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IRAN AND THE STRAIT OF HORMUZ:
VARYING LEVELS OF INTERDICTION

by

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December, 1997

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Iran's rearmament program has invited an array of interpretations of its current military capability to close or interdict the Strait of Hormuz (SOH). The fighting in the Iran–Iraq War (1980–1988), drove Iran's military forces down to minimal levels of equipment while increasing institutional disorganization. Air and ground assets ended the war in the poorest condition. Iran chose to rearm these forces first. However, in 1992, the focus widened to include the rebuilding of the Navy and those military assets physically near the Strait of Hormuz. This enlarged emphasis expanded Iranian military capacity to again challenge shipping transiting the SOH. With its new naval acquisitions, Iran is an increased threat to the interests of its neighbors and the West, particularly the United States. Initial reactions to this threat from the United States include an increased military presence, economic sanctions, and continued political rallying against the Islamic Republic. Simultaneously, the Gulf Cooperation Council (GCC) has reacted by implementing efforts to improve military strength through the acquisition of weapons from the United States and others. A "spiraling effect" or arms race is taking place between Iran and the GCC, in which each side attempts to gain military advantage over the other. Unfortunately, the Iranian threat still persists. The growth of the Iranian forces, specifically the navy and those components next to the SOH, have resulted in mixed threat interpretations. Now, the ultimate challenge for decisionmakers and strategic planners alike lies in accurately assessing the ability of Iranian forces to attempt to and, if possible, keep the Strait of Hormuz closed.

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IRAN AND THE STRAIT OF HORMUZ: VARYING LEVELS OF INTERDICTION

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Submitted in partial fulfillment
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ABSTRACT

Iran's rearmament program has invited an array of interpretations of its current military capability to close or interdict the Strait of Hormuz (SOH). The fighting in the Iran–Iraq War (1980–1988), drove Iran's military forces down to minimal levels of equipment while increasing institutional disorganization. Air and ground assets ended the war in the poorest condition. Iran chose to rearm these forces first. However, in 1992, the focus widened to include the rebuilding of the Navy and those military assets physically near the Strait of Hormuz. This enlarged emphasis expanded Iranian military capacity to again challenge shipping transiting the SOH. With its new naval acquisitions, Iran is an increased threat to the interests of its neighbors and the West, particularly the United States. Initial reactions to this threat from the United States include an increased military presence, economic sanctions, and continued political rallying against the Islamic Republic. Simultaneously, the Gulf Cooperation Council (GCC) has reacted by implementing efforts to improve military strength through the acquisition of weapons from the United States and others. A "spiraling effect" or arms race is taking place between Iran and the GCC, in which each side attempts to gain military advantage over the other. Unfortunately, the Iranian threat still persists. The growth of the Iranian forces, specifically the navy and those components next to the SOH, have resulted in mixed threat interpretations. Now, the ultimate challenge for decisionmakers and strategic planners alike lies in accurately assessing the ability of Iranian forces to attempt to and, if possible, keep the Strait of Hormuz closed.

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EXECUTIVE SUMMARY

A. BACKGROUND

This thesis undertakes an accurate assessment of Iran's military capability adjacent to the Strait of Hormuz. Iran's rearmament program has invited a wide array of interpretations on its precise military capability to close or interdict the Strait. Specifically, above all strategic interests in the Persian Gulf, can Iran sustain an operation to keep the Strait of Hormuz closed?

Iran continues to rebuild the Army and Air Forces in an ongoing initiative dating back to 1988. In 1992, the focus of the rearming expanded to include the Navy and the Naval Forces of the Islamic Republican Guard Corps. Conflicting reports suggest that this rearmament is needed for coastal defense, while other sources view rearmament as one factor of several objectives leading to the escalation of Iran as a regional power. Whichever the case, Iran stands as a threat to its neighbors and the interests of the United States.

Initial reactions to the military rebuilding have come from the United States, though the Gulf Cooperation Council (GCC) has reacted to the threat as well. The U.S. has increased its military presence, economic sanctions, and unilateral and multilateral political rallying against Iran. This paper, however, examines a "military only" perspective. This is justified by the fact that economic and political reactions are important, but are not necessarily accurate in assessing a country's military capability.

The GCC's governing council has attempted to implement efforts toward developing and improving all facets of its military. These actions have enabled the GCC to build–up a sizable force by acquiring conventional weapons from the United States and abroad. These acquisitions to balance Iran have forced a "spiraling" between the two entities. Though considerable arming has occurred among members of the GCC, the Iranian threat of closure still exists. Despite its aggressive rearmament, and reactions by the U.S. and the GCC, mixed views have surfaced whether Iran can or cannot close the Strait.

B. KEY FINDINGS

Couple poor maintenance efforts with diminishing financial resources and the result is a low proficiency level of operation. The proficiency level of a specific weapon will drop if it is inoperative due to substandard maintenance or no financial support. This effect will be exacerbated by a lack of at–sea training. The outcome: the crew is prevented from retaining a proficiency level enabling them to operate the weapon to its full capability.

Though Iran's many military exercises may showcase new or enhanced capabilities for its forces, unproven is Iran's capability to sustain a closed Strait operation. Its logistical capability, especially at sea, is questionable. To date, no evidence suggests Iran can replenish underway, including refueling, vertical replenishment (VERTREP) or underway replenishment (UNREP).

Iran possesses the capability to disrupt the flow of traffic through the Strait, but for reasons described above, the country is incapable of keeping the Strait of Hormuz closed against a credible counterforce.

Next, it is much easier to observe the independent reactions of the countries that form the GCC than to observe the GCC as a whole. This is mainly due lack of interoperability and cooperation, the result of ongoing territorial disputes between the member states. A GCC force would require significant U.S. assistance to defend the sovereignty of the regional countries and the interests of the United States. The GCC requires many technological advances in weaponry to enable it to act as a sole entity. In addition, the countries must learn to operate together and obtain a common interoperability. The GCC is not a deterrent to Iran and is incapable of halting an aggressive Iranian Navy.

The likelihood of Iran attempting to close the Strait of Hormuz is too costly an operation on both the military and political scales, and most importantly on the economic scale. Iran's greatest revenue derives from oil sales. The oil transits the Strait. If Iran closes it, the one to be most painfully choked may be Iran itself.

In an attempt to assess the current Iranian threat, I have defined interdiction and have introduced four tiers or threat levels of interdiction. The threat levels, *Threat Interdiction* (TI), *Harassment Interdiction* (HI), *Vital or Strategic Interdiction* (VSI), and *Closure Operations Interdiction* (COI) assist in identifying the current Iranian threat to close the Strait of Hormuz.

C. CONCLUSION

Iran is incapable of closing and sustaining a closed Strait of Hormuz against a credible counterforce. The Islamic Republic has indulged in a very active weapons proliferation program. Although this program is unrelenting, the requirements of maintaining a highly qualified and proficient fleet or joint force have overwhelmed the country. The current Iranian ability to interdict the Strait of Hormuz is classified at the *Threat Interdiction* (TI) level.

LIST OF ABBREVIATIONS

AAA	anti–aircraft artillery
AAM	air–to–air missile
A/C	aircraft
AD	air defence
ADA	air defence artillery
AGM	air–to–ground missile
AIFV	armoured (infantry) fighting vehicle
ARMD DIV	armoured division
APC	armoured personnel carrier
ARTY	artillery
ASM	air–to–surface missile
ASW	anti–submarine warfare
ATGW	anti–tank guided weapon
BDE	brigade
BM	ballistic missile
BN	battalion
CA	Canada
CH	Switzerland
EDA	Excess Defense Articles
ENGR	engineer
FAC	attack craft, fast
FF	frigate
FGA	fighter, ground attack
FMS	Foreign Military Sales
FPC	patrol craft, fast
FPC/M	patrol craft, fast (missile)
FR	France
FTR	fighter (aircraft)
FY	fiscal year
GE	Germany
HELO	helicopter
INDEP	independent
LT	light
MBT	main battle tank
MCM	mine countermeasures
MCMV	mine countermeasures vessels
MOB	mobilize
MAR RECCE	maritime reconnaissance
MRLS	multiple rocket launcher system
MSL	missile

NL	Netherlands
OPS	operations
PARA	parachute
PRC	China
RCL	recoilless launcher
RECCE	reconnaissance
RF	Russia
RSA	South Africa
SAM	surface–to–air missile
SF	special forces
SNG	Saudi National Guard
SOH	Strait of Hormuz
SP	self–propelled
SPT	support
SQN	squadron
SS	submarine
SSM	surface–to–surface missile
SURV TRG	Surveillance training
SWE	Sweden
TK	tank
TKR	tanker
TPT	transport
TRG	training
TRG PCKG	training package
UNK	unknown
UK	United Kingdom
US	United States

I. INTRODUCTION

A. BACKGROUND

By the end of the Iran–Iraq War in 1988, Iran's military forces were at minimal levels and in great disarray. Tank and armored vehicles numbered 750 and bore the largests number of combat lost equipment. Furthermore, the Iranian Navy and the naval force of the Islamic Revolutionary Guards Corps (IRGC) or *Pasdaran Inqilab*, suffered heavy losses during the closing months of the war from numerous conflicts with a second force, the United States Navy. Assigned the mission of escorting reflagged Kuwaiti oil tankers, the U.S. Navy protected these vessels from Iranian gunboats. When the rearmament initiative developed, Iran's air and ground forces were in the worst condition, subsequently, the decision was made to rearm them first.

From 1989 to 1992, vast amounts of ground and air equipment were purchased. However in 1992, there was a shift in the focus of rearmament efforts to include naval assets. This widened focus brought a new threat to others in the region because Iran obtained the capability to again challenge shipping transiting the Strait of Hormuz. Rearming the naval force coincides with the ever increasing world–wide reliance on oil from the Gulf region. One–third of the world's proven reserves are in the Gulf region.

The ultimate challenge for decisionmakers and planners alike lies in accurately assessing the capability of Iranian forces to threaten or close the waterway. The questions to be asked are: what would cause the Islamic Republic to close the Strait?; and just as

importantly, do they have the capability to actually initiate and sustain an operation of this nature? This thesis addresses the latter question.

B. RESEARCH QUESTION

Given the rearmament program of Iran, is the current naval posture of the Iranians capable of closing and sustaining a closed Strait of Hormuz? If so, to what degree?

C. COMPETING ARGUMENTS

After Iran's rearmament initiative, regional analysts suggested competing arguments concerning which entity initiated the regional arms race. In November 1989, Iranian Deputy Foreign Minister Ahmed Besharati stated, "As the smaller countries around us have armed themselves to the teeth and buy the most modern war material, we too – as a big and vast country which has been the target of many threats throughout history and especially during the decade of the Islamic revolution – will do the same."[1] This quote suggests that the Islamic Republic has emulated the actions of those around it, or at least tries to justify its actions. This, however, may not necessarily be the case because Iran has been at the forefront of rearming to a point beyond the other Persian Gulf countries.

Between 1991 and 1993, another dispute raised concerns about weapons proliferation within the region. This dispute suggests that the Gulf Cooperation Council

[1] Shahram Chubin, *Iran's National Security Policy: Capabilities, Intentions & Impact* (Washington, D.C.: The Carnegie Endowment For International Peace, 1994), 57.

(GCC) initiated a new arms race with the purchase of highly technical aircraft and armored vehicles.[2] Though this argument holds some credibility being as indicative of known military arms purchases and deliveries, again, the Iranian Army and Air Force branches received the heaviest losses during the war with Iraq, thus making the rearming of these two branches a high priority.[3] I suggest that the 1991 to 1993 GCC build–up is a mere reaction to Iran's rearming efforts of 1988 to 1991.

Another argument relates to Iran's capability to close the Strait of Hormuz. A reporter suggested that the Islamic Republic can close the Strait based on the statements of military leadership after one of their large–scale exercises.[4] In an Iranian television interview, Major General Mohsen Rezaie, Commander of the IRGC, stated, "We can keep the Strait of Hormuz open ... but if we want to, we shall close it to anyone who is an obstacle to security in the region and keep it open for our friends and the Muslims."[5]

D. RESEARCH METHODOLOGY

The research methodology for this thesis is an open source, literary review which identifies the capabilities, limitations and ultimate purpose for the Iranian military build–up

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[2] Aaron Karp, "The Demise of the Middle East Arms Race," *The Washington Quarterly* 18, no. 4 (Autumn 1995): 40.

[3] Anthony H. Cordesman, *Iran & Iraq: The Threat From The Northern Gulf* (Boulder, Colorado: Westview Press, 1994), 45–61.

[4] Ed Blanche, "Iran able to close Strait of Hormuz, say general," *Jane's Defence Weekly* 27, no. 18 (May 7, 1997): 18.

[5] Ibid.

surrounding the Strait of Hormuz. The literature review consists of defense journals and recent publications on net assessment. In addition, I have conducted interviews with Middle East experts, professors of Middle Eastern military affairs, Department of Defense and Department of State personnel. The goal was to collect sufficient data to assess the Iranian naval threat. Furthermore, this methodology should answer the question on Iran's capability to sustain a closed Strait.

E. THESIS ORGANIZATION

The intent of this thesis is to examine Iran's capability to close and sustain a closed Strait of Hormuz. The focus is to remain on "What could they do?" rather than "What would they do?" or "When would they do it?" Chapter I supports this thesis as the introduction, while in Chapter II I review Iran's overall military capability. The emphasis of Chapter II is on Iran's current military strength derived from an aggressive rearmament program. Specifically, this chapter describes the expansion in Iran's rearmament strategy. The end result is a clearer presentation of the precise force structure of Iran's capability. In addition, this chapter addresses the question concerning Iran's ability to close the Strait of Hormuz.

Chapter III focuses on the U.S. and GCC reactions toward Iran's growing military and perceived threat. The Gulf states include Saudi Arabia, Oman, Qatar, Bahrain, the United Arab Emirates and Kuwait. I record those military reactions in the form of strengths, acquisitions, military presence, combined military operations and renewed military alliances. Most importantly, this chapter identifies regional military reactions by

both the U.S. and the GCC. A "military only" view is justified because the political and economic variables, though important, do not necessarily represent the growing seriousness of the Iranian threat, especially when the country is capable of initiating hostilities. The intent of this chapter is to describe the trends of weapons proliferation taking place in the Persian Gulf, and the capability of the GCC to provide its own regional security.

In Chapter IV, I define interdiction and introduce varying levels of interdiction. This chapter is critically important because it places the military analysis of Chapter II into an interdiction level relevant to Iran's capabilities to disrupt traffic flow through the Strait of Hormuz. This further answers the prevailing question of whether Iran actually possesses the capability to sustain a closed Strait of Hormuz. The final chapter of this thesis, Chapter V, will present my conclusions.

II. THE IRANIAN THREAT ALONG THE STRAIT OF HORMUZ

A. OVERVIEW

This chapter highlights Iran's rearmament initiative, specifically rearmament efforts with those assets which Iran utilizes during joint exercises and routine patrols in the Persian Gulf, the Strait of Hormuz, and the Gulf of Oman. This has led experts to suggest that the aim of the exercises are to prepare for future hostilities.

Organized into four parts, the next section examines the rearmament program and a comparison of forces for the years of 1988 and 1996. This comparison showcases the growth of military forces, and pays particular attention to the Islamic Navy and the naval branch of the Revolutionary Guard (IRGCN). The Kilo class submarine and follow–on naval acquisitions were made to support or work in unison with the other military branches of the Iranian forces. These components alone present the most dominant threat to merchant and naval vessels alike.

Included in this chapter is a critical assessment of those naval and joint force elements which are intended for ship interdiction. Next is the identification of trends in naval operations, ranging from the cohesion and operation of integrated units to the "muscle flexing" test firing of missiles and continuous naval displays of power projection. The last section of this chapter is a critical assessment of the Iranian forces adjacent to the Strait of Hormuz.

B. IRAN'S MILITARY BUILD–UP AND THE ENLARGEMENT OF FOCUS TOWARDS NAVAL ASSETS

The Iranian rearming initiative is unique in that it is the first time since the Revolution of 1979 that the Islamic Republic could concentrate on rearming without actually being at war.[6] Shortly after the United Nations Security Council's Resolution 598 on July 18, 1988, which called for a ceasefire between Iran and Iraq, and a full withdrawal of military forces to their national borders, the Iranian forces were in disarray and in need of rejuvenation. Numerous objectives were laid out for restructuring, of which rearming was a single entity in repositioning Iran as a regional power.[7] The Army and Air Force received the greatest losses, and therefore early on required the highest priority in defense rebuilding. However, I suggest that the focus of the build–up widened from those two forces to include the Navy and those assets which could be used to interdict the Strait of Hormuz. Though the Iranian government has denied claims of a weapons build–up along the mouth of the Strait of Hormuz,[8] this new focus reveals Iran's potential capability to one day influence Gulf shipping traffic. A contrary view argues that Iran's interest lies in

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[6] Dr. Anoushiravan Ehteshami, "The Armed Forces of the Islamic Republic of Iran," *Jane's Intelligence Review* 5, no. 2 (February 1993): 76.

[7] Other objectives included the preservation of internal security, maintenance of territorial security, and the elimination of the U.S. threat. See Chubin, "Iran's Strategic Aims and Constraints," *Iran's Military Intentions And Capabilities*, 69–70.

[8] John Prescott, "Iran denies claims of weapons build–up," *Reuters Textline* (March 24 1995).

maintaining the free flow of oil through the Persian Gulf and not impeding it.[9] Table 2–1 below is a comparison of conventional forces using the years 1988 and 1996, which represent the start of the new build–up and progress thus far.

Force Comparison of 1988 & 1996
Table 2–1

	1988	1996
Total Armed Forces		
Active	604,500	513,000
Reserves	350,000	350,000
Army		
Personnel	305,000	345,000
Equipment		
Main Battle Tanks	500	1,440
Light Tanks	30	80
AIFV	100	400
APC	500	550
Towed Arty	660	1,995
SP Arty	140	289
MRLS	Not available	664
Mortars	Not available	3,500
ATGW	Not available	TOW, AT–3 *Sagger*
ADA Guns	1,500	1,700
SAM	30 *I HAWK*, SA–7, 200 RBS–70	SA–7
SSM (missiles)	*Scud*; and 50+local manufactured *Oghab*, *Nazeat*, *Shahin* 2.	100+ *Scud* B & C
Aircraft (fixed wing)	49	77
Helicopters	410 (100 attack)	556 (100 attack)

[9] Rosemary Hollis, *Gulf Security: No Consensus* (London: Sherrens Printers, 1993), 11–13.

Revolutionary Guard Corps
(*Pasdaran Inqilab*)

Ground Forces

Personnel	250,000	120,000
	11 regional commands, loosely org in bn of no fixed size, grouped into 40 inf, 5 armd div and indep bde, serve indep or with Army.	13 inf, 2 armd div, many indep bde, serve indep or with Army.

Naval Forces

Personnel	unknown	20,000
Location	five island bases (Al Farsiyah, Halul (oil platform), Sirri, Abu Musa, Larak); some 40 Swe Boghammer Marin boats armed with ATGW, RCL. Controls coast–defence elm include arty. Now under joint command with Navy.	
Weapons systems	Italian SSM reported. CSS–N–2 (HY–2) *Silkworm* SSM in at least 3 sites, each 3–6 msl.	10 *Hudong* with C–802 SSM. CSSC–3 (HY 2) *Seersucker* SSM bty.

Marines

Personnel	3 BDE	1 BDE

Air Forces	Forming	Possible conglomeration with regular Air Force

Navy

Personnel	14,500	20,000
Submarines	0	3
Principal Surface Combatants		
Destroyers	3	2
Frigates	5	3
Patrol & Coastal Combatants		
Corvettes	0	2
Missile Craft	10	20
Patrol, Inshore	24	26
Mine Countermeasures	3	7
Amphibious	7	8
Support & Miscellaneous	8	25
Naval Air		
ASW	9	9
MCM	2	2
Transport	28	29

Marines	3 BN	2 BDE

Air Force

Personnel	35,000	30,000
FGA	104	150
FTR	15	115
Mar Recce	2	6
RECCE	8	8
TKR/TPT	4	5
Transport	54	63
HELO	53 (unarmed)	46 (unarmed)
TRG (Fixed Wing)	85	118 (30 quick conversion)
Missiles		
ASM	AS–12 *Bullpup*, AGM–84 *Harpoon*	AGM–65 *Maverick*, AS–10, AS–11, AS–14
AAM	unknown	AIM–7 *Sparrow*, AIM–9 *Sidewinder*, AIM–54 *Phoenix*, AA–8, AA–10, AA–11 for MiG–29, PL–7
SAM	5 sqn with 30 *Rapier*, 25 *Tigercat*, 50 HQ–2J	12 bn with 150 *I HAWK*, 5 sqn with 30 *Rapier*, 15 *Tigercat*, 45 HQ–2J (PRC version of SA–2), SA–5, FM–80 (PRC version of *Crotale*)

Forces Abroad

Lebanon	2,000 Revolutionary Guard	150 Revolutionary Guard
Sudan	—	Military Advisors

Sources: International Institute for Strategic Studies (IISS), *The Military Balance, 1989/90* (London: IISS, 1989); *The Military Balance, 1996/97* (London: IISS, 1996); Office of The Secretary of Defense, *Proliferation: Threat and Response* (April 1996): 16.

Iran began its current chemical weapons program as the result of Iraq's use of mustard gas in 1983 against Iranian troops. Iran developed and later in the war used several chemical agents against the Iraqis. Estimates on the exact amount of chemical agents currently stockpiled by Iran reach up to 2,000 tons. There also appears to be a substantial stockpile on the Iranian island of Abu Musa in the Straits. All of this activity

appears to continue despite the fact that Iran is a signator of the 1993 Chemical Weapons Convention.[10]

According to Lieutenant General Patrick M. Hughes, USA, Director of the Defense Intelligence Agency, "Iran has maintained an offensive Biological Weapons (BW) program since the mid–1980s."[11] Evidence does confirm that the required technical knowledge and infrastructure needed for BW weapons is in place.[12] Iran's proliferation of dual–use equipment for agents, research, and development has aided in the process of manufacturing biological weapons. General Hughes further claims, "Iran's BW program has the momentum to mature into a weapons capability and to pose a regional threat...."[13]

Iran has always claimed to have pursued nuclear capabilities for energy purposes from the inception of the nuclear program begun under the Shah.[14] Today, published reports have surfaced stating that "Iran has initiated civilian and weapons–related nuclear efforts despite having signed the Treaty on the Non–Proliferation of Nuclear Weapons."[15]

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[10] SIPRI, 1996, 664.

[11] Congress, Senate, Select Committe on Intelligence, Current And Projected National Security Threats To The United States And Its Interests Abroad: Hearing before the Select Committee on Intelligence, 104th Cong., 2nd sess., 22 February 1996, 205–206.

[12] Ibid., 206.

[13] Ibid.

[14] Former head of the Atomic Energy Organization of Iran (AEOI), correspondence with author, 29 May 1997.

[15] Office of the Secretary of Defense, *Proliferation: Threat And Response* (Washington, D.C.: U.S. GPO, 1996): 14.

Iran has sought advanced technology in the form of a plutonium reactor from China.[16] Currently, the technical and scientific base is insufficient to support a major nuclear program and "... at the present time, the threat posed by the Iranian CW/BW program is far more immediate than that posed by the country's nuclear activities."[17] In essence, if Iran is attempting to build a nuclear arsenal, it is still a long way from achieving that goal.

1. Weapons for Interdiction

a. Conventional

The weapons of interest that enhance Iran's military capability near the SOH fall in two categories, conventional and non–conventional. In the conventional area, Iran has made significant efforts to rebuild its Navy. The most significant acquisition and immediate threat to Western naval forces began with the delivery of one Russian Kilo Class (SS) diesel–electric submarine in 1992, the *Tariq* 901. Widely publicized is the fact that Iran has taken additional delivery of two more subs, the *Noor* 902 and *Yunes* 903, and has exercised these crafts in interdiction type operations within the region. Though these submarines have taken part in major exercises, the question surrounding the critical impact

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[16] Ibid., 12–16; See also, Shai Feldman, *Nuclear Weapons and Arms Control in the Middle East* (Cambridge, MA.: The MIT Press, 1997), 47–53.

[17] Leonard Spector, Senior Fellow, Carnegie Endowment for International Peace, Testimony to the Congressional Affairs Committee, Hearing on Current and Projected National Security Threats to the United States and Its Interests Abroad, Select Committee on Intelligence, U.S. Senate, February 22, 1996.

of these components relates to the quality of maintenance rendered and the proficiency with which they are operated. The first two units have suffered from battery problems, which further diminishes at–sea time for the crews. The result is that crew proficiency drops. Despite setbacks in material readiness and crew proficiency, one report contends that the Iranians have worked to overcome these burdens.[18] In another report, a Congressional Research Fellow stated, "The Iranians have surprised us by learning how to operate their submarines better and more quickly than we anticipated.... That means we will have to be concerned about them."[19] This narrows the focus of capability to the type of mission most likely to be conducted by Iranian submarines.

Numerous accounts have been published in open sources which suggest the possibility of submarine missions; however, none conclusive. Regardless of the tasking, whether it is ship interdiction, special operations, or surface surveillance to name a few, precise observation must be given to the entire capability that this platform brings to the regional waters. For example, the Kilos can carry wake–homing and acoustic torpedoes,

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[18] Congress, Senate, Worldwide Submarine Challenges, Statement of Rear Admiral Michael W. Cramer, Director of Naval Intelligence, Before The Subcommittee On Seapower Of The Senate Armed Services Committee, 8 April 1997; The burdens range from inoperative batteries to poor maintenance practices. Some training and battery cooling problems are being resolved with the assistance of India. Richard Sharpe, ed., *Jane's Fighting Ships: 1995–96* (London: International Thomson Publishing Company, 1995), 319.

[19] Jonathan Landay, "The Arms Race Under the Sea: Subs Surface As Weapon Of Choice In Bids For Power," *Christian Science Monitor* (September 27, 1997).

and, also, vary the total loadout with the addition of mines.[20] Figure 2–1 denotes possible operational areas for the submarines and potential minefields. "The acquisition of these submarines is an important element of Iran's declared goal of controlling the Strait of Hormuz and consolidated naval superiority in the Persian Gulf."[21]

I suggest the most likely mission for the Iranian Kilos will be in mining operations for two reasons. The first relates to economic feasibility. Mining key waterways within the Strait of Hormuz or Gulf of Oman is inexpensive and can be done without risking detection. Secondly, Iran's purchase of the Kilos included the purchase of as many as 1,800 mines.[22] Speculation here suggests that the mines are deployable from torpedo tubes.

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[20] Ibid., The Kilo has six 53 mm (21 in) diameter tubes which can fire a combination of wire–guided active/passive homing to 15 km (8.1 nm) at 40 kts. The warhead weighs 205 kg. The submarine is also capable of firing a passive wake homing torpedo to 25 km (13.5 nm) at 50 kts with a warhead weight of 300 kg. Total loadout for the submarine is 18 warheads. The vessels can carry up to 36 mines, two mines in lieu of one torpedo; John Jordan, "The 'Kilo' Class Submarine," *Jane's Intelligence Review* 4, no. 9 (September 1992): 427.

[21] Statement of Rear Admiral Michael W. Cramer, Director of Naval Intelligence, Before The Subcommittee On Seapower Of The Senate Armed Services Committee, 8 April 1997.

[22] James Kraska, "Iran Flexes Maritime Muscles in Gulf," *Defense News* (October 4, 1993): 25.

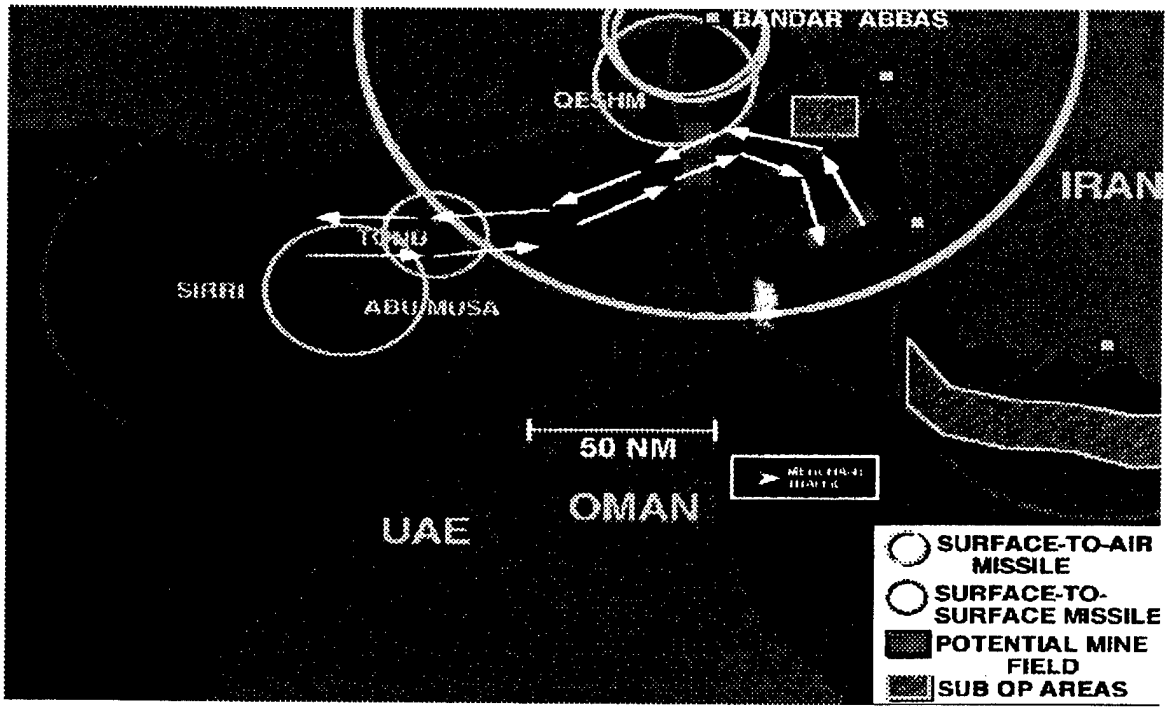

Figure 2–1

Figure courtesy of the Office of Naval Intelligence.

In addition to the Kilo operations, Iran has conducted special operations with three known miniature submarines. In the past these mini–units, one supplied by North Korea, another by Germany, and one produced indigenously, have supported a variety of missions, including amphibious assaults, sneak attacks, and mine laying operations.

Besides mine laying and delivery, Iran has focused efforts on other facets of mine warfare. In the inventory of older mines, there are at least 3,000 mines including moored and drifting contact mines.[23] Deployment of the weapons is rogue in nature, that

[23] Richard Sharpe, ed., *Jane's Fighting Ships: 1997–98* (London: Janes's Information Group, 1997), 317.

is, no specially equipped vessels are used or needed to lay the mines. Besides using submarines, the Iranians are capable of using small craft, civilian "vessels for hire," Landing Ships (LSTs), Boghammers, and helicopters. Unconfirmed reports also suggest that Iran has acquired Chinese made EM–52 rocket–propelled mines. This capability now enables Iran to mine the Strait's strong currents. The EM–52 mines are unique in operation. The latest version sits on the bottom of a waterway, senses a ship passing overhead, and then fires a rocket to hit the target. Additionally, the mine can be set to attack after a given number of ships have transited. Open sources do not give the exact operating depths of these mines. A mine warfare capability consisting of older rogue mines and new EM–52s enables Iran to now deploy these weapons effectively anywhere in the Gulf region.

Though the mines will be an important obstacle for Western navies to overcome, Iran's missile inventory is another hurdle for its enemies. Included in the missile inventory are surface–to–surface missiles (SSM), surface–to–air missiles (SAM), and air–to–surface missiles.

The first type of weapons discussed are the SSMs. One danger to the U.S. military is the HY–2 *Silkworm* missile. Produced by the Republic of China, this missile has an 80–90 kilometer range and is capable of carrying a 450 kilogram payload. Within the IRGC, five operational land–based sites exist. However, given the age of the weapon and the systems, analysts speculate on problems concerning maintenance, reliability and readiness in general.

Other types of SSMs are the CS–801 *Ying Jai* and CS–802 *Saccade* missiles. Both are supplied by China. The CS–801 missile has a range of 74 kilometers. It is believed that the Iranian arsenal has grown in size to an excess of 100 missiles. Used for anti–ship combat operations, the missile can be launched from air, land, or sea platforms. This weapon is somewhat outdated and has been surpassed by the production of the CS–802.

The CS–802 is an upgraded version of its predecessor and was test fired in Iran on November 28, 1995, and again in January 1996. This displays a new ability to threaten shipping within the Strait of Hormuz. The missile has an estimated range of 95 kilometers with a warhead in excess of 165 kilograms.[24] Most importantly, Iran's new Hudong class ship is armed with the upgrade. These otherwise mainly land–based missiles are controlled by the Revolutionary Guard and now when used in the Hudong class vessel are capable of covering the Northern Persian Gulf.

One additional threat to U.S. ships is the SS–N–22 *Sunburn* or *Sunburst* missile. This surface–to–surface, sea skimming weapon is compliments of Ukraine. It is said that the missile has been deployed near the Strait of Hormuz and has a range of up to 120 kilometers. It is believed that the number of missiles acquired ranges from 8 to 12. This system is much more sophisticated than the CS–801/802 missiles, particularly in its guidance technology. In addition, the missile is harder to intercept, and some experts

[24] Barbara Starr, "Iran adds new threat with cruise missile test," *Jane's Defense Weekly* 25, no. 6 (February 7, 1996): 14.

believe it is designed to defeat U.S. Aegis class ships.[25] In all, the missiles are tactically deployed along the mouth of the Strait of Hormuz, on islands inside the Persian Gulf, and sparingly deployed on surface units.

Similar to the purchase of more sophisticated surface–to–surface missiles, Iran has pursued advanced surface–to–air weaponry. Iran has nine or more long–range SAM sites equipped with (I)HAWK, SA–5, and SA–6 missiles on the mainland and islands in the Gulf, compared to three shorter range HAWK–equipped sites in the early 1990s. Iran's acquisition of the SA–5 extends the range of air defense measures well into the Persian Gulf.

Iran does posses an increased capability to strike from airborne platforms during anti–surface warfare (ASUW) operations. The first platform is the Russian or ex–Iraqi Su–24 *Fencer*. The airframe can carry a wide array of weapons for use in tactical anti–ship roles. One report indicates that Iran is desperately trying to reconfigure its aging U.S. supplied, F–4 *Phantoms*.[26] If successful, the CS–801 could be launched from the Phantom. As for rotary–wing capabilities, the AB–212 helicopter can fire a French built AS–12 missile originally designed for anti–tank use. The Iranians have transposed this

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[25] Anthony H. Cordesman and Ahmed S. Hashim, *Iran: Dilemmas of Dual Containment* (Boulder, Colorado: Westview press, 1997), 255.

[26] Tom Chamberlain, "Naval Forces and The Persian Gulf Challenges," *Surface Warfare* 22, no. 2 (March/April 1997): 4.

into an anti–ship weapon, but the test results of this attempted cross–over show the weapon to be ineffective.[27]

Perhaps a key ingredient to improve Iran's fledgling fleet is the acquisition of ten Hudong PTGs from China. The Hudongs are fitted with the new CS–802 missile, thereby increasing the lethality of the navy. These vessels compliment an already aged fleet which includes two ex–U.S. Sumner class destroyers and ten Combatante IIB PTGs. Similar to the Hudong class, some Combatante class ships have received back fitting for the CS–802 as well. These upgrades have expanded naval capability at a somewhat low cost. Inside the IRGCN, hundreds of small speedboats and dozens of Boghammers craft are still available for use. The only shortfall for our calculations is the exact number of operational units that exist at this level.

The above weapons capabilities showcase the important aspects of Iran's arming in the region of the Strait of Hormuz. These weapons, though small in total numbers, do provide the capability to interdict the strategic waterway. How well the Iranians use these weapons and maintain them along with maintaining proficiency is discussed later.

b. Non–conventional

The only non–conventional weapons in existence within the Strait of Hormuz region are chemical toxins. A trail of evidence indicates that chemical storage

[27] Ibid., 7–8.

facilities are on the island of Abu Musa, located inside the mouth of the Persian Gulf. Abu Musa is tactically suited by its position near the shipping lanes. This does not preclude storage facilities in ports or other mainland facilities, though; the point here is to highlight the lethal threat.

In March 1995, United States Secretary of Defense Perry accused Iran of deploying chemical weapons on strategically located islands.[28] While touring the Persian Gulf promoting joint cooperation, the Secretary touched upon the "substantial buildup of military forces on the islands of the Strait of Hormuz."[29] The forces include anti–ship missiles, air–defense missiles, and chemical weapons. He further stated that, "It is a deployment that is far beyond any reasonable defensive requirements that Iran has, and it can only be regarded ... as a potential threat to shipping in the area."[30] These statements made by Secretary Perry are only the first steps on the evidence trail.

Shortly following Secretary Perry's comments, the Iranian news service, Islamic Republic News Agency (IRNA), quoted Foreign Ministry spokesman Morteza Sarmadi, who denounced Perry's claims and denied any chemical storage facility.[31]

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[28] "US Accuses Iran of deploying chemical weapons on coast," *Agence France Presse* (March 22, 1995); "US scaring Gulf Nations to sell them weapons, Iran says," *Agence France Presse* (March 23,1995).

[29] Ibid., the islands were never identified by the Secretary Perry.

[30] Ibid.

[31] John Prescott, "Iran denies claims of weapons build–up," *Reuters Textline* (March 24 1995).

Though explicitly denying any build–up of chemical weapons close to the Strait of Hormuz, the government official did not deny the existence of other unconventional weapons.

The final piece of evidence that suggests chemical weapons exist on Abu Musa. A report featuring the Iranian threat specific to the Strait of Hormuz was aired by the Christian Broadcasting Network on December 16, 1996.[32] From satellite imagery, the report further identified possible chemical storage facilities, SSM, and SAM embankments. This evidence alone supports Iran's capability to interdict the waterway and strongly suggest that chemicals stored on the islands may be one tool of choice. The advent of a chemical capability suggests a new method of disrupting transiting vessels in the Strait of Hormuz.

2. Strategic Positioning

Occupation of the Gulf islands without a doubt nurtures Iran's longing for hegemony in the Persian Gulf region.[33] Three islands located to the west of the Strait of

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[32] David Snyder, "Threats To America," *Christian Broadcasting Network* (December 1996).

[33] In addition to becoming a dominant power in the region, another security goal relates to the security of fundamental interests via increased military capabilities to counter potential invasions by the more capable militaries of Iraq, Turkey, Russia, and Pakistan. Islamist goals include: (1) spreading the Islamist Revolution; (2) elimination of American/Western influence in the Gulf region; and (3) disrupting the Arab–Israeli peace process. For a detailed perspective on Iran's goals see Graham E. Fuller and Bruce R. Pirnie, *Iran: Destabilizing Potential in the Persian Gulf* (Santa Monica, California: RAND, 1996), 3–10; Sharam Chubin, "Iran's Military Intentions And Capabilities," in Patrick Clawson, ed., *Iran's Strategic Intentions And Capabilities* (Washington, D.C.: National Defense University, 1994), 66–70; Anthony H. Cordesman, *Iran and Iraq: The Threat from the*

Hormuz serve a strategic purpose. These islands, Abu Musa, Greater Tunb, and Lesser Tunb, are important to the Islamic Republic of Iran.

Their location gives Iran an excellent strategic position adjacent to shipping lanes, and any inland targets on the western Persian Gulf. In addition, Iran can defend itself more appropriately on the homefront with radar sites and other defensive measures positioned on the islands.

Both Iran and the UAE have laid claims to Abu Musa, Greater Tunb and Lesser Tunb. When discussing the claims, however, it is easy to fall into several legalities. On one hand, Iran feels it had the right to the islands because it exerted at least indirect control over Abu Musa and the Tunbs before Britain seized control of the islands in 1887. On the other, the UAE feels it has the right to the islands because Iran has not exerted meaningful control over the Tunbs in modern times, even when under the control of the ruling family in Ras al–Khaimah. One additional UAE argument refers to Abu Musa, having been under the control of the ruling Arab family in Sharjah; branches lived in both Iran and the UAE, but the main branch was in Sharjah.

Throughout history, the island of Abu Musa has been seized by a variety of parties, but most recently and specific to the discussion was the period of April 25 to May 4,

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Northern Gulf (San Francisco, California: Westview Press, 1994), 28–35; and Bruce Nardulli, Marcy Agmon, Theodore Karasik, Joseph A. Kechichian, Mary E. Morris, Nikola B. Schahgaldiann and Lory Arghavan, *Future Gulf Dynamics and U.S. Security* (Santa Monica, California: RAND, 1994), 29–30.

1992. During this time Iran reasserted control of Abu Musa.[34] The obvious question is why? Reports suggest Iran claimed it had not received a fair share of off–shore oil production from the island of Abu Musa. The Iranian media got involved and referred to the island as Iranian territory.[35] Iran then expelled workers that had UAE visas, and again claimed sovereignty. This seizure operation was run in conjunction with a massive joint exercise including 45 ships, 105 small crafts, and air support.[36] This array of power gives Iran a strong embankment in the Straits of Hormuz.

Following the Iranian seizure, the UAE proposed to lease the islands to Iran along with additional stipulations, with hopes of solving the sovereignty problem, and to alter the sharing of oil in favor of Iran. Those stipulations said that:[37] (1) Iran should bring an end to its military occupation of the Lesser and Greater Tunbs; (2) Iran should confirm its commitment to the Memorandum of Understanding of 1971 with regard to the island of Abu Musa; (3) Iran should refrain from interference under any circumstances whatsoever in the exercise by the UAE of its sovereign power over that part of the island (Abu Musa) designated to it under the terms of the Memorandum of Understanding; (4) Iran should

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[34] For complete details see Helen Chapin Metz, ed., *Persian Gulf States: Country Studies* (Washington, D.C.: Library of Congress, 1994), 248–249.

[35] Helen Chapin Metz, ed., *Iran: A Country Study* (Washington, D.C.: Library of Congress, 1989), 243.

[36] Cordesman and Hashim, *Iran: Dilemmas of Dual Containment*, 132.

[37] Derived from the Government Political System, "The Three UAE Islands," Lexis–Nexus resources.

cancel all arrangements and undertakings which adversely affect UAE nationals, non–UAE residents, and the state's institutions on the island of Abu Musa; and (5) both sides should work together to create a suitable framework for settling the question of the sovereignty of the island of Abu Musa within a fixed period of time. The proposal and all stipulations were rejected by Iran. The UAE then went to the Gulf Cooperation Council (GCC) and to the Arab League for assistance. This move and effort by the UAE came to no avail. Though the UAE displayed a willingness to negotiate a settlement, Iran saw no requirement to negotiate over territory which it believed was rightfully its own. On September 28, 1992, Iran broke off talks and later charged that the GCC and UAE had become plotters for the United States. President Rafsanjani declared the issue a U.S. "conspiracy ... to justify its illegitimate presence in the Persian Gulf."[38] Today, both sides remain divided.[39] The UAE has referred this matter to the United Nations Security Council and the International Court of Justice. Iran reacted by expanding its military presence on the islands.

Subsequently, the Qatar government became involved and suggested a meeting of experts. This initiative was announced on November 18, 1995. Stipulations identical to the 1992 discussions ultimately caused the failure of this initiative.

With Iran's refusal to negotiate, and its increased military presence on the islands, one may ask, "What is the significance of these Persian Gulf islands?" On a regional level,

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[38] Cordesman and Hashim, *Iran: Dilemmas of Dual Containment*, 132.

[39] "Iran reasserts claim to disputed islands," *Reuters News Service* (January 10, 1995).

the actions taken by Iran were part of its goal to reestablish itself as a regional power. Additionally, Iran was showing its Persian Gulf neighbors that it will take back and keep what it believes is rightfully its own.

Domestically, retaking the islands and refusing to negotiate over the right of ownership shows Iranians that the nation is strong. This nationalistic behavior is a move toward a more positive and rejuvenated society. Further, with such actions, Iran does not have to fear retaliatory strikes from the smaller UAE, or the GCC for that matter. There is enough nationalistic rallying inside the country of Iran to deter its Persian Gulf neighbors from any attempts to seize the island. In essence, Iran can afford to remain in a nationalistic mode of operation.

Economically, the three islands are sometimes used as stopovers or transfer areas when conducting trade with the UAE. Dubai, for instance, is Iran's largest trading partner in the Persian Gulf. Dubai has a large number of Iranians and former Iranians, and reshipping to Iran is a major industry. The country exported $681 million to Iran within the first nine months of 1995.[40]

Strategic significance is the most important reason Iran is claiming and protecting the islands. Several reasons support this argument. First and foremost is the location of the islands. One–third of the world's oil passes through this waterway everyday. This is a useful bargaining chip should hostilities ever breakout between Iran and some intervening government. Second, the locations of the islands increases defensive capabilities because

[40] Cordesman and Hashim, *Iran: Dilemmas of Dual Containment*, 134.

of the wider array of radar nets, air and surface missile envelopes, and the capability to deploy and launch at any given target in the Persian Gulf.[41]

Being able to interdict the shipping lanes leading in/out of the Persian Gulf is easy. The channel runs 10–15 kilometers on either side of the Tunbs. Furthermore, the Iranian side of the midpoint is not within the 12 mile limit. Abu Musa's location is 40 kilometers south of Lesser Tunb and 25 kilometers west of the east bound tanker channel. The Tunbs extend Iran's ability to threaten tanker channels, while Abu Musa ensures that the tankers cannot shift south without passing an Iranian island.

Estimates vary for the amount of troops on the islands, but the best guess is nearly 4,000 for all of the islands combined. Dug into Abu Musa are 10 old M–48 tanks and 155 mm howitzers.[42] Most importantly, there are missile sites on all of the islands.[43]

HAWK missile launchers (anti–air) are the primary air defensive weapons on the islands. The surface threat to shipping traffic derives from the improved HY–2 *Silkworm* missile which has a 90 kilometer range. Some reports suggest storage of chemical weapons on two of the islands. Additionally, the armaments of the three islands discussed in this paper are minor compared to the establishments on the Iranian islands of Forur;

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[41] Contrary to American observations, Iran has denied weapon build–ups. See Prescott, "Iran denies claims of weapons build–up," (March 24, 1995).

[42] The 155 mm is capable of firing munitions loaded with chemical agents. Ian O. Lesser, and Ashley J. Tellis, *Strategic Exposure: Proliferation Around the Mediterranean* (Santa Monica, California: Rand, 1996), 100.

[43] Fuller and Pirnie, *Iran: Destabilizing Potential in the Persian Gulf*, 53.

Sirri, Qeshem, Hengam, and Larak. Each of these islands has a wide assortment of both offensive and defensive weapons. However, the main issue of this section is not the military capabilities of the Iranian forces, but the interdiction capacity Iran has due to its presence on the islands.

The long, drawn–out disputes and island claims will continue into the future. Further, I suggest that it is the location of these islands which has mesmerized the Iranian leadership into "needing" the territory. The islands are strategically located in a vital waterway filled with supertankers and sometimes naval war vessels. Having a capability to interdict these channels lends clout to any threat of Iranian hostility.

C. TRENDS IN NAVAL OPERATIONS

My comments on the latest trends are derived from observations of Iran's training during recent major exercises. Over the past years, Iran has increased the number of exercises.[44] During a recent operation, Iran flexed its muscles by test firing several CS–802 missiles from combat ship launchers. Though launched during an exercise, given the location, I suggest that the explicit nature of these firings further displays to the international community that Iran is seeking to control the Strait of Hormuz in the future.

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[44] Iran conducted 36 exercises in 1993, 49 exercises in 1994, 57 exercises in 1995, and 38 exercises in 1996. More exercises are expected in 1997. Improvements were observed in missile deployments, joint cooperation, mine warfare and underwater training. See "Amphibious forces tested," *Jane's Defence Weekly* 24, no. 14 (October 7, 1995): 22; James Bruce, "Navy steps up exercises in gateway to the Gulf," *Jane's Defence Weekly* 24, no. 17 (October 25, 1995): 19; and "Iran steps up Gulf Exercises," *Jane's Defence Weekly* (January 1, 1996): 12.

The exercises are now fully integrated, including all components of the Iranian armed forces. For instance, the Air Force has used fighter attack aircraft against shipping and air defense units, while the Army has positioned tanks and artillery units within miles of the waterway for coordinated shipping attacks. The Navy has conducted small craft raids using the new Hudong class attack vessel, submarine maneuvers and mining operations. Additionally, naval forces have closely integrated with the IRGCN in amphibious landings and special operations.

Attempts at improving the quality of maintenance range from packages purchased at the time of acquisition, to seeking outside assistance in solving technical problems on sophisticated weaponry. Indian technicians have collaborated with Russian experts in solving the submarines' battery problems. Further, North Korea has given technology to Iran for building missiles. In the non–conventional arena, Russia and China have assisted Iran with nuclear reactors which are claimed to be for peaceful purposes. We can conclude from these actions that Iran is seeking the best weaponry available from the international community.

Finally, that last trend noted in the analysis of Iran's military actions is the increase in power projection. Acquiring new weapons and then displaying these weapons through routine patrols and exercises sends explicit signals to the regional members that Iran is longing for power. Iran is capable of defeating a unified GCC for various reasons, described in Chapter III. This power projection often enhances the threat the Islamic Republic brings to the region.

D. ANALYSIS

The Islamic Republic of Iran has strived to enhance the overall capability of those forces adjacent the Strait of Hormuz, with the acquisition of submarines, surface combatants, and technologically advanced missile systems including air and surface defense missiles. The number of weapons alone does not allow an accurate estimate of the real capability of the Iranian forces. Consideration must be given to maintenance practices, financial resources, proficiency levels, and sustainment requirements.

Iran, not unlike other Third–World or developing countries, has had a long history of uneven and poor maintenance practices. Iran has purchased expensive arms only to have them subdued by poor maintenance programs. Using the Iran–Iraq War as a case study, I suggest the maintenance practices on the new weapons are substandard. I view the proliferation of high tech weapons as a short term concession to military needs due to the lack of a quality maintenance program. Until better maintenance practices are incorporated, the life expectancy of the acquired armaments will never be fulfilled.

The reasons for poor maintenance are varied,[45] but perhaps the single most important factor is a lack of funding for spare parts and training. The economic resources dedicated to the the military have significantly decreased since the start of rearmament. In 1989, the Iranian defense budget totaled $10 billion (U.S.). As of 1996, the budget has

[45] Lack of training, make–shift tooling for technologically advanced weapons, and substandard quality control to cite a few.

decreased to $3.4 billion (U.S.).[46] Various reasons could be argued here, but the main point is that the country is still acquiring advanced weaponry on an increasingly tightened budget. Further, Iran has sought to employ another initiative through trading oil for arms with some countries, to supplement its hard currency. Often, these countries do not have the spare parts or training necessary to address Iranian maintenance needs.[47].

Couple poor maintenance with low financial resources and the result is a low proficiency level of operation regardless of the weaponry. The proficiency level of a specific weapon will drop if it is inoperative due to a lack of maintenance or insufficient financial support. For example, it is well known that the Iranian submarines are experiencing trouble with their batteries. The batteries allow a submarine to operate at low detection levels. Unable to correct the problem indigenously, the country opted to request Indian assistance. Until the problem was fixed, the submarines were unable to get underway. Without being at sea for any duration of time, the crew cannot establish or retain a proficiency level capable of operating the weapon or platform at its full potential.

Sustaining operations is another critical element in determining Iran's capability to close the Strait of Hormuz. No evidence exists which suggests that the Iranians can sustain any closure operations of the Strait of Hormuz. Though the exercises may showcase a new or enhanced capability for the Iranian forces, still to be proven is the fact

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[46] International Institue for Strategic Studies (IISS), *The Military Balance 1989–1990,* (London: IISS, 1989), 99. All versions up to the 1995–1996 publication are utilized.

[47] Biggest recipient of this initiative are countries in the Far East.

that the country can sustain a closed Strait operation. Its logistical capability, especially at sea, is questionable. To date, it remains a mystery whether Iran can replenish any underway vessels, including refueling, vertical replenishment (VERTREP), or underway replenishment (UNREP). This point is important in determining the exact overall capability of Iran, and its capacity to close the Strait of Hormuz.

Iran possesses the capability to disrupt the flow of traffic through the Strait, but for military reasons described above, Iran is incapable of sustaining a closed Strait of Hormuz against a credible force.

III. REACTIONS OF THE UNITED STATES AND GULF COOPERATION COUNCIL TO IRAN'S MILITARY THREAT

A. OVERVIEW

This chapter focuses on the reactions of the United States and Gulf Cooperation Council (GCC) toward Iran's growing military threat. The GCC includes Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. One intention of this chapter is to show the increases in military strength, renewed security alliances, weapons proliferation, and subsequent increases in military exercises by the U.S. and GCC, specific to the Strait of Hormuz region. Iran's rearmament and potential threat has caused a "spiraling" of weapons acquisitions between Iran and the GCC members. How capable is the GCC in operating as a single military entity? Can the GCC defend itself from an aggressive Iran while ensuring safe navigation throughout the Persian Gulf and Strait of Hormuz? In this chapter, I examine the changes in military postures of the U.S. and GCC, and assess the military capability of the Gulf organization. Iranian rearmament continues to alter the defensive policies of the Persian Gulf community, and the result is a dangerous arms race.

U.S. reactions to Iran include an increased military presence through deployed sea, air, and land forces, prepositioned military weaponry, military financial aid, and increased cooperation through training, combined exercises, and sustained operations. One sustained operation includes the Maritime Interdiction Force Operations (MIFOPS)

enforcing United Nations (UN) sanctions against Iraq.[48] Furthermore, with Iran adding a sea asset focus as well as land and air, we can ask the question, what are the changes in the U.S.'s posture to counter Iran? Finally, what can be said about the future of regional security from a military perspective, and its relationship to U.S. interests?

Next, I have examined GCC reactions, specifically where considerable efforts have been expended by member countries to build military strength. I have also looked at the types of renewed and newly formed alliances.

B. UNITED STATES' REACTIONS

The United States has reacted militarily to the Iranian threat in a variety of ways. Naval assets have been the preferred first deterrent to any regional unrest. The ongoing deployment of ground and air forces to the area since the end of the Gulf War has enhanced the joint military response. This cooperation allows the United States to maintain a regional presence while projecting power. In order to sustain this presence, especially in a time of fading defense budgets, increased requirements, and the necessity for technologically advanced equipment, the United States has prepositioned military equipment in theater. For those Gulf States involved, we have felt that the forward staging of equipment has proved beneficial.

The prepositioning of military weapons and logistics permits the United States to save money in transportation costs while incorporating a flexible arm toward

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[48] Tom Chamberlain, "Naval Forces and The Persian Gulf Challenges," *Surface Warfare* 22, no. 2 (March/April 1997): 4.

requirements.[49] Additionally, the materials are close to a somewhat volatile region, which in return saves time if tensions erupt. For instance, consider the amount of equipment shipped in the United States' preparation for Desert Storm.[50] We must realize that the next conflict may not allow the U.S. six months to prepare. With key equipment onboard a ship or in country, the U.S. needs only to transport manpower instead of a full compliment of armament. Prepositioning equipment is efficient, reduces time constraints, and frees up the resources for other foreign defense financial programs. The downside to prepositioning is that normally the force needed for the upkeep of the equipment is minimal, leaving the equipment vulnerable to an early attack by Precision Guided Munitions (PGM), or sabotage. In addition, the equipment is left in an environment which could result in corrosion. Finally, equipment not used is usually a cost to the U.S. government.

Financial programs benefit all six GCC members, and will be addressed later within each country's synopsis. The most prominent program is the U.S. Foreign Military Sales

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[49] Robert James, "Beans to Bullets," *Surface Warfare* 22, no. 2 (March/April 1997): 24–26.

[50] James K. Matthews and Cora J. Holt, *So Many, So Much, So Far, So Fast* (Washington, D.C.: U.S. GPO, 1996), 20. In preparation for war and sustainment there–after, from August 1990 to March 1991, the U.S. shipped goods via sealift to the United States Central Command (USCENTCOM) Area Of Responsibility (AOR). Of all supplies moved by either airlift or sealift to the region, 94 percent was transported through sealift totaling 9,151,538 tons, of which 96.5 percent was carried through the Strait of Hormuz.

(FMS) agreements.[51] These programs provide a fair assessment of arms deals with countries around the world. In addition, they provide a monetary figure for arms delivered. Other programs include: Foreign Military Construction Sales (FMCS) agreements; the Foreign Military Financing (FMF) Program; commercial exports; the Military Assistance Program (MAP) Merger Funds; the Military Assistance Program (MAP); the Excess Defense Articles (EDA) Program; and the International Military Education & Training (IMET) Program. Without fully discussing each program, it is apparent that programs exist to assist countries in developing defensive structures.

Because the defensive structures of the Gulf states are generally weak, the U.S. is helping to maintain regional security. Additionally, U.S. involvement has spread to the training of Gulf militaries through combined exercises and even sustained operations, such as Maritime Interdiction Force Operations (MIFOPS). The U.S. has been involved in enforcing the United Nations (UN) sanctioned no–fly–zones over Iraq. Without a doubt, these efforts display the United States' commitment to the Middle East region. Table 3-1 displays the current military relationships between the U.S. and the GCC.

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[51] Office of The Secretary of Defense, *Foreign Military Sales, Foreign Military Construction Sales and Military Assistance Facts* (Washington, D.C.: DSAA, September 30,1996).

Current U.S.–GCC Member Military Relations
Table 3–1

Country	Security Agreement	Financial Assistance	Combined Exercises	Military Interoperability	Prepositioned Equipment
Bahrain	Yes	Yes	Yes	Yes	Yes
Kuwait	Yes[1]	Yes	Yes	Yes	Yes
Oman	Yes	Yes	No	No	Yes
Qatar	Yes	Yes	Yes	No	Yes
Saudi Arabia	No	Yes	Yes	Yes	Yes
UAE	Yes	Yes	Yes	[2]	Yes

Sources: Anthony Cordesman, *U.S. Forces In The Middle East: Resources and Capabilities* (Boulder, Colorado: Westview Press, 1997); Cordesman, *Bahrain, Oman, Qatar, And The UAE: Challenges of Security* (Boulder, Colorado: Westview Press, 1997); Ed Blanche, "Gulf navies look further offshore," *Jane's Navy International* 102, no. 2 (March 1997); James Bruce, "GCC moves defense focus to its navies," *Jane's Intelligence Review* 8, no. 11 (November 1996): 513–516.
[1] Also has agreements with Britain, France, Russia.
[2] Space blank if information is unclear.

C. GULF COOPERATION COUNCIL'S REACTIONS

As previously discussed in Chapter II, Iran's initial stages of rebuilding began with the Army and Air Force. These two branches received the heaviest losses during the war with Iraq. Later, a widening in the rearmament program saw the acquisition of a Russian *Kilo* (SS) class diesel–electric submarine and missile craft. Although the rearming continues today from both Iranian and GCC perspectives, the GCC is incapable of providing regional stability without U.S. participation as set forth in the principles of the GCC organization.

Shortly following the start of the Iran–Iraq War in 1980, the six Gulf states formed the Gulf Cooperation Council. Though economic, social, and political aims exist, the main

purpose of the council was the creation of a defensive military alliance.[52] The GCC, fearing an Iranian victory in the Iran–Iraq War, believed that a disruptive element of the radical government would attempt to spread its Islamic revolution. Each GCC state then enhanced its military defenses through purchases of modern aircraft, armored vehicles, air defense systems, and missile–armed vessels. This acceleration of arms procurement closely emulates the rearmament program launched by the Iranian military, even though some Middle East reports suggest the arms campaign was initiated by the Gulf States.[53] Regardless of which country inaugurated the weapons race, the end result is a spiraling effect in various military armaments. To some extent, rearmament has also exposed a major weakness in the unity of the GCC.

To analyze the effectiveness of the GCC as a unified entity is difficult because of the lack of cohesion and absence of interoperability between the member states. "The GCC in no way is a dynamic organization such as, for example, a NATO ... too many political differences exist between the member countries which takes away from the cooperation needed in an organization."[54] In addition, no exercises or regional military cooperation have been observed outside of U.S. combined operations. One suggestion regarding the union of the Gulf States is that the organization is purely rhetorical in nature,

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[52] Metz, *Persian Gulf States: Country Studies,* 321.

[53] Chubin, *Iran's National Security Policy: Capabilities, Intentions & Impact*, 57.

[54] U.S. Department of State, Middle East desk officer, telephone interview by author, October 10, 1997.

with the responsibility for military defense left to each country. This is evident in that U.S. and other Western countries have operated in combined exercises with individual members, but never on a grand scale of operations.[55] Additional support for individual action is the fact that most of the countries continue to hold some type of irredentist claim with their neighbors. Despite this current lack of unity, the GCC members as a group continue to view Iraq and Iran as potential threats.[56]

The absence of unity amongst the Gulf nations contributes to the lack of a credible balance to the rising Iranian naval threat, specifically in the Strait of Hormuz region. Iran, on the other hand, has completed several joint exercises, conducting large naval operations that include small craft attacks and missile firings, coastal missile battery firings, amphibious landings, submarine maneuvers, and simulated air strikes with attack helicopters and strike fighters. The maneuvers, showcased to the region, display the relative military strength of Iran. However, observing the GCC reaction to this threat, no significant advancements in assets or capabilities are apparent. I suggest that Iran has the advantage of military strength. The question remains, how did Iran achieve this edge over the GCC?

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[55] Ed Blanche, "Gulf navies look further offshore," *Jane's Intelligence Review* 102, no. 2 (March 1997): 23.

[56] Anthony H. Cordesman, *Bahrain, Oman, Qatar, And The UAE: Challenges of Security* (Boulder, Colorado: Westview Press, 1997), 117–119, 207–209, 226–227, 287, 299–306; Cordesman, *Saudi Arabia: Guarding The Desert Kingdom* (Boulder, Colorado: Westview Press, 1997), 7–9.

The first answer lies in the conduct of Iran's exercises. The country has obtained a level of jointness amongst its military branches. All facets of the military have participated in operations such as interdicting the Strait of Hormuz, and demonstrate a proficiency which could successfully disrupt shipping traffic. Secondly, Iranian lines of communication have achieved greater sophistication, to the point that better coordination of assets is now possible. Increased coordination, also, generally allows for a better use of forces within a region.

Perhaps the most important strength of the Iranian rearmament, and the fault within the GCC, is that the Gulf organization has no real assets to balance Iran's submarine threat. Iran's submarines, if properly used against an organization like that of the GCC, could possibly operate autonomously without detection. Though the waters of the Persian Gulf are too shallow to conduct any type of underwater warfare, the Strait of Hormuz and the Gulf of Oman make the assets invaluable, especially for mine laying operations. Table 3–2 displays the fact that no Anti–Submarine Warfare (ASW) assets exist within the GCC organization. The lack of unity amongst the GCC could result in an unsuccessful defense against an aggressive Iranian military, or an inability to counter warlike actions against shipping in the Strait of Hormuz.

Comparison of GCC and Iranian Naval Forces
Table 3–2

Type	Bahrain	Kuwait	Oman	Qatar	Arabia	UAE	Iran
Destroyer							2
Frigate	1				8	1	3
Corvette	2		1			2	2
Small craft	10	5	12	9	29	17	46
Mine War					7		7
Amphib			5	1[1]	8[1]	3[1]	8
Submarine							3

Source: Graham E. Fuller and Bruce Pirnie, *Iran: Destabilizing Potential in the Persian Gulf* (Santa Monica, California: RAND, 1996), 38; International Institute for Strategic Studies (IISS), *The Military Balance, 1996/97* (London: IISS, 1996).
[1] Craft Only.

The threat of Iran has lingered for almost a decade, but exactly how have the GCC states countered the Islamic Republic's actions? Again the balancing has come from individual member's actions instead of actions taken by a cooperative organization. Table 3–3 identifies known major acquisitions amongst the Gulf states.

Major Conventional Arms Orders & Deliveries: As of 1996[1]
Table 3–3

Equipment	Type	Units	Supplier	Order Date	Delivery Date	Comment
Bahrain						
Helo	Bo–105	2	GE	1994	1995	Ex–Ge
MBT	M–60A3	60	US	1995	1996	Ex–US from stock in ROK; on Lease
SAM	Improved Hawk	8	US	1996	1997	Ex–US; eight batteries
Armored Vehicles	M–578	6	US	31 Jan. 96	Unk	Army, EDA[2]

Equipment	Type	Units	Supplier	Order Date	Delivery Date	Comment
Frigate	Perry Class	1	US	15 Feb. 96	Unk	Navy; EDA
MRLS	Loral Vought	151	US	10 May 96	Unk	Army; $41 M, FMS[3]
Ammo	All Types	Alot	US	11 Oct. 96	Unk	Army; EDA
Kuwait						
SAM	*Patriot*	5	US	1992	Unk	5 batteries and 210 missiles
AD Radar	*Peaceshield*	1	US	1991	1995	
Helo	UH–60L	16	US	1996	Unk	Armed variant, bloc by US Govt.
MBT	M1A2	218	US	1992	1994	Deliveries continued in 1996
AIFV	MCV–80	254	UK	1993	1995	Deliveries continued in 1996, 100 delivered by 1995
AIFV	BMP–3	100	RF	1994	1995	
SAM	SA–18	30	RF	1994	1995	
FPC	*Combattante*	8	Fr	1995	1999	
Oman						
MBT	*ChallengerII*	18	UK	1993	1995	
MBT	M60A3	50	US	1995	1996	Ex–US on lease
APC	*Piranha*	80	UK	1993	1994	Final deliveries 1997
Arty	G–5 155mm	25	RSA	1995	1996	
AAA	35mm AA	4	Unk	Unk	1996	4 batteries
Corvette	VT–83	2	UK	1992	1996	Second delivery 1997
Machine Guns	M85	100	US	17 May 96	Unk	Army; EDA
A/C Bomb Racks	*Jaguar* A/C	4	US	26 June 96	Unk	Air Force; On–loan
Patrol Boats	MK III	2	US	17 July 96	Unk	Navy; EDA
Missile Test Set	AN/ASN–447–40	1	US	18 Sep. 96	Unk	Air Force; $9,158; used w/ *Sidewinders*
Qatar						
FGA	*Mirage* 2000–5	12	Fr	1994	1997	
FAC	*Vita*–class	4	UK	1992	1995	1/1995, 1/1996, 2/1997
FPC/M	*Barza*–class	4	Fr	1993	1996	Deliveries 1996

Equipment	Type	Units	Supplier	Order Date	Delivery Date	Comment
Saudi Arabia						
FGA	F–15S	72	US	1992	1995	Deliveries until 2001
FGA	*Tornado* IDS	48	UK	1993	1996	Deliveries until 1998
Trg Pckg	*Hawk* 65	20	UK	1993	1996	Deliveries until 1997
Trg Pckg	PC–9	20	UK	1993	1996	Deliveries in 1996
AD Radar	*Peaceshield*	1	US	1991	1995	
MBT	M1A1	315	US	1990	1993	Final deliveries in 1995
MBT	M1A3	150	US	1990	1994	Final deliveries in 1995
APC	LAV	212	Ca	Unk	1995	Part of order for SNG
AIFV	M–2 *Bradley*	400	US	1990	1993	Final deliveries in 1995
Arty	155mm	Unk	UK	Unk	Unk	
FF	*Lafayette*	2	Fr	1994	1998	
FF	F–2000	4	UK	1994	1996	Delivery in 1996
MCMV	*Sandown*	4	UK	1988	1993	Final delivery 1995
Helo	As–532	12	Fr	1996	Unk	
Msl Upgrade	*Hawk*	Unk	US	15 Apr. 96	Unk	Army; $273 M, FMS
Support Maint	A/C; eng; AGM; AAM	Unk	US	15 Apr. 96	Unk	Air Force; $ 100 M, FMS
Surv. Upgrade	Unk	2 A/C	US	5 Sep. 96	Unk	Air Force; $350 M, FMS
Surv. Trg	Unk	Unk	US	5 Sep. 96	Unk	Air Force; $ 176 M, FMS
Air Defense Sup.; C3	Unk	Unk	US	26 Sep. 96	Unk	Air Force; $2,500M, FMS
UAE						
Trg	*Hawk*	26	UK	1989	1996	Deliveries began 1992
Helo	AS–565	7	Fr	1995	1997	
MBT	*Leclerc*	396	Fr	1993	1994	Delivered in 1996
ARV	*Leclerc*	46	Fr	1993	1995	
AIFV	BMP–3	330	RF	1992	1993	Delivered in 1995
FF	*Kortenaer*	2	Nl	1996	1997	Ex–Nl; second delivery in 1998

Equipment	Type	Units	Supplier	Order Date	Delivery Date	Comment
Iran						
Tpt	Y–7	12	PRC	1996	1998	Deliveries to 2000
MBT	T–72		RF		1995	Prototype *Zufuqar* 4
MBT	T–72	70	PL	Unk	1994	Deliveries to 1995
FAC	*Hegu*–class	10	PRC	Unk	1995	
SSM	C–802	100	PRC	Unk	1995	Anti–ship role
SS	*Kilo*–class	3	RF	Unk	1996	1 delivered in 1992, 1 in 1994, 1 in 1996
Mines	MC–52	Unk	PRC	1995	Unk	

Source: International Institute for Strategic Studies (IISS), *The Military Balance, 1996/97* (London: IISS, 1996), 125–27; *Arms Sales Monitor*, no. 33, (Washington, D.C.: FASF, February 24,1997), 8–12.
[1] List is not exclusive but includes confirmed transactions.
[2] Excess Defense Article (EDA) transfers. The Pentagon is authorized to ship the items 15 or 30 days after Congress is notified.
[3] Foreign Military Sales Agreement

The second military reaction by the GCC members is entrance into security arrangements with the United States. These arrangements, though politically flavored, highlight a commitment to regional security, stability, and the interests of the United States. These special arrangements are listed in the Gulf country reviews below. The bilateral arrangements are important, particularly because they allow the U.S. to maintain a presence in all facets of operations. In some cases, through negotiations in the arrangements, governments allow the U.S. to forward deploy ground troops, preposition equipment, use key shipping ports and airstrips, and construct Fleet Headquarters and storage facilities. Secondly, the countries receive a measure of security, training on advanced weapons, military financial aid including loans, and a U.S. commitment to the region. The country–by–country synopsis below highlights military and monetary interactions.

1. Bahrain

Bahrain has maintained military ties with the U.S. since the departure of British forces in 1971. Initially, the countries signed a land–lease agreement to support the Middle East Forces (MEF). With this agreement, in addition to the Gulf War, the U.S. furnished naval and air support during Operations Earnest Will and Praying Mantis.

On October 22, 1991, a ten year bilateral agreement was negotiated, expanding the U.S. presence in Bahrain. Specifics within the agreement allow for an increase in joint exercises,[57] and prepositioning of war supplies. In July 1995, Bahrain allowed the U.S. to create a headquarters for the FIFTH Fleet. In November 1995, Bahrain agreed to host 18 additional aircraft to fill the gap created by the absence of a U.S. carrier.[58]

Bahrain has purchased large amounts of military equipment.[59] Since 1988, the purchases have amounted to $583.7 million in U.S. Foreign Military Sales (FMS).[60] Bahrain also received $416 thousand in grant aid during the period covering FY 1992 to

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[57] The number of exercises has risen from two before the Gulf War to eight a year.

[58] Anthony H. Cordesman, *U.S. Forces In The Middle East: Resources and Capabilities* (Boulder, Colorado: Westview Press, 1997), 70.

[59] All dollar amounts hereon derive from *Foreign Military Sales, Foreign Military Construction Sales and Military Assistance Facts* (September 30,1996).

[60] Ibid., FMS agreements are defined as: the total value of defense articles and defense services purchased with cash, credit, and Military Assistance Programs (MAP) Merger Funds by a foreign government or international organization in any fiscal year.

FY 1996, from the United States' International Military Education & Training (IMET) Program.[61]

Bahrain cooperates with Saudi Arabia and is a strong supporter of the GCC. Although Bahrain has purchased U.S. weaponry in the past, the country's military has minimal interoperability with Saudi Arabian, Kuwaiti and U.S. military forces. In the area of boundary disputes, Qatar and Bahrain have disagreements over territorial control on the Hawar islands, the Fasht–e–Dibal reef, and the Jarada sandbar off Qatar's northwest coast. This problem has kept Bahrain from achieving a greater role in the regional collective security movement.

2. Kuwait

In the past, Kuwait maintained security through balancing the competing political and military interests of its neighbors. However, the country's ships were reflagged by the U.S. during the tanker war and relied heavily on a U.S. led Coalition force to drive Iraq out of their territory.

Kuwait has signed security agreements with Britain, France, Russia, and the U.S. The arrangement with the U.S. is a ten year bilateral agreement signed on September 19, 1991. Similar to other security arrangements, it allows the use of facilities and ports by

[61] Ibid., IMET is transferred in a dollar value allocated in any fiscal year for the training of foreign military students both overseas and in the continental United States, and the cost of training aids and materials associated with such training. The U.S. Government receives no dollar reimbursement. This program is considered fully delivered when funded.

the U.S. military. In a telephone interview with the U.S. Department of State, an official, who wished to remain anonymous, suggested that the security arrangements serve as a foundation to counter Kuwait's most feared threat – Iraq.[62] Additionally, to offset the accrued costs of maintaining a balancing force, the Kuwaiti government provides $35 million a year to the U.S. Since 1988, the country has purchased $3.9 billion in U.S. Foreign Military Sales (FMS), of which $3.1 billion has been delivered.

Within the region, Kuwait maintains good relations with all of the southern Gulf States but maintains its distance during disputes. The country is also a strong advocate of GCC defense integration. Kuwaitis understand the difficulties and financial shortfalls of accomplishing this task.[63]

3. Oman

Oman's close cooperation with the U.S. extends to allowing the U.S. access to its bases, and to prepositioning war materials. In addition, the two countries have conducted exercises in Oman. Historically, the British government has worked closely with all branches of the Omani defense, including air, naval, army, and anti–terrorists organizations. France also has completed limited training of Omani officers.

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[62] U.S. Department of State official, telephone interview by author, October 9, 1997. According to the source, "Iran is a secondary threat to Kuwait."

[63] Cordesman, *Kuwait: Recovery and Security After the Gulf War* (Boulder, Colorado: Westview Press, 1997), 124.

Oman has signed and renewed its military access agreement of July 1981, which allows the U.S. to build containments, shelters, and other facilities, with all costs being paid by the U.S. Oman has supported U.S. led initiatives for forward staging of air reconnaissance and tankers.

Since Iran's rearmament, Oman has purchased $94.3 million worth of U.S. Foreign Military Sales (FMS), and taken delivery on $82.5 million worth. Furthermore, Oman received slightly over $1.0 million of IMET military training assistance from the U.S. since FY 1988. Many arms are British supplied, but the country lacks the financial resources to purchase additional military armament.

As for relations with its Gulf neighbors, Oman has differences with Saudi Arabia concerning territory and has accused the Saudis of attempting to dominate the GCC. These shortcomings affect Oman's limited contributions to the Gulf Cooperation Council's collective security arrangements.

4. Qatar

U.S. security relations with Qatar developed after the tanker war, and were later revived prior to the Gulf War. Although tensions did develop over Qatar's purchase of smuggled *Stinger* missiles from Afghanistan in 1988 to 1990, since that period relations have improved. The country has permitted air units to stage during times of conflict and during the operation of no–fly–zone sanctions over Iraq. On June 22, 1992, Qatar and the U.S. negotiated a bilateral security arrangement allowing the use of both air and naval facilities.

Since the bilateral arrangement, countless exercises have been conducted with U.S. forces. The arrangement allows prepositioning of heavy U.S. Army equipment and the forward deployment of U.S. air units to fill any operational gap left by a carrier battle group. In addition to the U.S. presence, France has a limited presence as well.

Qatar's defense consist largely of French equipment, resulting in limited operability and sustainability with U.S. forces. Since the rearmament spiraling began, it has purchased $6.9 million in U.S. Foreign Military Sales (FMS) and taken delivery on $3.96 million worth.

Qatar's relations with the Gulf community are critical. As mentioned above, there is an ongoing dispute with Bahrain. In addition, there is tension with Saudi Arabia and the UAE. It seems that the tensions are more politically oriented, and normally are between the ruling families.[64]

5. Saudi Arabia

There is no formal security agreement, although the country holds close military ties with the U.S. and has expanded U.S. access to Saudi air and seaports. Though there is no formal agreement, Saudi Arabia did renew its U.S. Military Training Mission Agreement with the U.S. in June 1992.[65]

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[64] Cordesman, *Saudi Arabia: Guarding The Desert Kingdom*, 222–226.

[65] Cordesman, *U.S. Forces In The Middle East: Resources and Capabilities*, 74–75.

On a combined forces scale, the Royal government has cooperated closely with the U.S. in setting up air and naval defenses against Iran beginning in 1983, when Iraq came under serious military pressure from Iran. Both countries established the "Fahd Line," creating an Air Defense Identification Zone (ADIZ) and forward air defensive system off the Saudi coast. This defensive system supported Saudi Arabia in the shoot–down of an Iranian F–4 testing the ADIZ on June 5,1984.[66] Since then, the U.S. and Saudi Arabia have jointly operated E–3A AWACS.

Since 1988, it has purchased $34.3 billion worth of U.S. Foreign Military Sales (FMS), and taken delivery on $19.5 billion worth. Saudi weapons purchases have increased both interoperability and sustainability with U.S. forces. In addition, the purchases have reduced the unit cost per equipment purchased by U.S. forces. That is, the U.S. and Saudi Arabia cooperatively purchase large amounts of armament together and share in the lower unit prices given by the manufacturer.

Saudi Arabia maintains good relations with Bahrain, Kuwait, and the United Arab Emirates. However, the country has continued its territorial disputes with Oman and Qatar.

6. United Arab Emirates

The UAE negotiated a security arrangement with the U.S. in 1992 that offered the U.S. access to UAE air and naval facilities. Both countries signed a Defense Cooperation

[66] Ibid.

Agreement on July 23, 1994. Conditions within the agreement permit the U.S. to preposition navy equipment in Jebel Ali and in Fujirah.

UAE forces have conducted combined air operations with the U.S. In addition, the UAE deployed a squadron of fighter aircraft to Kuwait when Iraqi forces moved toward the Kuwaiti border in October 1994.[67]

The UAE has bought large amounts of U.S. equipment, including (I)HAWK missiles and AH–64 *Apache* attack helicopters. Since 1988, UAE has purchased $1.1 billion worth of U.S. Foreign Military Sales (FMS), and taken delivery on nearly $1 billion worth. UAE forces have a wide range of equipment from multiple countries. One reports suggest moderate interoperability and sustainability with U.S. forces.[68].

D. ANALYSIS

Some points of interest have risen regarding the arms race in the Middle East and the capability of the GCC to defend itself and the Strait of Hormuz. First, the arms race was initiated by Iran and the reactions by the U.S. have been more explicit than that of the GCC. For instance, Iran continues to rebuild its Army and Air Force by acquiring tanks and planes. The U.S. has reacted by prepositioning tanks, deploying air wings, increasing its naval presence and integrating an air defense system. Subsequently, members within

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[67] Cordesman, *Kuwait: Recovery and Security After the Gulf War,* 127.

[68] Cordesman, *U.S. Forces In The Middle East: Resources and Capabilities*, 77.

the GCC have followed the U.S. lead and are acquiring their own planes, tanks and air defense systems.

The next point of interest relates to the ease with which one can observe the independent reactions of the countries that form the GCC, compared to observing the GCC as a single entity. These observations focus mainly on a general lack of interoperability, and the problems associated with a lack of cooperation resulting from the ongoing territorial disputes between the member states. Most importantly, these factors generally prevent any collective security amongst the members. In addition, the economic downturns have precluded any massive military modernization. With these issues in mind, the question of capability attracts attention.

A GCC force would require significant U.S. military assistance to defend the sovereignty of the regional countries and the interests of the United States. The GCC requires many technological advances to enable it to act as a sole entity. Those technological advances should be in air defence radars, information operations, C^4I and ASW to name a few. In addition, the countries must learn to operate together. Table 3–4 below is an overall compilation of Gulf forces personnel, numbers of tanks, combat aircraft and combat ships. The size of Iran's major capabilities is important when compared with the Gulf States. If Iran and Iraq joined forces, which one expert believes is an "inherent risk," then the Gulf States are grossly outmanned and out–tanked.[69] Further,

[69] Anthony Lake, "Confronting Backlash States," *Foreign Affairs* 73, no. 2 (March/April 1994): 54.

the GCC has only a few more combat aircraft and ships than a combined Iran and Iraq. Although, the comparison may now weigh in favor of U.S. interests, in seven to eight years the scale could favor those countries with interests different from the U.S.

Comparison of Major Military Capabilities: 1996/1997

Table 3–4

Country	Active Military Manpower	Tanks	Combat Aircraft[1]	Combat Ships[2]
Iran	513,000	1,440	304	56
Iraq	382,500	2,700	121	5
Total	895,500	4,140	425	61
Bahrain	11,000	106	48	10
Kuwait	15,300	215	92	2
Oman	43,500	91	46	13
Qatar	11,800	24	32	7
Saudi Arabia	162,500	1,055	336	37
UAE	64,500	201	141	20
Total GCC	308,600	1,692	695	89

Source: International Institute for Strategic Studies (IISS), *The Military Balance, 1996/97* (London: IISS, 1996).

[1] Includes armed helicopters when applicable.

[2] Includes submarines when applicable.

IV. VARYING LEVELS OF INTERDICTION

A. OVERVIEW

Within an aggressive rearmament program, Iran has taken extra steps towards upgrading its military effectiveness, notably in the vicinity of the Strait of Hormuz. In this chapter, I classify Iran's threat by translating it into an interdiction threat descriptive of Iran's current military strength. I accomplish this by first examining the definition of interdiction, and then introducing a four tiered model of interdiction levels. My model provides a means to assess the current Iranian threat of closing the Strait of Hormuz.

B. INTERDICTION DEFINED

Iran has the capability to interdict the waterway; however, the concept of interdiction may range from a mere "hail" to an aggressive hostile act, such as missile or submerged mine attacks. In other words, interdiction can be broadly defined as the ways by which disruptions in naval/maritime movements are accomplished.[70] In Table 4–1, I define varying levels of interdiction.

[70] Interdiction is defined in *Webster's Dictionary* (U.S.A.: Nickel Press, 1990), 229, as: **in ter dict** v. To forbid or prohibit by official decree; In addition to the civilian usage of the verb, the Department of Defense (DoD) definition is: An action to divert, disrupt, delay, or destroy the enemy's surface military potential before it can be used effectively against friendly forces. (JP 1–02).

Four Tiers of Interdiction

Table 4–1

Interdiction Level	*Objective*	*Likelihood*
Threat	Claims of capabilities to close the Strait.	Current initiative.
Harassment	Other than "head–to–head" conflict.	Low cost operation, use "vessels for hire"; only a short term disruption.
Vital or strategic	Disrupt adversary's military movement in preparation for conflict.	Moderate risk involved; can inflict substantial casualties to adversary; repercussions may be high.
Closure Operations	Outright closure and sustained closure of the Strait.	Unable to sustain operation of this magnitude; too costly on political, military, and economic scales.

The lowest form of interdiction descriptive of the Iranian military is *Threat Interdiction* (TI). Either implicit or explicit, TI describes the current Iranian initiative. The implicit threat derives from U.S. observance of exercises, Iranian claims to new found capabilities, or improvements in exercises. Iran's concept of operations is discussed below, however, certain trends have been noted during numerous joint exercises. For example, the joint exercises included live missile firings, special operations, and increased coordination of forces.

Explicitly, threats rise as mere reactions to a U.S. presence. For example, when Iraq was moving close to the Kuwaiti border in March 1995, U.S. officials saw a sizable build–up of Iranian troops, artillery, and several missiles on islands within range of the

Strait of Hormuz. It was thought to be a reaction by the Iranians to the increased U.S. presence, thanks to Iraq's questionable movements. However, many experts believe that Iran's moves were no threat to the security of the region. As stated by Professor Anoushiravan Ehteshami from the University of Durham in England, "The Iranians' body language is not at all threatening as far as western strategic interests are concerned."[71] In essence, U.S. planners are merely overestimating the actual capability of the Iranian forces. I suggest these actions of Iran are barely a threat and no more.

Another example is the rhetoric spoken by a senior Iranian official, following yet another military exercise. His claim suggested that the exercise was "aimed at maintaining the combat readiness and operational potential of the armed forces."[72] Limited resources in force strength and capabilities have kept Iran from pursuing new ventures in warfare. In essence, the trends we see as U.S. planners are realistically those exercises to which they are limited. Consequently, inspite of the constant rhetoric,[73] I classify Iran's capability as merely an exaggerated threat. "Threats from military leaders do not necessarily hold the same credibility as threats from the upper echelons of government ... that's when the U.S. needs to worry."[74] So far, no government statements suggesting the

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[71] Jonathan S. Landay, "Pentagon Puzzles Over Iran Buildup," *Christian Science Monitor* 10 (March 1995): 4.

[72] "Amphibious forces tested," *Jane's Defense Weekly* 24, no. 14 (October 7, 1995): 22.

[73] Ed Blanche, "Iran able to close Strait of Hormuz, says general," *Jane's Defense Weekly* 27, no. 18 (May 7, 1997): 18.

[74] Gregory Giles, Science Applications International Corporation (SAIC), telephone interview by author, September 23, 1997.

closure of the Strait of Hormuz have been made. Hence, interdiction for purposes of closing and sustaining the waterway is highly unlikely against a credible counterforce.

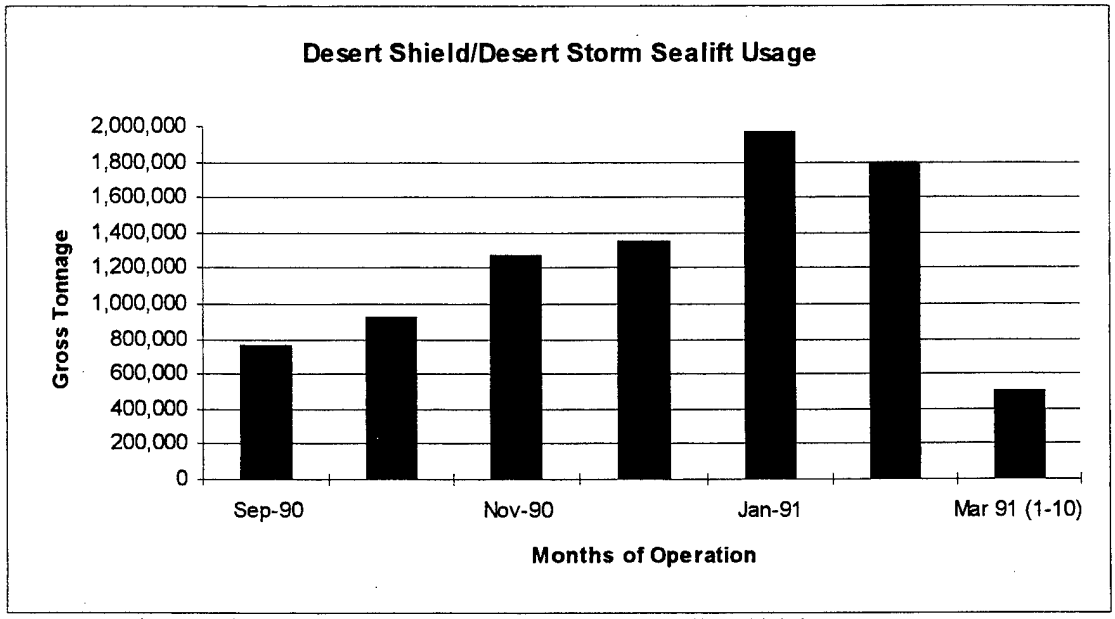
Harassment Interdiction (HI)) is the second tier of the model.[75] This type of interdiction relates to hit–and–run tactics where the aggressor refrains from actually meeting the adversary in a head–to–head confrontation. Iran does possess this capability. I suggest this type of interdiction is low cost, and may result in a short term disruption of traffic. For Iran, HI could achieve disruption for the low cost of the deploying mines from a merchant ship or "vessel for hire." Though HI is meant to slow or disrupt incoming traffic, this operation is short term as a result of detection by opposing forces, or the movement of opposing forces into an area thus preventing further operations.

A scenario in which this type of interdiction could have possibly been utilized derives from the events following Iraq's invasion of Kuwait in August 1990. In preparation for war and support thereafter, from August 1990 to March 1991, the U.S. shipped goods via sealift to the United States Central Command (USCENTCOM) Area Of Responsibility (AOR). Of all supplies moved by either airlift or sealift to the region, 94 percent was transported through sealift, totaling 9,151,538 tons, of which 96.5 percent

[75] Graham H. Fuller and Bruce R. Pirnie, use the word "harass" as a label in defining an operation against merchant and commercial fishing vessels of the Gulf. See, *Iran: Destabilizing Potential in the Persian Gulf*, 51. My use of "harassment" here describes a level in which Iran pretends to or schedules forces that appear to be capable of an aggressive interdiction operation.

was carried through the Strait of Hormuz.[76] Table 4–2 is a breakdown by month on the amount of supplies shipped to the AOR in preparation for war.

Table 4–2



Gross tonnage is a combination of unit cargo, ammunition, petroleum, oil, and lubricants.
Source: James K. Matthews and Cora J. Holt, *So Many, So Much, So Far, So Fast* (Washington, D.C.: U.S. GPO, September 1996), 13.

During the build–up period, a simple Iraqi merchant vessel for hire could have placed mines in the Strait of Hormuz, adjacent shipping channels or around Al Jubayl and Ad Damman, the two major Gulf ports of debarkation used by the coalition forces in Saudi Arabia. This type of effort would have definitely slowed the entourage of U.S. forces and supplies coming into the Persian Gulf. Additionally, the U.S. had no anti–mine

[76] Matthews and Holt, *So Many, So Much, So Far, So Fast*, 20.

vessels in the region until October 1, 1990.[77] Depending on the mined locations, the potential use of mines would have "bottlenecked" shipping in the Gulf of Oman. The amount of shipping through the Strait in preparation could have been disrupted for a period of time, allowing Iraq to establish a firmer hold on its military positions, or continue into Saudi Arabia if desired.

The next tier of the threat model is *Vital* or *Strategic Interdiction* (VSI), in which a country may deny the usage of an international waterway to prevent an adversary's refurbishment, ship movements, or reaching key positioning areas. I suggest the architects of an interdictive attack benefit from the element of surprise. With the element of surprise, high casualty rates are possible for those adversaries being denied the freedom of passage. For example, when a Carrier Battle group is transiting the waterway, the vessel is well inside a missile threat envelope throughout the transit, and thus a easy target. However, the negative side to this threat level, at least for the initiators, is possible repercussions. That is, should any U.S. vessel fall under attack, the U.S. is more than likely prepared to counter attack with great force. The ultimate downfall is that the expended resources used for upgrading the interdiction are likely to be destroyed. Moreover, this type of interdiction is closely related to HI. The only difference is that the VSI operation is more widespread and intense.

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[77] Ibid., 250; For a detailed chronology of force projection during Desert Shield/Desert Storm, see Appendix 2 of Matthews and Holt, *So Many, So Much, So Far, So Fast*, 1996.

Closure Operations Interdiction (COI) is the ultimate denial of free navigation through any waterway. This scenario prohibits the passage of all sea vessels due to closure by military force. In this case, the Iranian Navy, in cooperation with the Iranian Republican Guard Corps (IRGC), Army, and Air Force, secures the Strait of Hormuz to all shipping. Tools of closure could consist of gunboats, land and ship–based missiles, land–based artillery, submarines, moored and rocket propelled mines, and aircraft including jet fighters, maritime patrol, and attack helicopters and special operations. How does this form of interdiction apply to the Iranians? From a strategic planning perspective, this application is a worst case scenario and requires a capability not only to initiate the closure, but also to sustain the ongoing operation.

Iran's capabilities of operating at this level are twofold. First, given a scenario where the GCC was forced to act without the assistance of the U.S. military, Iran could probably close and sustain a closed Strait of Hormuz. Contributing factors to Iran's possible success in this scenario are: the GCC's lack of interoperability; lack of training; lack of a commonality in weapons systems; and unresolved issues between some of the GCC members. Secondly, Iran is currently incapable of sustaining a closed waterway if opposed by the U.S. The U.S. military capability still remains the dominant force within the Gulf region which may overwhelm an Iranian attempt at closing the Strait.

Three scales of influence come into affect in operations of this nature and may conceivably prevent Iran from attempting to close the Strait. The first is political. Iran falls likely prey to increases in sanctions, but may also feel outside pressures from its

closest trading partners, on both the economic and defense scales. The second influence is militarily related; the rearmament program in place lacks an adequate logistical build–up of support equipment for Iran's naval forces. Furthermore, Iran has tended to acquire sophisticated weapons systems which it can not support in terms of sustainment for a prolonged period. The final influence is the economics of COI. Iran would essentially cut off relations in the form of commerce, market exploitation, and the like. Today, the Islamic Republic is submerged in high inflation, accrued debt, and outstanding loans, with oil as its primary source of revenue.[78] Attempting COI demolishes or retards any plans of a national revival. Against the U.S. naval forces currently deployed, Iran is incapable of sustaining a COI.

C. ANALYSIS

This study is not intended to downplay the Iranian threat to U.S. interests within the region, but the U.S. must not forget the fact that we may not have six months of military build–up before a war. As mentioned above, Iran could easily inflict damage to U.S. troops and sailors in other than "head–to–head" conflicts. However, the current Iranian ability to interdict the Strait of Hormuz in this study is classified at and limited to the *Threat Interdiction* or (TI) level. That is, the country is only capable of rhetorically threatening to close the Strait of Hormuz. The likelihood of Iran attempting to close the Strait too costly an operation on both the military and political scales, and most

[78] Ahmad Ghoreishi and Dariush Zahedi, "Iran's SecurityConcerns in the Persian Gulf," Naval War College Review XLIV, no. 3 (summer 1996): 74–78.

importantly on the economic scale. Iran's greatest revenue derives from oil sales. Oil transits the Strait. If Iran closes it, Iranians could be the first to suffer.

V. CONCLUSION

The Islamic Republic of Iran has strived to enhance the overall capability of its forces adjacent to the Strait of Hormuz. The focus of this thesis remains on the ability to act rather than the intention to attack. In the second chapter, I examined the current Iranian military rearmament initiative and described an expanded focus that now includes naval acquisitions of submarines, surface combatants, and technologically advanced weapons systems including air and surface defense missiles. This broadening posed numerous questions regarding announced threats and Iran's capability to sustain a closed Strait of Hormuz. Moreover, considerations were given to maintenance practices, financial resources, proficiency levels, and sustainment requirements in the overall assessment of Iran's capability.

Following an examination of the Iranian military capability, I observed military reactions by the United States and Gulf Cooperation Council to the Iranian rearmament. I argued the fact that a spiraling effect in arms acquisitions has taken place between the Persian Gulf states. Furthermore, the evidence suggests the Islamic Republic initiated the race. A better understanding of GCC reactions was obtained by examining the members independently than could be achieved by observing the GCC as an entity. I highlighted the facts that a lack of cooperation and interoperability continues to divide the GCC countries. These factors prevent any real collective security amongst the members and consequently point to the necessity for U.S. assistance and leadership in regional activities. It is difficult to envision a unified GCC by itself stopping or impeding a possible Iranian expansion.

The term interdict was discussed and applied towards the current Iranian military capability. I introduced several levels or categories of interdiction and placed the Iranian capability into a threat level. Most importantly, this classification supports findings on whether the Iranians actually possess the ability to close and sustain a closed Strait of Hormuz.

The intent of this thesis is to shed light on the Iranian threat to U.S. interests within the region and assesses the Iranian capability. Iran could easily inflict damages to U.S. troops and sailors in other than "head–to–head" conflicts; however, the current Iranian ability to interdict the Strait of Hormuz is classified at the *Threat Interdiction* or (TI) level. That is, no evidence exists suggesting that the Iranians can sustain for a serious length of time any closure operations on the waterway. Iran possesses the capability to disrupt the flow of traffic through the Strait, but is incapable of sustaining a closed Strait of Hormuz against a credible counterforce.

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