JMPE
- Begin War College
- Increase English language training and school seats.
- Develop Near East Special Training at Master's Degree level

Training & Exercises

- Green Flag, 2010
- Friendship One, 2009
- Bright Star, 2009.
- Eagle Resolve
- Combined Arms Training Teams (CATT)
- TRADOC Type Functions

Capabilities

- Deliver shared early warning (SEW) capability data
- Complete AMD Working Group
- Patriot Configuration 3 Upgrade
- Combined naval capabilities analysis - SNEP II
- Begin CTF 150
- Increase IS&R/C2 interoperability.
- Transform logistics with DLA, AMC like structures & capabilities.
- Develop integrated defense strategy.

Saudi-US Relationship

- Increase US manning
- Full return of families in 2009
- Increase tour length well beyond one year
- Provide same type 5 year visa for Saudi military give Saudi tourists
- Make FMS quick and efficient
- Improve weapons release --- F-15SA
- Security and Defense Forum.

Source: Discussions with USMTM

12 Key Areas for Strengthening Engagement

1. **Expand exercise program and resources, leverage components to support strategic engagement**
2. **Change MTT progress to make quick, responsive, and flexible.**
3. **Expand educational opportunities for US officer education in region and English language education for SAAF.**
4. **Increase US training manning quantity and quality: Grow skills, longer tours, region-wide.**
5. **Expand and rest LNO and exchange officer numbers and skills to match requirements.**
6. **Adapt SAAF institutions to shift culture to make them effective**
7. **Transform FMS - Law, policy, timeliness, thresholds, "tax," resources**
8. **Provide Saudis with full capability and increase interoperability**
9. **Synch and grow industrial capacity**
10. **Eliminate friction over visas. More rapid response. 5 year multiple entry military visa**
11. **Adjust to new Saudi security levels: Return families, provide appropriate incentives. Shift from FOBS to installations**
12. **Increase Congressional delegation and staff visits.**

Source: Discussions with USMTM

Keeping a Decisive US Qualitative Edge in US Forces and Future Arms Transfers to the Gulf ($10.5B in FY087 & FY09)

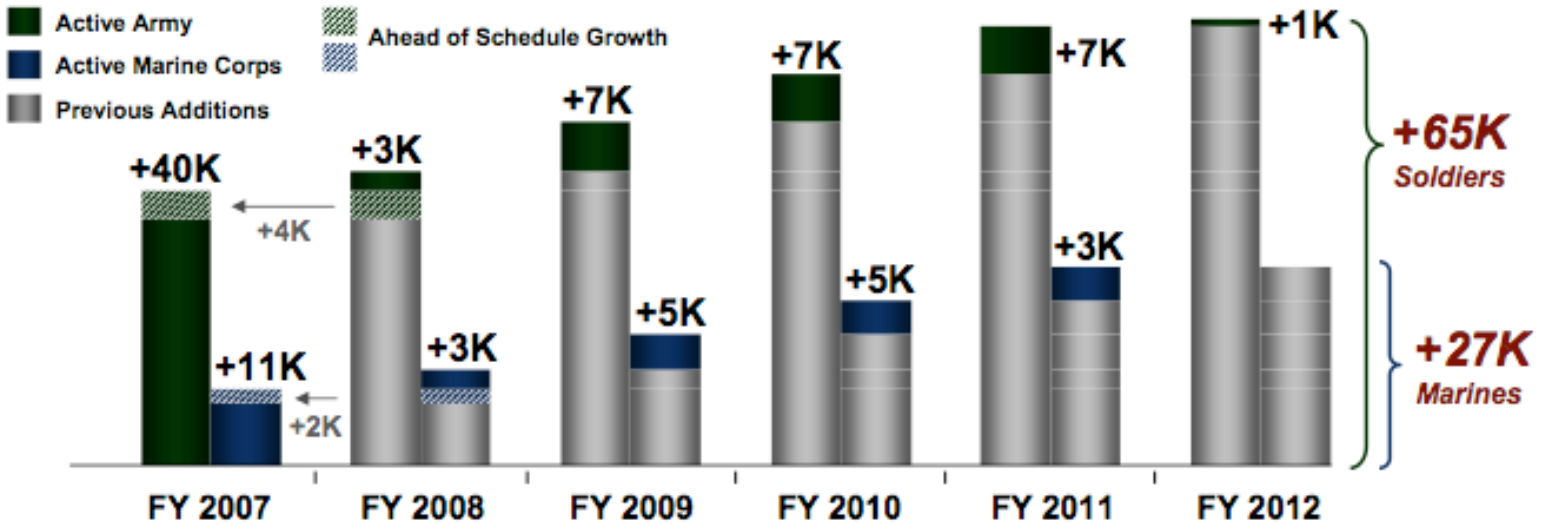
Joint Ground Capabilities	Joint Maritime Capabilities	Joint Air Capabilities	Space-based Capabilities
– Future Combat Systems: • Ground and air systems – 119 Stryker Vehicles – 5,249 High Mobility Multi-purpose Wheeled Vehicles – 1,061 Heavy Tactical Vehicles – 3,187 Medium Tactical Vehicles – 29 M1A1 Abrams Tank Upgrades – Chemical Weapons Demilitarization	– CVN 21 Carrier Replacement – 1 Virginia Class Submarine – 1 DDG-1000 Destroyer – 2 Littoral Combat Ships – 2 T-AKE Auxiliary Dry Cargo Ships – CVN Refueling Complex Overhaul – 2 Joint High Speed Vessels	– 16 F-35 Joint Strike Fighters – 20 F-22A Raptors – 36 V-22 Ospreys – 23 F/A-18 Hornets – 22 E/A-18G Growlers – 16 CH-47 Chinooks – VH-71 Helicopter – KC-X Aerial Refueling Tanker – 59 Predators, Reapers and Warriors	– 2 Space Based Infrared Systems – 4 Expendable Launch Vehicles – GPS Satellite – 1 Mobile User Objective System – Transformational Satellite – Advanced Extremely High Frequency Satellite – Wideband Global SATCOM – Ballistic Missile Defense

Basic Research +$0.3B in FY 2009 (+$1.4B FY09-FY13)

Increase US Reinforcement Capabilities

+$8.7B
FY08 - FY09

Army Active	42	Brigade Combat Teams **(482.4K Soldiers)**	→	48	Brigade Combat Teams **(547.4K Soldiers)**
	12/12	Months Home Station / Months Deployed		24/12	Months Home Station / Months Deployed
Marine Corps Active	2.5	Marine Expeditionary Forces **(175K Marines)**	→	3	Marine Expeditionary Forces **(202K Marines)**
	7/7	Months Home Station / Months Deployed		14/7	Months Home Station / Months Deployed



Source: FY 2009 DoD Budget Request; FY 2008 Budget; FY 2007 Supplemental

Numbers may not add due to rounding

USMTM

United States Military Training Mission (USMTM) is the primary liaison between U.S. Armed Forces and the Saudi Arabian Ministry of Defense and Aviation (MODA), the Saudi counterpart to the American Joint Chiefs of Staff. It is a joint training mission under the command of Headquarters, United States Central Command (USCENTCOM), MacDill Air Force Base, Florida. The Chief of USMTM also serves as the United States Department of Defense Representative for Saudi Arabia.

Organized in 1953 under the terms of the Mutual Defense Assistance Agreement between the United States and Saudi Arabia. Specifically, it was agreed that USMTM would administer assistance furnished by the United States Government to the Saudi Arabian Government under the terms of the Defense Assistance Act of 1949 and the Mutual Security Act of 1951.

Chartered to assist and advise the Saudi Arabian Armed Forces with respect to the building of military equipment, plans, organization, administrative procedures, training methods, and the conduct of such training as agreed to between the Saudi Arabia Minister of Defense and Aviation (MODA) and the Chief, USMTM.

Day-to-day relationship between USMTM and MODA is governed by the Memorandum of Understanding of February 1977 signed between the two governments.

Within USMTM there are six divisions, each of which interfaces with a Saudi counterpart:

* Joint Advisory Division (JAD): interfaces with the Ministry of Defense and Aviation (MODA).

* Land Forces Division (LFD): interfaces with the Royal Saudi Land Forces (RSLF).

* Naval Forces Division (NFD): interfaces with the Royal Saudi Naval Forces (RSNF).

* Air Force Division (AFD): interfaces with the Royal Saudi Air Force (RSAF).

* Marine Forces Division (MFD): interfaces with the Royal Saudi Marine Forces (RSFMF) component of the Royal Saudi Naval Forces.

OPM SANG

Office of the Program Manager (OPM) created as a result of the 1973 Memorandum of Understanding (MOU) between the United States and Saudi Arabian governments in response to a request from then King Faisal bin Abdul Aziz to modernize the National Guard.

Approximately 215 U.S. Government personnel and 500 contractor representatives. Principal contractor is Vinnell Arabia Corporation of Herndon, VA.

For over 33 years, OPM-SANG has had the mission to maintain and enhance the special relationship between the Kingdom of Saudi Arabia and the United States of America.

OPM does this by assisting the Saudi Arabian National Guard to achieve its vision for the future through a modernization program that includes modernizing their equipment, training and educating their soldiers, and constructing new facilities and other quality of life initiatives.

Since September 11, 2001, this relationship has become even more important as OPM continues to support SANG in their government's effort against terrorism—accomplished primarily through training methodologies focused on preparation and execution of internal security missions.

Five-year contract, awarded in 1998, has an estimated value of $831 million and involves 280 US government personnel and 1,400 Vinnell staff at various locations.

In 1998, the Carlyle Group sold its controlling interest in BDM, including Vinnell, to TRW International. With the 2002 TRW acquisition, Northrop Grumman Corporation

US Arms Sales

- **$76.6 billion in new FMS agreements from FY1950 to FY2008.**
  - ***$653M in 2000, $670M in 2001, 848$M in 2002; $650M in 2003, $1,784M in 2004, $748M in 2005, $796M in 2006, $1,672M in FY2007 and $6,065M in FY2008.***
- **$6.1 billion in new FMS deliveries from FY1950 to FY2008.**
  - ***$1,975M in 2000, $1,891 in 2001, 1,308$M in 2002; $1,011M in 2003, $1,223M in 2004, $994M in 2005, $978M in 2006, $1,015M in FY2007, and $898M in FY2008.***
- **$2.4 billion in commercial sales from FY1950 to FY2007.**
  - ***$1.9M in 2000, $0.9M in 2001, 0.5$M in 2002; $36M in 2003, $46M in 2004, 85M in 2005, $124M in 2006, and $38.2M in FY2007.***

Source: DSCA

Major DSCA Sales Notifications: 2009-2008 - I

December 17, 2009: Possible FMS sale of SANG modernization p[rogram.. Sale of 2,742 BGM-71E-4B-RF Tube-Launched, Optically-Tracked, Wire-Guided (TOW-2A) Radio Frequency missiles and associated parts, equipment, training and logistical support for a complete package worth approximately $177 million. Would include 2,742 BGM-71E-4B-RF Tube-Launched, Optically-Tracked, Wire-Guided (TOW-2A) Radio Frequency missiles (42 missiles are for lot acceptance testing), publications and technical documentation, and other related elements of logistics support.

August 6, 2009: Possible foreign military sale of Communication Navigation and Surveillance/Air Traffic Management upgrades for an estimated cost of $1.5 billion. Sale of a two-phased approach for the Communication Navigation and Surveillance/Air Traffic Management upgrades of the communication and navigation systems for the Royal Saudi Air ForceÕsfleet of 13 RE-3, KE-3, and E-3 aircraft. Phase One will include Global Positioning System/Inertial Navigation Systems, 8.33 kHz Very High Frequency radios, Traffic Collision Avoidance Systems, Mode S Transponders, Mode 4/5 Identification Friend or Foe Encryption, High Frequency radio replacements, Multifunctional Information Display Systems for Link 16 operations, Have Quick II radios, Satellite Communications and Common Secure Voice encryptions. Phase 2 will include digital flight deck instrumentation and displays, flight director system/autopilot, flight management system, cockpit data line message and combat situational awareness information.

August 5, 2009: **Possible foreign military sale of Tactical Airborne Surveillance System (TASS) aircraft upgrades for an estimated cost of $530 millio**n. Services to upgrade the TASS aircraft, installation of 10 AN/ARC-230 High Frequency Secure Voice/Data Systems, 25 AN/ARC-231 or 25 AN/ARC-210 Very High Frequency/Ultra High Frequency (VHF/UHF) Secure Voice/Data Systems, four Multifunctional Information Distribution System-Low Volume Terminals (MIDS-LVT), four LN-100GT Inertial Reference Units, 25 SY-100 or functional equivalent Crypto Systems, seven SG-250 or functional equivalent Crypto Systems, six SG-50 or functional equivalent, 10 CYZ-10 Fill Devices, modification of existing ground stations.

September 26, 2008: **Possible Foreign Military Sale to Saudi Arabia 250 All-Up-Round AIM-9X SIDEWINDER Missiles, 84 AIM-9X SIDEWINDER Captive Air Training Missiles (CATMs), 12 AIM-9X SIDEWINDER Dummy** Air Training Missiles (DATMs), missile containers, missile modifications, test sets and support equipment, spare and repair parts, publications and technical data, maintenance, personnel training and training equipment, contractor engineering and technical support services, and other related elements of logistics support. The estimated cost is $164 million

September 26, 2008 Š Possible equipment upgrade of 17 AN/FPS-117 radars, which includes installation and checkout, engineering, calibration, reintegration, testing, support equipment, spare and repair parts, personnel training, publications and technical data, U.S. Government and contractor technical assistance and other related elements of logistics support. The estimated cost is $145 million

Major DSCA Sales Notifications: 2008 - II

September 26, 2008: **Possible sale of 80 Link 16 Multifunctional Information Distribution System/Low Volume Terminals (MIDS/LVT-1) to be installed on United Kingdom Eurofighter Typhoon aircraft**, data transfer devices, installation, testing, spare and repair parts, support equipment, personnel training, training equipment, contractor engineering and technical support, and other related elements of program support. The estimated cost is $31 million

September 9, 2008: Possible sale of 12 AH-64D Block II APACHE Longbow Helicopters, 30 T700-GE-701D Engines, 12 Modernized Targeting Acquisition and Designation Systems/Pilot Night Vision Sensors, 4 each AN/APG-78 Fire Control Radars and AN/APR-48 Radar Frequency Interferometers, 28 M299 HELLFIRE Longbow Missile Launchers, 12 AN/ALQ-144C(V)3 Infrared Jammers, 12 AN/APR-39A(V)4 Radar Signal Detecting Sets, 12 AN/ALQ-136(V)5 Radar Jammers, 12 AAR-57(V)3/5 Common Missile Warning Systems, 36 Improved Countermeasures Dispensers, and 12 AN/AVR-2B Laser Warning Sets. Also included: composite horizontal stabilators, Integrated Helmet and Display Sight Systems, repair and return, transportation, depot maintenance, spare and repair parts, support equipment, publications and technical documentation, The estimated cost is $598 million.

July 18, 2008 Špossible Foreign Military Sale for the continuation effort to modernize the SANG by providing: training, professional military advice and assistance, management assistance, contract administration, construction oversight, transportation of equipment, personnel training and training equipment, light armored vehicle training, spare and repair parts, management of repair and return of components, automation program support, and other related elements of logistics support. These support services would be for the period 1 January 2009 through 31 December 2013. Estimated cost is $1.8 billion.

January 14, 2008 - possible sale of 900 Joint Direct Attack Munitions (JDAM) tail kits (which include 550 GBU-38 for MK-82, 250 GBU-31 for MK-84, 100 GBU-31 for BLU-109). Also included are bomb components, mission planning, aircraft integration, publications and technical manuals, spare and repair parts, support equipment, contractor engineering and technical support, and other related elements of program support. The estimated cost is $123 million.

Source: DSCA

Major DSCA Sales Notifications: 2007 - III

December 7, 2007 - possible sale of 40 AN/AAQ-33 SNIPER Advanced Targeting Pods, aircraft installation and checkout, digital data recorders/cartridges, pylons, spare and repair parts, support equipment, publications and technical documentation, contractor engineering and technical support, and other related elements of program support. The estimated cost is $220 million.

December 7, 2007 Špossible sale of five sets of Airborne Early Warning (AEW) and Command, Control and Communications (C3) mission equipment/Radar System Improvement Program (RSIP) Group B kits for subsequent installation and checkout in five E-3 Airborne Warning and Control Systems (AWACS). In addition, this proposed sale will include spare and repair parts, support equipment, publications and technical documentation, contractor engineering and technical support, and other related elements of program support. The estimated cost is $400 million.

October 4, 2007 Špossible Foreign Military Sale to Saudi Arabia of Light Armored Vehicles and High Mobility Multi-Purpose Wheeled Vehicles as well as associated equipment and services. The total value, if all options are exercised, could be as high as $631 million.
37 Light Armored Vehicles - Assault Gun (LAV-AG)
26 LAV-25 mm
48 LAV Personnel Carriers
5 Reconnaissance LAVs
5 LAV Ambulances
3 LAV Recovery Vehicles
25 M1165A1 High Mobility Multi-purpose Wheeled Vehicles (HMMWV)
25 M1165A1 HMMWV with winch
124 M240 7.62mm Machine Guns

Source: DSCA

Major DSCA Sales Notifications: 2007-2006 - IV

525 AN/PVS-7D Night Vision Goggles (NVGs);
various M978A2 and M984A2 Heavy Expanded Mobility Tactical Trucks, family of Medium Tactical Vehicles, 120mm Mortar Towed, M242 25mm guns, spare and repair parts; sets, kits, and outfits; support equipment; publications and technical data; personnel training and training equipment; contractor engineering and technical support services and other related elements of logistics support. The estimated cost is $631 million.

November 13, 2006-- Possible sale of either option or a combination of: a) 155 General Electric (GE) F110-GE129 engines in support of F-15S aircraft; b) 20 Pratt & Whitney (P&W) F100-PW229 engines to restore/refurbish the Royal Saudi Air Force (RSAF) current inventory of P&W engines; support equipment; engine improvement program services; flight tests; Technical Coordination Group/International Engine Management; Hush House refurbishment; aircraft integration; program management; publications; trainers; mission planning; training; spare and repair parts; repair and return services; contractor technical assistance and other related elements of logistics support. The estimated cost is $1.5 billion.

September 27, 2006 - possible sale to modernize the SANG by providing Major Defense Equipment (MDE) and non-MDE items: 552 AN/VRC-90E Single Channel Ground and Airborne Radio Systems (SINCGARS) Vehicular Single Long-Range Radio Systems; 225 AN/VRC-92E SINCGARS Vehicular Single Long-Range Radio Systems Dual Long Range; 1,214 AN/PRC-119 E SINCGARS Man-pack Single Long-Range Radio Systems Man-pack and vehicular installation kits, communications management system computers, antennas, programmable fill devices, support equipment; publications and technical data; personnel training and training equipment; contractor engineering and technical support services and other related elements of logistics support. The estimated cost is $84 million.

July 28, 2006 - possible sale of the remanufacture and upgrade of 12 AH-64A APACHE attack helicopters to AH-64D configuration, 10 spare T-700-GE-701A engines converted to T-700-GE-701D models, Modernized Targeting Acquisition and Designation Systems, spare and repair parts, communications equipment, support equipment, simulators, quality assurance teams, chemical masks, tools and test sets, chaff dispensers, Integrated Helmet and Display Sight Systems, electronic equipment, test facility spares, publications, Quality Assurance Teams service, personnel training and training equipment, U.S. Government and contractor technical support and other related elements of logistics support. The estimated cost is $400 million.

July 28, 2006 - Possible sale and reconfiguration for 58 M1A1 Abrams tanks, which, together with 315 M1A2 Abrams tanks already in Saudi ArabiaÕsinventory, will be modified and upgraded to the M1A2S (Saudi) Abrams configuration, kits, spare and repair parts, communications and support equipment, publications and technical data, personnel training and training equipment, contractor engineering and technical support services and other related elements of logistics support. The estimated cost is $2.9 billion.

Major DSCA Sales Notifications: 2006 - V

July 21, 2006 - Possible sale for a Foreign Military Sales Order (FMSO) to provide funds for blanket order requisitions FMSO II, under the CLSSA for spare parts in support of M1A2 Abrams Tanks, M2 Bradley Fighting Vehicles, High Mobility Multipurpose Wheeled Vehicles (HMMWVs), construction equipment, and support vehicles and equipment in the inventory of the Royal Saudi Land Forces Ordnance Corps. The estimated cost is $276 million.

July 20, 2006 - possible sale for the continuation of the United States supported effort to modernize the SANG by providing Major Defense Equipment (MDE) and non-MDE items:
724 LAV-25, LAV-AG, LAV-M, LAV-AT, LAV-CC, LAV-PC, LAV-A, LAV-AC LAV-E and LAV-R Light Armored Vehicles (LAV);
1,160 AN/VRC-90E Single Channel Ground and Airborne Radio Systems (SINCGARS) Vehicular Single Long-Range Radio Systems;
627 AN/VRC-92E SINCGARS Vehicular Single Long-Range Radio Systems;
518 AN/VRC-119 E SINCGARS Vehicular Single Long-Range Radio Systems;
2,198 SINCGARS Spearhead Handheld;
1,700 AN/AVS-7D Night Vision Goggles (NVG);
432 AN/PVS-14 NVG;
630 AN/PAS-13 Thermal Weapon Sight;
Forces Ordnance Corps. The estimated cost is $276 million.

July 14, 2006 - Possible sale of 24 UH-60L Utility/Assault Black Hawk helicopters, spare and repair parts, communications and support equipment, publications and technical data, personnel training and training equipment, contractor engineering and technical support services and other related elements of logistics support. The estimated cost is $350 million.

Source: DSCA

Major DSCA Sales Notifications: 2006-2008 - III

162 84mm Recoilless Rifle; and Harris Corporation Commercial High Frequency Radios; various commercial vehicles; fixed facilities and ranges; simulations; generators; battery chargers; protective clothing; shop equipment; training devices; spare and repair parts; sets, kits, and outfits; support equipment; publications and technical data; personnel training and training equipment; contractor engineering and technical support services and other related elements of logistics support. The estimated cost is $5.8 billion.

July 28, 2006 - possible sale and reconfiguration for 58 M1A1 Abrams tanks, which, together with 315 M1A2 Abrams tanks already in Saudi ArabiaÕsinventory, will be modified and upgraded to the M1A2S (Saudi) Abrams configuration, kits, spare and repair parts, communications and support equipment, publications and technical data, personnel training and training equipment, contractor engineering and technical support services and other related elements of logistics support. The estimated cost is $2.9 billion.

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Source: DSCA

But, Must Restore US Image, Mutual Confidence

Fair or Not, Need to Understand Broad Regional Anger Against US

- **Perception of "Dual Standards, " Driven By Ties to Israel**
- **Anger over Palestinian suffering.**
- **Iraq War simply weakened Arab world, made Iraqis suffer, empowered Iran.**
- **Mixed signals and war scares over Iran.**
- **Feeling US counterterrorism campaign is anti-Islam and anti-Arab.**
- **US has no serious interest in reform or democracy, simply seeking to expand its influence.**
- **US acts unilaterally, does not listen.**
- **US wants military control and arms sales, not real military partnership.**
- **Visa reforms still grossly inadequate to visit or study; Europe much easier and more competitive.**
- **FMS and military sales political, delayed, have major overhead expenses – No major competitor has any of these drawbacks.**
- **US public diplomacy and in formation efforts have shrunk to vanishing point, American stay in fortress embassies, no longer stay long enough for meaningful relationships.**

Restoring US Strategic Relations with Saudi Arabia

- **Maintain strong relations with Israel, but understand need for constant, real, high profile efforts to support Israeli-Palestinian peace and peace with Syria.**
- **Make the US departure from Iraq a model of "smart" diplomacy.**
- **Work towards common negotiations, defense, and deterrence of Iran.**
- **Put forward clear plan for post-Iraq strategic partnership.**
- **Recognize Saudi progress and help in counterterrorism, *then* seek further progress.**
- **Treat Saudi and Gulf critical infrastructure, petroleum export, and border/coastal protection as critical *US strategic interests*.**
- **Act on US Embassy and USMTM priorities for improving the "mechanic" of civil and military US and Saudi relations.**
- **Not only solve but vastly improve visa and education in the US issues at every level: See education as a critical strategic asset .**
- **Recognize and encourage Saudi government reforms; work quietly at country team level to aid Saudi reformers to move at Saudi pace.**
- **Understand that public diplomacy and information campaigns are local, come through country team and efforts, not satellite TV.**
- **Understand that regional progress comes through one bilateral step at a time.**
- **Sometimes, actually sit back and *listen*.**