
**MARITIME SECURITY IN THE
MIDDLE EAST AND NORTH
AFRICA:
A STRATEGIC ASSESSMENT**

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Executive Summary

The waterways of the Middle East and North Africa (MENA region) are among the most important in the world. They facilitate the export of large volumes of oil and natural gas from the region, while also bridging traders in the Eastern and Western worlds through the Red Sea and Suez Canal. While political tensions in the region have at times played out in these waterways since the mid-20th century, their vulnerability has been exasperated in recent years by the failure of bordering governments to promote internal stability, the lack of adequate maritime security capabilities of nearby states, and the potential naval threats posed by the government of Iran.

The purpose of this study is to identify key threats to maritime security posed by state and non-state actors in the MENA region, to assess what actions have been taken by stakeholders to promote security, and to explore what further steps could be taken by those stakeholders to close the gap between threats and capabilities. These threats will be addressed in broader strategic context, with the hope of mitigating threats and capability shortcomings that impact a variety of stakeholders.

Three waterways in the MENA region are at particularly high risk and will be the focus of this assessment: the Suez Canal, the Persian Gulf, and the Gulf of Aden. In the Suez Canal and the Gulf of Aden, maritime commerce is threatened by a severe lack of stability in the environment around the waterways. In Egypt, the repeated coups in Cairo have led to security dilemmas in which an uprising driven at least in part by radical Islamists has threatened the military government – and the canal by extension. The situation in the Gulf of Aden bears similarities, as the poor economic and security conditions in Somalia have led to the development of piracy enterprises that target commercial traffic in the Gulf and broader Indian Ocean.

The Suez Canal and the Growing Threat of Egyptian Terrorism

The Suez Canal is a vital waterway for bridging trans-hemispheric ocean freight, and is particularly important given its location near key oil producing states. Oil tankers are a strong and growing source of traffic through the waterway. Approximately 7% of oil transported internationally by sea freight transited the canal in 2012. Oil transiting the canal amounted to roughly 2.97 million barrels a day (bbl/d) – the largest volume of oil handled in the canal’s history. Of that volume, 1.66 million bbl/d was destined for Europe and North America. A large portion of the world’s natural gas exports are also shipped via the canal. In 2012, roughly 13% of the world’s exported LNG transited the canal – 1.5 trillion cubic feet worth.¹

The canal has been a lucrative source of revenue for the Egyptian government. Revenue in the Third Quarter of 2013 is reported by the Egyptian State Information Service as having been \$1.326 billion. During that period, roughly 4,224 vessels transited the canal.² As the historically strong influx of foreign travelers to destinations in Egypt has waned, the canal has drawn more foreign capital into the country than any other facet of the Egyptian economy.

The collapse of the Muslim Brotherhood-backed government led by President Mohammed Morsi was particularly tragic as the government was legitimately and democratically elected, yet seemingly incompetent at leading and making real its commitment to minority rights in the new government. The resulting coup against President Morsi's government has yielded a familiar security dilemma in Egypt – one which the provisional military government has proved just as incapable of addressing as its predecessor governments under President Mubarak. In the months since the most recent coup, there have been numerous terrorist attacks launched by emerging groups such as Ansar Beit Al-Maqdis and Al Furqan Brigades. While the government has proved incapable of deterring or preventing the many barbaric attacks against government targets by Ansar Beit Al-Maqdis in particular, the regime has chosen rather to commit its efforts and resources to ostracizing and reducing the impact of the Muslim Brotherhood, an organization with no known links to any of these attacks.

While the 2013 coup was against a democratically elected government, there was serious concern about the divisive policies pursued by the Morsi government. There were concerns with a lack of plurality in the drafting of a national constitution, with key non-Muslim factions not being involved in the drafting process.³ In November 2012, President Morsi also sought to exercise presidential authority over the judiciary, compromising separation of powers within the government.⁴

Since June of 2013, no less than nine security incidents have taken place involving the canal or the areas in the vicinity of the canal. Two of these involved attempted attacks on vessels transiting the canal, and were committed by Al Furqan Brigade. Even without the ability to sink a vessel in the canal, groups like Al Furqan Brigades could still pose a serious threat to Egypt and the maritime trade industry. Perhaps a more realistic threat would be the broader impact on the global shipping and insurance industries in terms of risk assessment and confidence – which could have a direct impact on the Egyptian economy.

Exacerbating these threats is the increased reliance on the Suez Canal by the international shipping community that is expected in the coming years. The Suez and Panama Canals both play vital roles in allowing vessels to cross from the eastern to western hemispheres, and vice versa. The trend in the international ocean transportation community has been to grow the size of container freight vessels currently servicing major trade lanes. The maximum dimensions of vessels permitted to transit the Suez Canal are larger than the dimensions for those ships traveling the Panama Canal.

In light of these threats, a number of recommendations are suggested for reinforcing canal security:

- Redrafting a new international agreement covering the canal to succeed the century old Constantinople Convention. This agreement should clearly define rules of engagement for dealing with non-state actors threatening the canal;
- Expanding canal security measures that have already been put into place – such as developing forward looking infrared (FLIR) sensors along vulnerable sectors of the canal and promoting interoperability amongst the Egyptian armed forces;

- Offering special protection – such as naval vessel and aircraft escorts – for sensitive vessels transiting the canal, including oil and liquefied natural gas (LNG) tankers;
- Developing an internal security strategy in Egypt that places a greater emphasis on targeting extremist groups and less of an emphasis on antagonizing the Muslim Brotherhood;
- Steamship lines must adequately assess risk and plan for contingencies in the event that Suez security further deteriorates.

The Gulf and Threats from Iran

No waterway is more vital to the international trade of oil and natural gas than the Gulf in general and the Strait of Hormuz in particular. As the gateway for the world's largest energy exporters, the Strait of Hormuz – despite its small size – is a critical node to international trade. The Strait consists of a narrow corridor that passes between the southern coast of Iran to the north and the coasts of the UAE and Oman to the south. The U.S. Energy Information Administration considers the Strait to be “the world's most important oil chokepoint”.⁵

Iran's tensions with the Gulf Arab states over the course of the past 50 years are rooted in several interrelated issues. Dating back to the 1970s, there has been a dispute over the ownership of three islands in the Gulf just west of the Strait of Hormuz – Abu Musa and the Greater and Lesser Tunbs. Another point of tension between Iran and the nearby Arab states stems from their differing identities, Shia and Sunni respectively, and the diametrically dissimilar strategic visions and alliances that the two groups have.

As a radical Islamist government emerged in Tehran through the 1979 revolution, the Iranian regime promoted the revolution in the Arab Gulf states. Today, concerns continue amongst the Gulf Arab states over possible Iranian meddling in regional affairs. Iran's strong hand in political developments in post-Saddam Iraq, its alleged links to terrorism and coup attempts in Bahrain, and the plotted assassination of the Saudi Arabian Ambassador to the United States by an Iranian operative have all contributed to the current unease. Adding to these concerns, Iran has made multiple threats in recent years to block access to the Strait of Hormuz.

The Islamic Republic of Iran Navy (IRIN) and the Iranian Revolutionary Guards Corps (IRGC) Navy pose a myriad of threats to Gulf shipping – including the deployment of advanced mines, submarine warfare, anti-ship missiles, torpedoes, and small boats. While the Gulf Arab states have been taking steps to develop their maritime forces in recent years, there is still a considerable capabilities gap between Iran and the Gulf states in areas such as submarine warfare.

If tensions over Iran's nuclear problem were to escalate to the point of conflict, Iran might well resort to the use of unconventional tactics, as Iran could gain little by attempting to wage a conventional war. The previous use of force against commercial maritime vessels during the tanker wars reflects Iran's interest and demonstrated capabilities in carrying out such attacks.

Any conventional attack – even on the Strait of Hormuz itself – or a broader attack that results in the Strait being unnavigable is unlikely to be carried out by the Islamic Republic. This is due to Iran's own reliance on the Strait for its own international trade, as well as the diplomatic fallout such an event would have on Iran's relations with key traders such as China. Iran has much more leverage to gain by either making threats that effect strategic thinking and drive up the price of oil, and launching smaller tactical attacks on individual vessels if need be.

The following recommendations are made to mitigate the risks posed to maritime security by Iran's naval warfare capabilities:

- Improving Gulf Cooperation Council (GCC), Iraqi, and Yemeni naval and coast guard capabilities;
- Advancing collective security within the GCC from the theoretical to the practical by promoting integration and interoperability;
- Sustaining naval and coast guard capabilities amongst the Gulf Arab states through expanded training as well as technical and logistical support.

Piracy in the Gulf of Aden, the Arabian Sea, and the Broader Indian Ocean

The Gulf of Aden serves as a link connecting the Red Sea and the Arabian Sea, thus serving as a key transit point for East-West cargo traveling to or from the Suez Canal. The waterway is situated between the Yemeni coast on the Arabian Peninsula and Somalia and Djibouti on the east African coast.

The Gulf of Aden opens to the northwest to the Red Sea through the Bab el-Mandab – a waterway that narrows to 18 miles between Yemen and the coastlines of Djibouti and Eritrea. This waterway is considered a “chokepoint” for oil trade by the U.S. Energy Information Administration. It handled roughly 3.4 million bbl/d of oil in 2011, and saw volume as high as 4.5 million bbl/d in 2008. Bab el-Mandab is navigable through a pair of channels – each two-miles wide.⁶

To the east the Gulf of Aden opens to the Arabian Sea and eventually the broader Indian Ocean. The Indian Ocean waters off the east coast of Africa and extending to India have become prime environments for piracy in recent years – likely due to their vital importance to regional and global commerce.

The poor economic and political environments in the states bordering the Gulf of Aden pose a risk to maritime security in the surrounding waters and the broader Indian Ocean. Somalia in particular is the poorest country per capita bordering the Indian Ocean (and the fifth-poorest country in the world by the same metric),⁷ and has suffered from a lack of permanent centralized governance since 1991. The social, political, and economic situation in Somalia has undoubtedly been a factor in the rise and spread of piracy. The poor quality of education, strong reliance on agriculture, and lack of central governance have led to myriad problems for the Somali economy.

Across the Gulf of Aden, the situation in Yemen has grown steadily more serious. Yemen suffers from many of the same social, political, and economic problems as Somalia, though to a less severe extent. While it does not appear that pirate attacks are being launched directly from Yemen as they are from Somalia, the country's turmoil is a problem that some believe can exacerbate the piracy threat; It is believed that observers in Yemen may be providing pirates with the intelligence necessary to identify which ships transiting the Gulf of Aden are ideal for targeting.

While data suggests a decrease in the number of piracy incidents in recent years, this should not be mistaken to be the result of the elimination of piracy. There is also reason to believe that reporting data on piracy incidents may be skewed by the fact that as requirements for reporting change, accounts of incidents are not making it into statistics. Despite this, International Maritime Organization (IMO) data suggests that fifteen attempted or committed piracy incidents took place between January and September 2013.

The IMO data indicates that in the vast majority of cases, the actions of onboard security personnel and/or of the crew in compliance with the Best Management Practices (BMP) guidelines appear to have been a turning point in deterring further pirate aggression. Moreover, it appears that one of the only successfully reported hijackings of sea craft of any kind in the region was of a fishing vessel. There are no reports of EU, NATO, or other military vessels playing a decisive role in preventing a pirate attack once the pirates began their pursuit of a vessel.

The data also show that while the piracy issue may be emanating from Somalia, the scope of the threat stretches far beyond the Somali coast. The phenomenon has yielded a burden of \$63.5 million in ransoms and associated fees,⁸ in addition to 589 hostages that were taken in 2012.⁹ Considerable costs have also been borne by the shipping community at large through heightened insurance premiums, and in some cases, additional transportation costs in navigating away from the High Risk Area (HRA).

Given the absence of a functioning Somali military, the international community has assumed responsibility for combating these threats. The EU has deployed a naval force under Operation Atalanta that patrols regional waters, as has NATO and several other governments. Private security is also in use by some vessels to provide protection, and the BMP guide has been issued to provide the shipping industry with guidance on preventive measures to avoid pirate hijackings. Private security and the BMP have proven highly effective thus far.

There are several recommendations, however, which might further strengthen the anti-piracy efforts in the broader Indian Ocean:

- Making the use of armed security more widespread and adapting internationally recognized standards for their use;
- Making the adoption of BMP measures more widespread through the creation of international reporting and planning requirements;
- Simplifying the streamlining reporting measures for attempted and committed piracy incidents to ensure that statistics on piracy accurately reflect reality
- Developing sustainable maritime security capabilities amongst the Gulf Arab states and Somalia so they may eventually assume responsibility over the security of their own waters.

Chapter I – A Brief Introduction to Maritime Security

The waterways of the Middle East and North Africa (MENA region) are among the most important in the world. They facilitate the export of large volumes of oil and natural gas from the region, while also bridging traders in the Eastern and Western worlds through the Red Sea and Suez Canal. While political tensions in the region have at times played out in these waterways since the mid-20th century, their vulnerability has been increased in recent years by the failure of bordering governments to promote internal stability, the lack of adequate maritime security capabilities of bordering states, and the potential naval threats posed by the government of Iran.

The purpose of this study is to identify key threats to maritime security posed by state and non-state actors in the MENA region, to assess what actions have been taken by stakeholders to promote security, and to explore what further steps could be taken by those stakeholders to close the gap between threats and capabilities. These threats will be addressed in broader strategic context, with the hope of mitigating threats and capability shortcomings that impact a variety of stakeholders.

While there is no universally accepted definition of maritime security – even by the international organizations that govern it – it will be defined for the purpose of this study as “[t]he combination of preventive and responsive measures to protect the maritime domain against threats and intentional unlawful acts.”¹⁰ While some more conventional security concepts are state-centric, control over and involvement in maritime security is not exclusively controlled by state actors.

As pointed out by the George W. Bush Administration in its *National Strategy for Maritime Security*, “[m]aritime security is best achieved by blending public and private maritime security activities on a global scale into an integrated effort that addresses all maritime threats.”¹¹ The scope of maritime security in this analysis will be focused on international shipping interests and the safe passage of commercial vessels as promoted by state and non-state actors.

Three waterways in the MENA region are at particularly high risk and will be the focus of this assessment: the Suez Canal, the Gulf, and the Gulf of Aden. In the Suez Canal and the Gulf of Aden, maritime commerce is threatened by a severe lack of stability in the environment around the waterways. In Egypt, the repeated coups in Cairo has led to a security dilemma in which an uprising driven at least in part by radical Salafist Islamists has threatened the military government – and the canal by extension. The situation in the Gulf Aden bears similarities, as the poor economic and security conditions in Somalia have led to the development of piracy enterprises that target commercial traffic in the Gulf and broader Indian Ocean.

Commercial shipping in the Gulf faces a threat that has loomed since the Tanker Wars of the 1980s, in which the revolutionary government in Iran threatened Kuwaiti-flag vessels over that country’s support of Iraq in the Iran-Iraq War. The threat, however, has become more advanced as the nature of Arab-Iranian tensions has evolved and Iran’s anti-shipping capabilities have grown more advanced.

These threats constitute the most serious and the most immediate threats to commercial shipping in the MENA region. While the extremist threat to the Suez Canal is a more recent phenomenon, the Iranian and piracy threats are existing threats. All three threats could easily grow more serious in the future if not adequately addressed. None of the North African or Arab Gulf states possess the capabilities and integrated strategies necessary to either prevent or respond to these threats.

These threats will be explored in greater detail in the three chapters that follow. These chapters also evaluate what steps stakeholder states and non-state actors have taken to counter or respond to these threats, and what capabilities and equipment they have at their disposal to do so – while also offering policy recommendations. The final chapter explores common themes in strengthening maritime security capabilities and security assistance programs with the United States.

Chapter II – The Suez Canal and the Growing Threat of Egyptian Terrorism

“It would only take one successful attack on a large vessel traveling along the Suez to have the desired financial effect on both Egypt and the wider spheres of shipping and trade.”

-Charles Lister, IHS Jane’s¹²

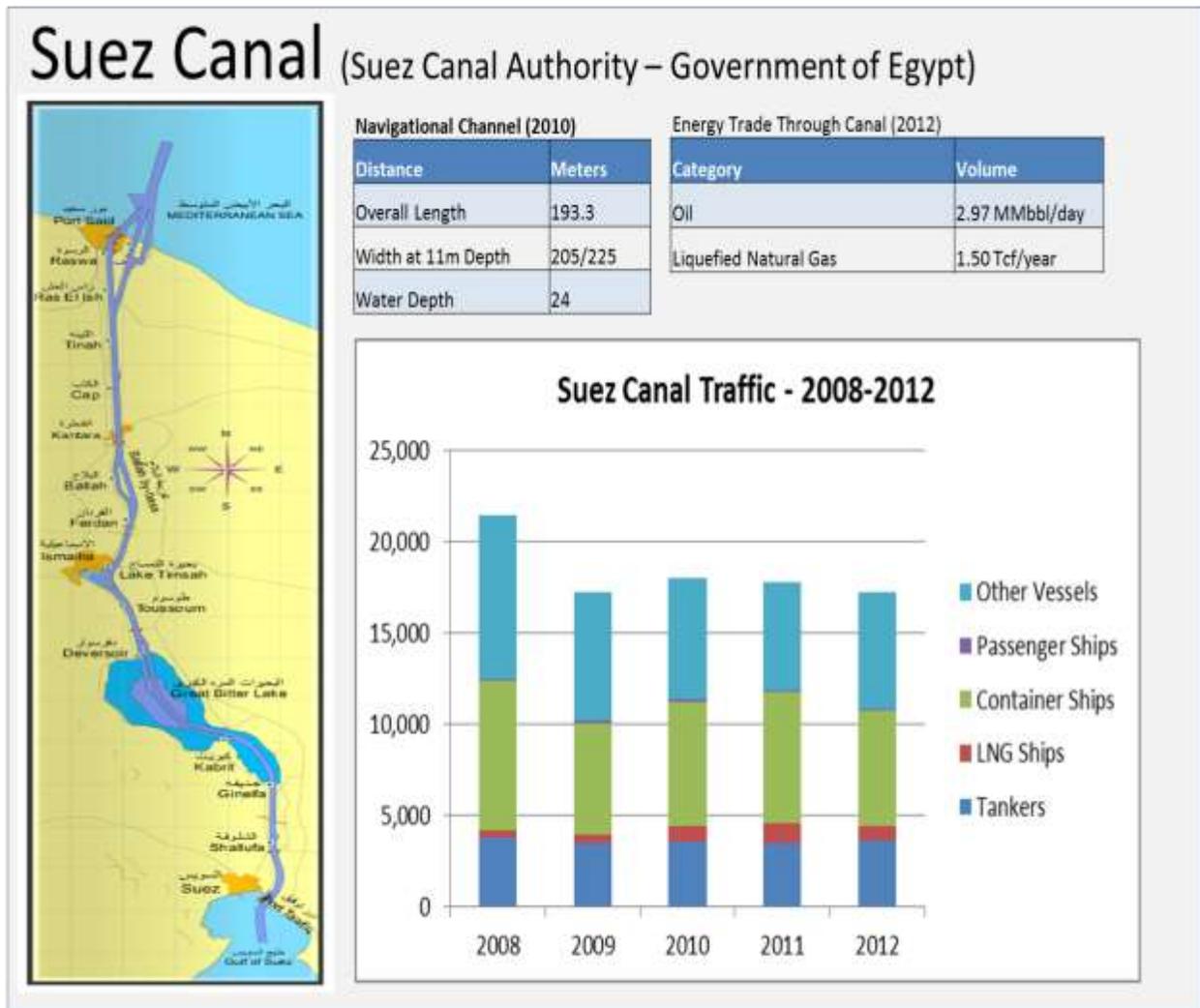
Background on the Canal

For centuries, linking the Red Sea and the Mediterranean has been essential for global commerce. As far back as 1874 B.C., Egyptians have used manmade waterways interwoven with the Nile River to form that link. In 1869, the Suez Canal opened as the first manmade waterway to span from the Red Sea to the Mediterranean without using the Nile. Ownership over the canal was initially split between Egypt and France under a 99-year lease, which would have ended with the canal coming under the ownership of the Egyptian government. Ownership of the canal, however, shifted over those 99 years, as Egypt sold its stock in the canal to Great Britain in 1875.¹³

European ownership of the canal, however, did not last a century. The waterway was nationalized by the Egyptian government under President Gamal Abdel Nasser in 1956, prompting the first of several closings of the canal. The first closing came shortly after nationalization when the United Kingdom and France launched a war on Egypt, keeping the canal closed until 1957. The canal was also closed in the wake of the 1967 Arab-Israeli War, until it was reopened in 1975.¹⁴ One study on the 1967-’75 closure suggests that commerce fell by as much as 20% between countries where the distance increased by at least half by bypassing the canal.¹⁵

Use of the canal has grown considerably over the past 13 years. Vessel passages through the canal increased from 14,142 in 2000 to 17,225 in 2012, with a peak of 21,415 in 2008. However, net tonnage brought through the canal has climbed from 439.04 to 928.45 million tons in 2012. Of the 17,225 vessels that transited the canal in 2012 3,639 were tankers, 800 were liquefied natural gas (LNG) carriers, 2,936 were bulk carriers, and 6,332 were container ships. Just over

FIGURE 1 - Overview of the Suez Canal



Tables and graph compiled by the author. Traffic data in graph from: "3-Yearly Number & Net Tone by Ship Type, Direction & Ship Status," Suez Canal Traffic Statistics, Suez Canal Authority. <http://www.suezcanal.gov.eg/TRstat.aspx?reportId=3> (Accessed October 24, 2013); Navigational Channel data from: "Canal Characteristics," Suez Canal Authority. <http://www.suezcanal.gov.eg/sc.aspx?show=12> (Accessed October 24, 2013); Energy trade data from: "Egypt: Overview," U.S. Energy Information Administration, Last updated July 31, 2013. <http://www.eia.gov/countries/cab.cfm?fips=EG>; Map from: Suez Canal Authority. <http://www.suezcanal.gov.eg> (Accessed January 9, 2014).

200 more ships traveled the canal from south to north than north to south, and 15,209 of the vessels were laden when passing through the canal.¹⁶

Given the canal's location near key oil producing states, oil tankers are a strong and growing source of traffic through the waterway. Approximately 7% of oil transported internationally by sea freight transited the canal in 2012. Oil transiting the canal amounted to roughly 2.97 million barrels a day (bbl/d) – the largest volume of oil handled in the canal's history. Of that volume, 1.66 million bbl/d was destined for Europe and North America. A large portion of the world's natural gas exports are also shipped via the canal. In 2012, roughly 13% of the world's exported LNG transited the canal – 1.5 trillion cubic feet worth.¹⁷

The canal has been a lucrative source of revenue for the Egyptian government. Revenue in the Third Quarter of 2013 is reported by the Egyptian State Information Service as having been \$1.326 billion. During that period, roughly 4,224 vessels transited the canal.¹⁸ As the historically strong influx of foreign travelers to destinations in Egypt has waned, the canal has drawn more foreign capital into the country than any other facet of the Egyptian economy.¹⁹

The government that came to power in Cairo through the 2013 coup against President Mohamed Morsi has made developing the Suez Canal the focal point of Egyptian economic growth. A plan to further develop the canal began to emerge in October 2013, which includes free zones and ports, an East Port Said port with export-oriented industrial zone, infrastructure growth, and attracting foreign manufacturers to the Canal Zone.²⁰ Reporting suggests that the United Arab Emirates is anticipated to be the source of investment for the project. Some \$4.4 billion in Emirati grants have already been made to Egypt – though it is not clear how much of that would be allocated toward developing the canal.²¹

The Threat of Terrorism

Islamic movements have been a persistent feature of Egypt's political landscape dating back to the establishment of the most prominent of these groups – the Muslim Brotherhood – in 1928. The *raison d'être* of the Brotherhood was to promote a system of Islamic governance in Egypt, and while the organization has occasionally resorted to violence to achieve those means, it has mostly shunned violence for much of the past half century. The organization became a movement geared toward the needs of poorer elements of the Egyptian middle-class in offering healthcare and education services to a community that was ostracized by the government's focus on security.²²

Through Egypt's evolution, numerous other Islamist groups have emerged in Egypt, each varying in their perceptions of what their goals are and how they should be pursued. The large following of the Muslim Brotherhood amongst the Egyptian population has made it perhaps the most powerful political entity in the country.

The very environment that allowed the Brotherhood to flourish through the decades – the vacuum caused by the central government's poor management of the economy and indifference to the needs of ordinary Egyptians – set the stage for the 2011 uprising that triggered the military coup against President Hosni Mubarak. As arguably the most established political organization in Egypt at the time of the coup, the Brotherhood was able to capitalize on the change of power – staying silent initially during the uprising, but then playing an active role in the post-coup political environment in Cairo, with its Freedom and Justice Party gaining the largest share of seats in parliamentary elections in 2012 with 235 seats.²³

The collapse of the Muslim Brotherhood-backed government led by President Mohammed Morsi was tragic to the extent that the government was legitimately and democratically elected, but seemingly incompetent at leading and making real its commitment to minority rights in the new government. The resulting coup against President Morsi's government has yielded a familiar security dilemma in Egypt – one which the provisional military government has proved just as incapable of addressing as its predecessor government under President Mubarak.

In the months since the most recent coup, there have been numerous terrorist attacks launched by emerging groups such as Ansar Beit Al-Maqdis and Al Furqan Brigades. While the government

has proved incapable of deterring or preventing the many barbaric attacks against government targets by Ansar Beit Al-Maqdis in particular, the regime has chosen rather to commit its efforts and resources to ostracizing and reducing the impact of the Muslim Brotherhood, an organization with no known links to any of these attacks.

While the 2013 coup did take place against a democratically elected government, there was serious concern about the divisive policies pursued by the Morsi government. There were concerns with a lack of plurality in the drafting of a national constitution, with key non-Muslim factions not being involved in the drafting process.²⁴ In November 2012, President Morsi also sought to exercise presidential authority over the judiciary, compromising separation of powers within the national government.²⁵

A recent example of the disconnect between what Cairo's counterterrorism priorities should be and what they actually are can be seen in the response to the December 2013 bomb attacks on the Daqahliya Security Directorate in Mansoura that left 16 dead and 134 injured – what has been described as “[...] the worst terrorist assault on a government site since the ouster of Islamist president Mohamed Morsi [...]”.²⁶

Even though Ansar Beit Al-Maqdis took ownership over the attack a day later on December 25, the Egyptian government claimed that the Muslim Brotherhood was responsible the day of the bombing, and officially designated the group as a terrorist organization on December 25. These claims were made with the absence of any proof of a link between the Brotherhood and the attacks being made public, and despite the fact that Ansar Beit Al-Maqdis has looked unfavorably upon the Muslim Brotherhood for its nonviolence.²⁷

While there may very well be elements of the Muslim Brotherhood that do endorse violence and may have links to Ansar Beit Al-Maqdis or other extremists, the government's inability to provide proof for such claims and its stigmatization of the Brotherhood and its followers as a whole has complicated efforts toward promoting stability. The Brotherhood has a sizable following amongst the Egyptian populace – having won 58% of those seats up for vote in the 2012 Shura Council elections.²⁸

By targeting the organization as a whole, and not simply calling out individuals or factions of the Brotherhood that it believes are involved in terrorism, Cairo has turned a large segment of the Egyptian population against the government, triggering further violence. Just three days after the government called the Brotherhood a terrorist group, tensions rose at the famed Al Azhar University in Cairo between security forces and backers of Mohamed Morsi, leading to the death of a protester, 14 injuries, and the burning of a university building.²⁹

These recent events reflect the security dilemma in Egypt; while terrorism remains a serious and growing danger in Egypt, the government is too preoccupied with its decades-long power struggle with the Muslim Brotherhood to adequately address these threats. As a result, tensions between the new government and the large portion of Egyptians that support the Muslim Brotherhood are exacerbated – distrust of the government is reinforced, and extremism is provided a breeding ground.

FIGURE 2: Security Developments Impacting the Suez Canal and the Surrounding Region:

July 9, 2009 – Egyptian authorities arrest 25 Egyptians and one Palestinian under allegations that they were going to assault vessels in the Suez Canal and oil pipelines. The Egyptian Interior Ministry claims the men had ties to Al Qaeda.³⁰

June 25, 2013 – A rocket is launched from the Sinai Peninsula, landing to the Suez Canal's east. The Egyptian government believes it was part of an organized exercise.³¹

July 8, 2013 – The Port Said traffic police directorate and trucks at the local port are attacked by gunmen in cars and motorcycles.³²

July 20, 2013 – An improvised explosive device (IED) explodes by the Abu Soweir police station in Ismailia.³³

July 29, 2013 – Al Furqan Brigades announces its involvement in a rocket-propelled grenade (RPG) assault on a ship transiting the Suez Canal, the video of which was posted to *YouTube* on August 4. The identity of the ship cannot be determined from the video.³⁴

August 9, 2013 – Egyptian authorities discover Fajr-5 rockets from Iran in the Sinai. The Egyptian government believes that the rockets were to be used on a strike against the Suez Canal.³⁵

August 22, 2013 – An Egyptian Army vehicle is attacked on the Port Said-Ismailia Road along the canal.³⁶

August 31, 2013 – A media outlet linked to the Chinese Communist Party reports that the Egyptian Navy saved a vessel after an attempted hijacking by the Muslim Brotherhood on the *Zhongyuan Yazhou*, a Chinese container ship. The following day, the Suez Canal Authority corroborates the claim³⁷ – though it is unclear whether or not the alleged attack was mistaken for the rocket attack on the *Cosco Asia*, which also took place on August 31.

September 4, 2013 – Al Furqan Brigades posts a video on *YouTube* showing another RPG attack, this one on the container ship *Cosco Asia*, which took place August 31.³⁸ The attack is reported to have taken place near Qantara – which is in the middle of the stretch of canal in between the northern Port Said and Ismailia.³⁹

The group also issued a statement – which was translated into English – stating the waterway “has become a safe passageway for the Crusader aircraft carriers to strike the Muslims, and it is the artery of the commerce of the nations of disbelief and tyranny.” The group also states “[w]e can target the international water passage morning and night, along the entire length of the waterway, which is 190km in length, and we will return to target it whenever we wish.”⁴⁰ It later emerged that a container aboard the vessel was struck by a rocket during the attack.⁴¹

October 7, 2013 – Six Egyptian soldiers are shot dead by gunmen at a checkpoint in Ismailia in the vicinity of the canal.⁴²

October 15, 2013 – Commander of the Egyptian Third Army Osama Askar states that the military has sent 4,000 men to secure the southern end of the Suez Canal.⁴³

October 19, 2013 – A car bomb explodes in the city of Ismailia, destroying the wall of an army intelligence facility and causing damage to a building owned by the Suez Canal Authority. Ansar Beit Al-Maqdis claims the attack two days later.⁴⁴

October 21, 2013 – The Suez Canal Authority Chairman and the Commanders of Egypt's Second and Third Field Armies hold an emergency conference to address Suez security. Reporting suggests that the parties covered threats from car bombs and to ships passing through the canal.⁴⁵

October 23, 2013 – Demonstrations near the canal in Port Said favoring the Muslim Brotherhood lead to “clashes” with supporters of the military, leading to gun shots and an eventual military intervention in which over twelve were arrested.⁴⁶

Early November, 2013 – Two police officers are killed and one injured in a drive-by shooting on a police checkpoint in Ismailia using automatic firearms. The attack took place just prior to President Morsi's trial.⁴⁷

These events reflect a number of noteworthy patterns. First, all of the attacks where the location is known took place on or along the mid-to-northern portions of the canal, specifically in between Ismailia in the middle of the canal and Port Said at the canal's northernmost point. It can be deduced that the most dangerous sector of the canal is the roughly 76 kilometer/46 mile stretch between these two points.

There are several unique geographic and infrastructural features of this stretch of the canal. In terms of crossings, there are two bridges and several ferry crossings, either of which could be used for an assault either on or above the water. The Al Salam Bridge in particular is a fixed suspension bridge and is in the southern vicinity of Qantara, where the August 31 attack on the *Cosco Asia* is believed to have taken place. This portion of the canal is also tracked almost for its entirety by a roadway that runs along the canal and through mostly desolate areas: the Port Said-Ismailia Road along the western bank of the canal. Two other roads track the eastern bank at a further distance from the canal and for a shorter length: Al Kornish road, which runs along the north and south side of the Al Salam Bridge up to Qantara; and Al Qantara Shark-Al Arish Road, which runs at a varying distance along the eastern bank from Qantara to the top of the canal.

Other land features include three islands in the canal: two up near Port Fuad at the opening to the Mediterranean, the other about three kilometers south of the Al Salam Bridge, and which appears to be completely desolate. All of these features contribute to the strategic vulnerability of this portion of the canal, and may very well explain why the Al Furqan attempt on the *Cosco Asia* took place in this corridor. The roadways along both sides of the canal, the Al Salam Bridge, and the island south of the bridge provide ample area for reconnaissance and multiple points of attack from largely barren areas.

A second theme that can be deduced from recent events is that the Al Furqan Brigades pose the most serious threat to canal traffic, given the fact that they have already attempted two attacks on vessels in the canal. The group's access to RPGs, demonstrated ease of access to the canal, and experience launching at least one attack in this vulnerable portion of the canal makes it a potentially dangerous threat. Equally disconcerting is the dearth of information about the group in the public domain given its previous attempts on the canal, and the fact that it is unclear just how advanced of weapons the group's followers have access to or may gain access to in the future.

While little is known about Al Furqan Brigades and its capabilities, even less is known about the perpetrators of the scores of other attacks aforementioned. Though Al Furqan may have made its threat explicit through its two attempts and statement claiming as much, the more ambiguous threat of Islamism proliferating from the Sinai to the Ismailia-Port Said corridor and the coupling of strong anti-regime and anti-Western sentiment with those Islamist movements have made for a dangerous combination. This poses a serious threat not only to the vessels transiting the canal, but to the security and the stability of the communities that surround and support the canal. The threat to the security services, canal-related assets, and the general public in and around Ismailia could indirectly harm the canal by paralyzing the communities responsible for the functioning of the waterway.

The narrow width of the canal's channel – varying from 205-225 meters at 11 meters depth, as indicated in **Figure 1** – should be a cause of concern if groups were to achieve the capability to sink a vessel in the channel. A Suezmax vessel, which is a vessel with the necessary dimensions to fit in the canal, boasts a length of roughly 275 meters and a beam usually of around 48 meters but up to 77.5 meters.⁴⁸ If a vessel were to attempt to maneuver in the channel following a

substantial hull breach at or below the waterline, the subsequent sinking or grounding of the vessel in a skewed position across the channel could easily block the entire width of the channel. Even if not traversing the channel, a vessel with a 48 meter beam being sunk or grounded in the channel could take up a considerable portion of the navigable channel.

It is worth noting that there are many challenges to a terrorist group launching a substantial enough attack on the canal to disrupt international trade. The two unsuccessful attempted RPG attacks already launched show that the explosive power of ordnance and accuracy are two problems terrorists must grapple with. Additionally, any blast – even one powerful enough to breach the hull – may not be sufficient to sink a vessel if the blast is above the waterline.⁴⁹ These challenges facing terrorists are exasperated by the fact that many sensitive ships are required to have double hulls – making a hull breach increasingly difficult. The International Maritime Organization (IMO) requires that any oil tankers at or above 5,000 deadweight tonnage (DWT) bought from July 6, 1993 onwards be built with double hulls, and in 1995 it became a requirement to either retire or retrofit older tankers.⁵⁰

This is not to suggest, however, that the penetration of multiple hulls is impossible. In 2002, a terrorist attack on the *M/V Limburg* triggered a leakage when both hulls of the vessel were breached.⁵¹

Even without the ability to sink a vessel in the canal, groups like Al Furqan Brigades could still pose a serious threat to Egypt and the maritime trade industry. Perhaps a more realistic threat would be the broader impact on the global shipping and insurance industries in terms of risk assessment and confidence – which could have a direct impact on the Egyptian economy. Neither the Suez nor Panama Canals can monopolize trans-hemisphere trade. If necessary, carriers could resort to sailings around the Cape of Good Hope in Africa, though such sailings would have to cover a larger distance⁵² and would likely be more costly for shipping companies and subsequently the global business community, and would expose vessels to piracy risks off the western and eastern coasts of Africa.

Freight that does continue to pass through the canal after even a limited attack would likely be moved under higher insurance premiums due to the demonstrated risk involved in using the canal. Once the expansion of the Panama Canal is completed, shipping companies will likely give stronger preference toward the Panama Canal. The economic impact of such an eventuality on Egypt would be substantial: the government would lose revenue from canal tolls, international businesses would reconsider a presence in the Canal Zone as steamship line service to local ports is reduced, and a key means of drawing foreign capital into the country could be choked. The centerpiece of Egypt's economic development strategy would be gravely compromised.

Additionally, as the Egyptian government seeks to develop a new port and commercial area to support the canal, persistent violence from at least two organized groups and popular unrest could deter foreign investment, make construction an even more timely and costly endeavor, and could scare foreign businesses from establishing a presence at the canal zone. The fact that these endeavors have been made a centerpiece of the government's economic growth initiative not only makes the canal zone a high-profile target for anti-government extremists, but also makes the prospect of Egypt actually growing its economy an all but impossible endeavor. The bottom line is that Egypt cannot achieve the economic growth necessary to bring food, employment, and hope to its disenfranchised citizens when the country's economic future is so closely tied to an infrastructure and surrounding community it cannot secure.

The increased reliance on the Suez Canal by the international shipping community expected in the coming years will increase this risk. The Suez and Panama Canals both play vital roles in allowing vessels to cross from the eastern to western hemispheres, and vice versa. The trend in the international ocean transportation community has been to grow the size of container freight vessels currently servicing major trade lanes. The maximum dimensions of vessels permitted to transit the Suez Canal are larger than the dimensions for those ships traveling the Panama Canal.⁵³

As major steamship lines introduce larger container vessels capable of accommodating 18,000 twenty-foot equivalent units (TEUs), the Panama Canal becomes an increasingly less viable means to link continents. Adding to these problems, a project aiming to expand the size of the Panama Canal has been delayed until June 2015,⁵⁴ which makes the Suez Canal an increasingly attractive option for steamship lines in the short and medium terms. The world's largest container freight carrier – Maersk Line – has already announced that it will forego use of the Panama Canal, while relying on Suez, due to the fact that vessels transiting Suez can carry twice the number of units as those transiting Panama.⁵⁵ According to a November 2013 report in the *Journal of Commerce*:⁵⁶

The Suez Canal Authority has already persuaded several ocean carriers on the arterial Asia-to-east coast of North America route to switch from the Panama Canal this year. The Egyptian waterway has increased its share of capacity on the route from around one-third between October 2010 and October 2012 to 42 percent in October 2013, with the Panama Canal's share falling from two-thirds to 58 percent. The further postponement of the opening of the enlarged Panama Canal from mid-2015 to the end of 2015 will give the Suez Canal Authority more time attract [sic] to further carriers [...].

This new reality exposes a larger portion of the world's maritime commerce to the instability in and around the Suez Canal. It also heightens the risks of a future attack that prohibits navigation of the canal.

Egyptian Maritime Security Capabilities

At the forefront of Egypt's maritime security efforts are a Navy and Coast Guard staffed by a combined 18,500 personnel – 2,000 of which are under the Coast Guard.⁵⁷ As **Figure 3** indicates, Egypt's maritime security forces operate a mix of submarines, frigates, corvettes, missile and non-missile patrol craft, and what is by far the largest mine warfare fleet in the region.⁵⁸

Much of Egypt's maritime security platforms are of U.S. origin. Six of the Navy's eight frigates are U.S. *Perry* and *Knox*-class vessels. The Navy also operates 1 US *Ambassador IV* guided-missile fast patrol boat and a combined seven U.S. coastal mine hunters and inshore minesweepers. Egyptian Naval Aviation's four maritime surveillance aircraft are U.S. Beechcraft 1900Cs, and 10 of its anti-submarine warfare helicopters are U.S. SH-2Gs. Several Coast Guard patrol boats are also U.S.-origin vessels.⁵⁹

Joint maritime exercises with the United States have taken the form of several recurring operations. Bright Star is a joint exercise involving the participation of the United States, Egypt, and other European and Arab states. The exercises started in the 1980s in the wake of the 1979 Camp David Accords, and generally occur every two years. Globalsecurity.org describes the last Bright Star exercise as follows:⁶⁰

The countries participating in this year's Bright Star [2009-2010] were U.S., Egypt, Turkey, Jordan, Kuwait, Greece, Italy, Germany, Great Britain, France, and Pakistan. Military units from around the world formed a common front in a multi-national military exercise held near the Egyptian coastal city of Alexandria 10 October – 26 October 2009. Bright star exercise included a strategic airborne jump of more than 300 soldiers

from the 82nd Airborne Division partnering with Egyptian, German, Kuwaiti [sic], and Pakistani paratroopers, while more than 1,000 Marines from the 22nd Marine Expeditionary Unit hit Al Amein Beach by amphibious landing with their Bright Star counterparts. More non-traditional training included a combined computer aided command post exercise introducing partnering soldiers to each others' equipment and updated tactics thereby developing a better coalition contingency environment.

Bright Star exercises were last held in 2009 as the 2011 and 2013 exercises were canceled as a result of Egypt's unrest. The 2013 exercise in particular was canceled as a result of the crackdown by the Egyptian armed forces against protesters supporting the Muslim Brotherhood.⁶¹

The other major exercise – which is geared more specifically toward naval operations – is the Eagle Salute exercise. This operation started in 1991, and is a Red Sea naval exercise. One source suggests that the exercises occur each year, though another suggests that there have been gaps of over a year between iterations.⁶² An account of the 2010 exercise states that the operation “[...] included manoeuvres such as raids, interceptions, aerial reconnaissance, piracy deterrence and night manoeuvres. Live ammunition was used to destroy surface and aerial targets, while air defence capabilities and at-sea refueling tactics were also practised.”⁶³

FIGURE 3: Egyptian Maritime Security Assets

Category	Number	Comments
Manpower	18,500	Includes Coast Guard and conscripts
Submersibles	4	Hunter-killer attack submarines
Frigates	8	
Corvettes	2	Equipped with SAMs and anti-ship missiles
Missile Patrol Boats/Craft	33	
Other Patrol Boats/Craft	94	
Mine Warfare	14	
Coastal Defense Artillery	Yes	
Coastal Defense Anti-Ship Missiles	Yes	4K87 and Otomat MkII
Maritime Surveillance Aircraft	4	Light, fixed-wing aircraft
Anti-Submarine Warfare Helicopters	29	15 under Air Force
Multi-Role Helicopters	5	
ISR UAVs	2	

Table compiled by the author. Data from "Chapter Seven: Middle East and North Africa," in *The Military Balance*, 113:1, 353-414, International Institute for Strategic Studies, P. 375-376.

Other joint exercises include Eagle Arena, which is an air and naval exercise in the Red Sea and the Sinai Peninsula that appears to have been last held in 2012.⁶⁴ Iron Cobra is a special forces exercise.⁶⁵

A number of trends can be observed from these exercises. First, the current instability in Egypt has directly affected U.S. willingness to participate in these operations. In August 2013, the Obama Administration called off Bright Star – a major training exercise that is supposed to be taking place every two years, but has not taken place in four years.⁶⁶ While the humanitarian component of this decision is understandable given the atrocities committed by Egypt's military, calling-off the exercise has cost the United States strategically. Washington has not only lost valuable leverage over the Egyptian government by killing the exercise in its entirety, but has also risked U.S. security interests in Egypt – such as Suez Canal security – by preventing crucial training needed to enhance Egyptian naval capabilities.

A second trend pertains to the substance of the exercises that have taken place. The open-source reporting available on these missions provides no indication that key aspects to Suez Canal security have been practiced. Examples would be the effective escorting of ships facing land and sea-based adversaries, response to maritime emergencies such as a terrorist attack on a commercial vessel,

joint naval and airborne reconnaissance of coastal areas – particularly in the vicinity of the canal, and interoperability between the Navy, Naval Aviation, and the Air Force.

Based on available open source information, protective measures taken by security services appear to be based upon surveillance and access denial for armed terrorists. According to a researcher at the Al-Ahram Centre for Political and Strategic Studies, “ ‘[c]urrently, securing the Suez Canal is based on the deployment of mobile and stationary field personnel and the use of surveillance cameras, in addition to posts set up on all roads leading to the canal to prevent the entry of any armed elements.’ ”⁶⁷ Moreover, the Egyptian military has proposed measures to check vehicles and to increase the distance between vehicle parking and canal-related facilities.⁶⁸

Reports have also emerged that the Egyptian government may have contracted Suez Canal and Red Sea maritime security to the Israeli and Cypriot security firm Maritime Seagull Security. The Suez Canal Authority has downplayed these reports.⁶⁹

While specifics as to how the Egyptian security forces protect the canal are not available in the open source reporting, the recent movement of high-value vessels through the canal gives an indication as to what methods are at the disposal of Egyptians to protect transiting vessels. In November 2013, the U.S. aircraft carrier *Nimitz* and an unspecified U.S. destroyer traveled the canal under tight security protection from the Egyptians. According to one report, these measures included, “[...] 14 hours of heightened security along the canal that included closing all roads near the canal and having Egyptian military helicopters provide air support.”⁷⁰

International law also poses a potential challenge to the security of the canal as the current legal framework governing the canal is vague and outdated. The treaty that defines what is and is not permissible from a security standpoint in the canal is the Constantinople Convention – an agreement that dates to October 1888. According to Article IV of the treaty:⁷¹

The Maritime [Suez] Canal remaining open in time of war as a free passage, even to ships of war of belligerents, according to the terms of Article I of the present Treaty, the High Contracting Parties agree that no right of war, no act of hostility, nor any act having for its object to obstruct the free navigating of the Canal, shall be committed in the Canal and its ports [...].

The treaty further states in Article IX:⁷²

The Egyptian Government shall, within the limit of its powers resulting from the Firmans, and under the conditions provided for in the present Treaty, take the necessary measures for insuring the execution of the said Treaty.

In case the Egyptian Government shall not have sufficient means at its disposal, it shall call upon the Imperial Ottoman Government, which shall take the necessary measures to respond to such appeal [...].

There are a number of obvious problems with the text of this agreement. First, it was written in an era when non-state actors did not pose a threat to canal security. Second, at the time there was a regional hegemon – which is specifically named – with the capability to step in to assure canal security in the event that the Egyptian government could not. The result is an ambiguously defined Egyptian role in ensuring canal security from a legal standpoint.

Recommendations for Securing the Suez Canal

Developing a New Internationally-Agreed Upon Framework for Suez Security

One of the first steps that should be taken to address these threats should be to draft a new international agreement that succeeds the Constantinople Convention and redefines Suez Canal security in a contemporary context. A protocol needs to be established that gives the Egyptian security forces the flexibility to respond to a security incident involving non-state actors in the canal, and defines when military intervention is acceptable. Rules of engagement must be formalized, and a framework for operational plans designed to ensure that any Egyptian response is effective, legal, and minimally intrusive to international commerce.

Moreover, since the original stopgap of Ottoman administration is no longer an option, a new agreement needs to delegate authority to an outside actor that is in a position to secure the canal in the event that the Egyptian government cannot – an eventuality that should not be ruled out given the current political and security environment. While a regional hegemon does not exist as it did in the 19th century, authority could be delegated to maritime security forces under NATO, which at this time are the most capable multi-national security forces available.

In addition to formalizing canal security, such an agreement can raise confidence in the maritime shipping and insurance communities. It could keep steamship lines from navigating other routes that bypass the canal, and mitigate the concerns of the insurance industry, which may seek to raise premiums on regional traffic as the instability in Egypt continues to grow worse.

Enhancing Intelligence, Surveillance, and Reconnaissance Capabilities and Interoperability

Operationally, the Egyptian security forces could benefit from expanding the canal security measures that have already been put into place. Revisiting the location of parking facilities to mitigate against car bombs, setting up checkpoints, and using video surveillance is a good start, but a far more extensive response is necessary given the nature of the threat. Cameras cannot detect every action along the 193 km canal, and the police presence in the region has proved highly vulnerable to ambush from terrorists.

One option that should be explored is the development of an electronic sensor security system that could be deployed along the vulnerable banks of the canal between Ismailia and Port Said – or a forward looking infrared (FLIR) system. An integrated network of such sensors could be used to detect movements between nearby roadways and the canal. If integrated with the reconnaissance resources of the Egyptian Navy, Coast Guard, Naval Aviation, and internal security forces, such sensors could be used to detect and identify potential threats before they are in a position to launch an attack. Similar systems have been developed for protecting airport perimeters and national borders.

Financing for such a project could come from a modest security surcharge imposed in addition to canal tolls by the Suez Canal Authorities. Given the fact that more and more volume will be drawn to Suez as an alternative to Panama, so long as the surcharge is not exorbitant, it will still make Suez a more cost-effective option. Another option would be for stakeholders from around the world to assist in financing such a project – namely major traders such as the United States, China, and the United Arab Emirates.

Along these lines, interoperability and integrated communications should be strengthened between Egypt's internal security forces, Navy, Naval Aviation, Coast Guard, and the vessels that utilize the canal. Early detection, identification, and neutralization of attackers before they have the opportunity to launch an attack will be vital. Interoperability will be essential to achieving such success.

Other specific measures to ensure the protection of ships in the canal would be for the Egyptian authorities to offer special protection for the most sensitive vessels transiting through the canal. Vessels such as oil tankers, liquefied natural gas transporters, and bulk carriers bearing hazardous materials should be considered to be among the most vulnerable ships transiting the canal, and should be afforded additional protection. This will require integrated communication between these vessels, the Coast Guard, the Navy, and Naval Aviation.

Such vessels are vulnerable because even if a structural breach is made above the water line, the vessel could sustain fatal damage if the compartments storing hazardous materials are breached. Protection could take the form of patrol boat escorts in the vulnerable Ismailia-Port Said corridor and monitoring from maritime patrol aircraft and UAVs.

Revisiting U.S. Security Assistance

Building such interoperability will inevitably benefit from the support of joint exercises with the United States. Washington's current reluctance to engage in joint exercises with the Egyptian government is understandable, though also detrimental to Egyptian military interoperability and performance capabilities. The Obama Administration should approach military assistance to Egypt not only as the defender of democracy and human rights, but also as the defender of international commerce. The current policy of the Obama Administration makes little sense in this regard. While cutting valuable joint exercises that could contribute to the security of global commerce, the administration has not restricted other projects – such as a Department of Defense contract to modify the engines for Egypt's F-16 fleet⁷³ – a fleet that provides no strategic value to the United States.

Washington must calibrate its coercion policy against Egypt by ensuring that the projects that are cut are those that are least beneficial to U.S. strategic interests, and that the programs that promote joint interests continue to be sustained. The security of the canal must be viewed by the administration and the Department of Defense independently of the coup against President Morsi and the subsequent brutality by the internal security forces against protestors.

Developing a Responsible and Effective Internal Security Strategy in Egypt

As the Egyptian Government seeks to develop the Canal Zone and attract business and investment to the area, the government must control the security situation in the region – particularly Ismailia. To effectively do this, the internal security forces need to concentrate its efforts on targeting those groups that are a direct threat to Egyptian security, and not senselessly targeting the Muslim Brotherhood, supporters of the Brotherhood, and protestors who are political opponents rather than extremists who seek to violently undermine the state.

The government in Cairo must rethink its approach to internal security so that future military operations do not provoke the very instability they seek to prevent. Rules of engagement and crowd control policies need to be revisited and brought in line with international standards. A responsible security force needs to be developed in the Sinai and Suez that is capable of eradicating groups through sound counterterrorism policies.

At the same time, the Egyptian Government must act to alleviate the decades-old concerns of residents of the lower Suez region that they have been ignored by the government, and that the state can act in their best interests.⁷⁴ It could take a generation to change perceptions of the state in places like Ismailia, but without a relationship of trust between the people and the state, it will be increasingly difficult for the security services to curb the recruitment of disenfranchised residents with radical movements, and to maintain order within these communities. The government must demonstrate that it is more than a police force, but that it can provide social services and economic opportunity to these distressed areas.

Stability and security in the communities that line the canal will be essential to attracting investment for the canal development project and for attracting foreign businesses to develop supply chains in Egypt.

Shipping Industry Involvement to Strengthen Suez Security

Lastly, action to protect traffic in the Suez needs to come not only from the government, but also from the shipping industry itself. Management and security personnel at the world's major steamship lines need to better understand the security situation in Egypt and the threats posed to their assets. A statement by a Maersk Line spokesman suggests that the company does not view the security situation in Egypt with concern. According to the spokesman, quoted in a November 2013 article, “[w]e monitor the situation according to normal procedures and see a stable, unchanged situation in the Suez – therefore we have no special plans drawn up.”⁷⁵

The shipping industry must make clear to insurers, traders, and other stakeholders in maritime commerce that they are both taking measures to protect vessels traveling through Suez and considering alternatives in the event that the Suez becomes too dangerous. Steamship lines must determine what types of security incidents would prompt what responses from the industry. What would be done if another attempt such as that made on the *Cosco Asia* were executed? What would be done if a ship sustained structural damage in an attack? What is the risk threshold for diverting ships away from the canal? What are the alternatives if the canal cannot be navigated?

Confidence in international trade is not only a function of what governments are doing to prevent attacks, but also what carriers are doing to mitigate against risk and possible service disruptions. By publicizing that no planning is taking place, the world's largest steamship line is doing little to reinforce the confidence that even an unsuccessful terrorist attack could easily shatter.

Chapter III – The Gulf and Threats From Iran

A Brief Introduction to the Gulf

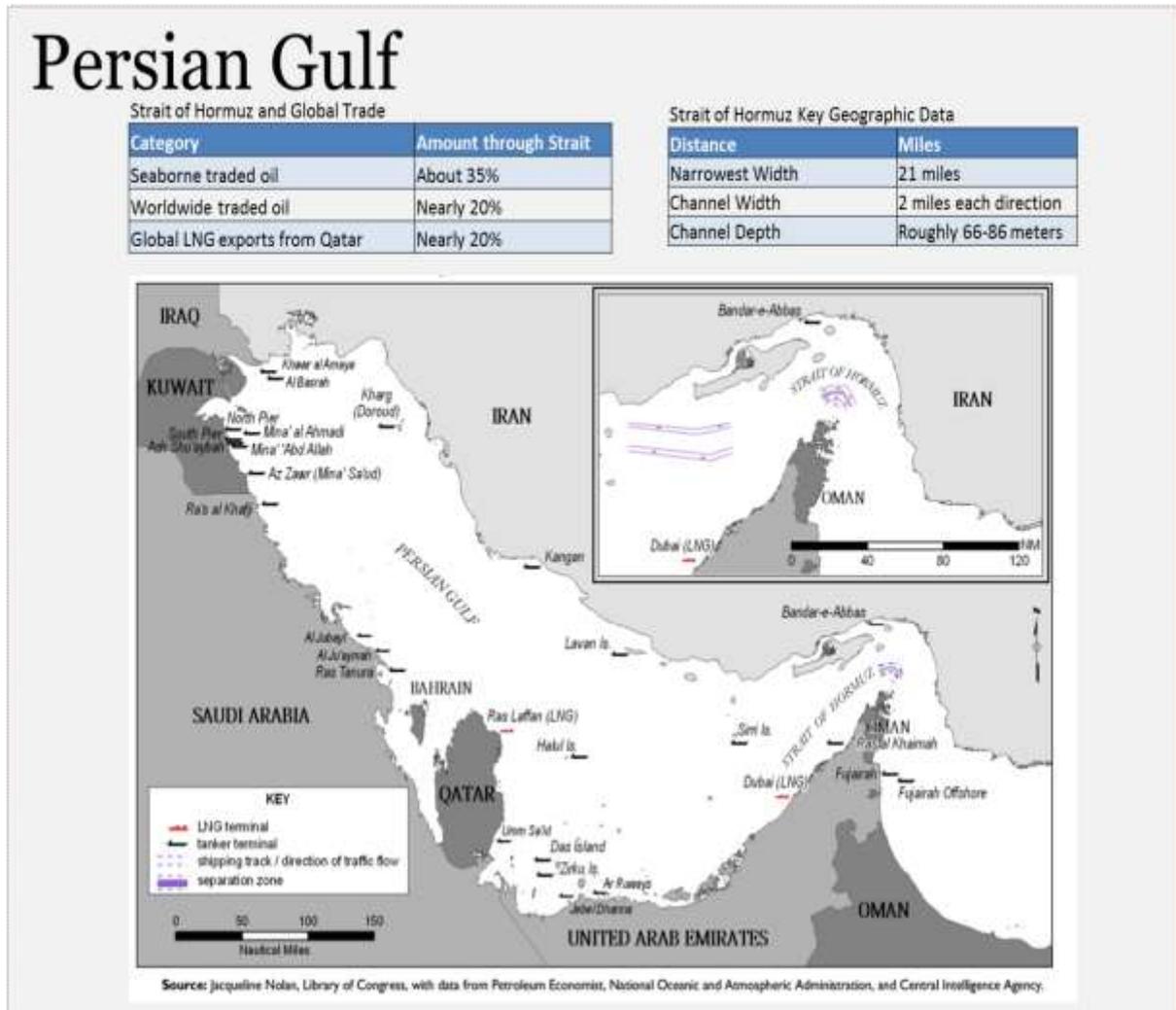
No waterway is more vital to the international trade of oil and natural gas than the Gulf in general and the Strait of Hormuz in particular. The states of Kuwait, Qatar, Bahrain, and Iraq are dependent on the Gulf for their only ocean freight ports, with all non-regional traffic being routed through the 21 mile-wide Strait of Hormuz in the Gulf's east – which is the waterway's only opening. To the detriment of the seven states that border it and the global economy that depends on its energy export traffic, the Gulf served as a theater of battle for much of the 1980s between the Gulf Arab states – with the support of the United States – and the Islamic Republic of Iran. Today, as tensions once again rise between these states, Iran remains a formidable threat to maritime commerce through the Gulf.

As the gateway for the world's largest energy exporters, the Strait of Hormuz – despite its small size – is a critical node to international trade. The Strait consists of a narrow corridor that passes between the southern coast of Iran to the north and the coasts of the UAE and Oman to the south. The U.S. Energy Information Administration considers the Strait to be “[...] the world's most important oil chokepoint [...]”⁷⁶ In 2011, the Strait saw roughly 17 million bbl/d of oil pass through its waters – which was approximately 35% of all oil transported by boat and nearly 20% of oil exported globally. Qatar also exported almost 20% of all LNG moved worldwide via the Strait – or 2010 figures of 100 billion cubic feet/year.⁷⁷

As reflected in the **Figure 4** map from 2012, the Gulf hosts 26 oil tanker terminals – 21 of which are in Arab states, and five in Iran. There are also liquefied natural gas terminals in Dubai and Ras Laffan in Qatar. Though it is uncertain exactly how much of the goods traveled through the Gulf, the GCC states exported \$1,061,789.6 million and imported \$488,193.2 million in 2012.⁷⁸ Given the relative costliness of both airfreight and trucking from the smaller GCC states to Red Sea ports, it is likely that a large portion of this trade was moved via the Gulf.

Oil and natural gas are not the only products being moved through the Gulf. DP World's Jebel Ali Port in the UAE is the ninth-largest container port worldwide.⁷⁹ DP World UAE Region saw

FIGURE 4: Gulf Overview



Tables compiled by the author. Energy data and widths from: “World Oil Transit Chokepoints,” U.S. Energy Information Administration, last updated August 22, 2012. <http://www.eia.gov/countries/regions-topics2.cfm?fips=WOTC>; Depths from: <http://www.oceangrafix.com/chart/zoom?chart=62392>; Map from: Kenneth Katzman, Neelesh Nerurkar, Ronald O’Rourke, R. Chuck Mason, Michael Ratner, Iran’s Threat to the Strait of Hormuz, Congressional Research Service, January 23, 2012. P. 3.

13 million TEUs in throughput in 2011.⁸⁰ Given the relatively low level of diversification in the GCC economies, these states are heavily reliant on imports through the Gulf to feed their populations, develop their economies, and maintain high standards of living for citizens.

Of the countries that border the Gulf, five are among the world’s top ten exporters of crude oil (Saudi Arabia, Iraq, Iran, UAE, Kuwait),⁸¹ as is the world’s second-largest exporter of natural gas – Qatar.⁸² The main recipients of these energy exports are Asian economies; Over 85% of exported crude oil in 2011 was destined for Asia – particularly Japan, India, South Korea, and China.⁸³ Similarly, of Qatar’s LNG exports, 48% was consigned to Asian countries – particularly Japan, India, and South Korea. Forty-two percent was exported to European states – namely Belgium, the United Kingdom, and Spain.⁸⁴

Regional Tensions and Iranian Threats to Gulf Security

Iran's tensions with the Gulf Arab states over the course of the past 50 years are rooted in several interrelated issues. Dating back to the 1970s, there has been a dispute over the ownership of three islands in the Gulf just west of the Strait of Hormuz – Abu Musa and the Greater and Lesser Tunbs. The British withdrawal from the Gulf and the subsequent independence movements that emerged on the east coast of the Arabian Peninsula created friction with the Iranian government. The Iranians seized the three strategically significant islands, possibly as part of a deal with the British to acknowledge the sovereignty of Bahrain – an island which Tehran had previously sought to make part of Iran.

The Gulf Arabs had historic claims to the islands, and their protests led to a 1971 territorial and oil revenue sharing scheme between Iran and the UAE, although Iran had the power to retain control over the islands firmly in their sphere. Thirteen years after the Islamic Revolution, and after an Iran-Iraq War that further divided Iran and the Gulf Arab states, the Iranians took full control over Abu Musa in 1992. It then prevented residents of the island from entering from the UAE.⁸⁵

While the islands are small, there is no question as to their strategic value. As **Figure 4** indicates, Abu Musa flanks the eastbound sea lane approaching the Strait of Hormuz, and the Greater and Lesser Tunbs actually sit in between the eastbound and westbound sea lanes. Iran has capitalized on the location of these islands by developing them militarily and as a possible staging point for an assault on the Strait and maritime traffic.

A 2009 analysis by Jane's – based on satellite imagery of Abu Musa and the Greater Tunbs – sheds light on the kind of development the Iranians have pursued on the islands. The larger of the two military sites – the one on Abu Musa – is described to contain a 2,430 meter runway, with a roughly 1,700 meter runway being built at the time on the Greater Tunbs. Both islands are reported to be staffed by the Iran Revolutionary Guard Corps (IRGC) Army and Navy – the IRGC being more elite and loyal to the regime than the Iranian military. Jane's speculated at the time that the facility in Abu Musa was hosting a battalion, or approximately 1,000 men. The islands were reported to contain “substantial underground storage facilities”, surface-to-air and surface-to-surface missile sites, and docking sites for hosting fast attack craft or even corvettes. These facilities pose an obvious threat to maritime commerce in the nearby channels. Fast attack craft in particular can be used to overwhelm enemy vessels in an assault.⁸⁶

The historical tensions between Iran and the UAE over these islands – as evidenced in the November 2013 public exchanges between the two governments over the islands (see **Figure 5**) – remain a key wedge between Iran and the Arab Gulf states. The military capabilities Iran possesses on these islands and their possible use in an assault on maritime commerce further exacerbate these tensions.

Another point of tension between Iran and the nearby Arab states stems from their differing identities, Shia and Sunni respectively, and the diametrically dissimilar strategic visions and alliances that the two groups have. All of the states on the Arabian Peninsula – with the exception of Oman – are under Sunni Muslim leadership, whereas Iran exists as the crucible of political Shia Islam. Though led by a Sunni royal family, Bahrain has a predominantly Shia population. Other regional states, such as Kuwait and Saudi Arabia, maintain significant Shia minority populations.⁸⁷

The divisions, however, are not strictly ideological and religious. Iran is governed by a theocratic government with some quasi-democratic institutions. The Arabian Peninsula states are governed by hereditary monarchies with few, fairly weak, representative institutions. Iran has relied on alliances with American adversaries such as Syria and a close relationship with Hezbollah, which has gained Iran strategic and political influence in the Levant. The Arab Gulf states on the other hand have maintained close relations with the United States, and have made attempts to stand in solidarity on key security issues through the Gulf Cooperation Council (GCC). In the broader Middle East, individual Gulf states back a variety of Sunni actors including anti-regime factions in Syria and the Muslim Brotherhood in Egypt.

As a radical Islamist government emerged in Tehran through the 1979 revolution, the Iranian regime promoted the revolution in the Arab Gulf states.⁸⁸ States in the region under Sunni leadership grew fearful of the radical new regime in Tehran, and in 1980, Saddam Hussein – the Sunni leader of Iraq – launched an invasion of a largely Arab part of Iran in the hope of collapsing the revolutionary government.⁸⁹

As the war played out, the Sunni Arab states of the Arabian Peninsula began to lend support to Saddam Hussein's Iraq in his effort to neutralize what was perceived as the Iranian and Shia threat.⁹⁰ While lacking relative to Iraq in conventional airpower capabilities, Iran turned to unconventional naval tactics to pressure the supporters of Saddam's war – particularly Kuwait and the United States. Oil tankers, other petroleum infrastructure, and U.S. naval vessels were targeted by Iranian mines, Silkworm anti-ship missiles, and light sea craft. The United States thus launched Operation Earnest Will from 1987-1988, in which Kuwaiti oil tankers were reflagged and escorted, and efforts were made to rid the Gulf of mines.⁹¹ As reflected in **Figure 5**, 168 vessels were attacked by Iran in the Gulf from 1981-1987.

Though the Iran-Iraq War may have ended, concerns continue amongst the Gulf Arab states over possible Iranian meddling in regional affairs. Iran's strong hand in political developments in post-Saddam Iraq, its alleged links to terrorism and coup attempts in Bahrain, and the plotted assassination of the Saudi Arabian Ambassador to the United States by an Iranian operative have all contributed to the current unease. Adding to this concern is the fact that the Arab Gulf states are providing financial and military support to Sunni proxy groups in Syria who are fighting against the Iranian-backed government of President Bashar al-Assad in perhaps the most politically significant civil war in the contemporary history of the Middle East.

FIGURE 5: Iranian Aggression in the Gulf – Past and Present

October 15-17, 1987 – A Silkworm missile, fired from an area seized by Iran during the Iran-Iraq War, strikes the *Sungari* supertanker near Kuwait on October 15. On October 17, another Silkworm missile – reportedly from Iran – is used to attack the U.S. oil tanker *Sea Isle City* while in Kuwaiti territorial waters. Eighteen aboard the ship were injured in the attack.⁹²

October 23, 1987 – The Sea Island oil terminal – a key export facility in Kuwait – is struck by an Iranian Silkworm missile.⁹³

May, 1988 – A report in the U.S. Naval Institute's *Proceedings* magazine indicates that Iran attacked 168 vessels in the Gulf between 1981 and 1987.⁹⁴

March, 2007 – Fifteen British military personnel operating in Iraqi waters are intercepted by what is believed to be IRGC Navy gunboats. The British were accused by Iran of operating in Iranian waters and were taken at gunpoint. The incident is believed to be linked to the United States capturing IRGC personnel in Irbil, Iraq as well as coercion from the West over the Iranian nuclear program.⁹⁵

May 2010 – Iran conducts the Velayat 89 air, land, and sea forces exercise in the Gulf – including the Strait of Hormuz – and the Indian Ocean. According to IHS Jane’s, “[...] the eight days of exercises included mine clearance and detection; torpedo and missile simulation; mobile support and command-and-control exercises; simulation of radar and missile units; and special operations deployment into the naval area of operations.”⁹⁶

July, 2011 – An Iraqi group reported to have ties to Iran⁹⁷ – Kata’ib Hizballah – plots to strike the construction of Bubiyan Island’s Mubarak al-Kabir port in Kuwait.⁹⁸

December, 2011 – In the midst of an Iranian naval exercise, Iran’s Vice President Ali Rahimi states, “[i]f sanctions are adopted against Iranian oil, not a drop of oil will pass through the Strait of Hormuz.”⁹⁹ During the exercise, dubbed Velayat 90, the Islamic Republic launched Qader and Nasr anti-ship missiles and conducted operations in the Gulf as well as the Sea of Oman.¹⁰⁰

July, 2012 – Iran’s parliament prepares to review a measure that would stop traffic in the Strait of Hormuz so long as sanctions remain in place.¹⁰¹ The Iranian Chairman of the Joint Chiefs of Staff, General Hasan Firouzabadi, states “[w]e do have a plan to close the Strait of Hormuz [...]. But Iran, acting rationally, will not close the corridor through which 40 per cent of the world’s energy passes, unless its interests are in serious trouble.”¹⁰²

November, 2013 – The status of Abu Musa and the Tunbs again is brought into question by public remarks between Emirati and Iranian officials. In the wake of remarks made by the Foreign Minister of the UAE on November 13 in which he claims that “[...] Iran still occupies after 42 years three of our islands,” Iranian Foreign Ministry Spokeswoman Marziyeh Afkham states on November 15 that, “[t]he three Iranian islands do and will belong to the Islamic Republic of Iran and Iran’s historical possession of the islands is an undeniable truth.”¹⁰³

The following day, Chairman of the Iranian Majlis National Security and Foreign Policy Committee Alaeddin Boroujerdi stated, “[a]ccording to the historical documents the triple islands belong to Iran and remarks made by the UAE foreign minister have no evidentiary or historical basis.”¹⁰⁴

November, 2013 – The IRGC Basij paramilitary forces conduct exercises on Qeshm Island, just off the Strait of Hormuz.¹⁰⁵

November 18, 2013 – Rear Admiral Habibollah Sayyari, Commander of the Iranian Navy, states, “[t]he trans-regional countries which are present in the territories of the Arab states on the Southern rims of the Persian Gulf and their voyage to these countries takes place under the International Maritime Law, but their presence in Iran’s waters is not permitted; we are monitoring and controlling the boundaries of the Islamic Republic of Iran thoroughly.”¹⁰⁶

November 19, 2013 – Rear Admiral Ali Fadavi, Commander of the IRGC Navy, states, “[t]he Revolutionary Guards’ might has reached a level that monitoring the foreign warships in the region is conducted twenty four hours a day now. [...] Our drones, coast guard boats, and coast stations monitor all movements of marine vessels in the region.”¹⁰⁷

Iran’s naval threats emanate from two sources: the Islamic Republic of Iran Navy (IRIN) and the elite IRGC Navy. The IRIN – with its larger vessels – operates principally in the Caspian Sea and the Gulf of Oman, and the more tactical IRGC Navy is oriented toward the Gulf. According to IHS Jane’s reporting on the 2007 decision to establish these areas of responsibility:¹⁰⁸

The reorganization was in line with an aspect of Iranian naval doctrine involving a layered defensive system to designed to deny access to enemy warships to the Strait of Hormuz and the Persian Gulf. The thinking appears to be that the IRIN’s warships, which have longer endurance at sea, would carry out reconnaissance in the Gulf of Oman, pushing out Iran’s maritime defences into that region, while the smaller boats of the IRGCN would carry out asymmetric warfare operations in the Strait of Hormuz and Persian Gulf.

The Congressional Research Service suggests that the principal threats posed by Iran – specifically in the Strait of Hormuz – are measures that would stop traffic in the Strait, measures to “harass” vessels transiting the Strait and energy-related infrastructure, and the issuing of “threatening statements” by the Iranian government, which subsequently drives up the price of oil.¹⁰⁹ These

objectives could be advanced through a variety of platforms and weapons – including mines, light sea craft, submarines, and anti-ship missiles.¹¹⁰

The naval force data in **Figure 6** highlight some of the unique capabilities of the Iranian Navy and Marine forces relative to the Gulf Arab states. For one the IRGC Navy, IRIN, and Iranian Marines comprise of a combined 38,000 men – a force which is noticeably greater than the combined naval and coast guard forces of the GCC states, which is only 29,860. Moreover, Iran’s Navy maintains submarine warfare capabilities, whereas the only submersible technology employed within the GCC are swimmer delivery vehicles. Iran’s 21 submarines are tactical vessels – 3 of which are Russian *Kilo* class attack/anti-submarine warfare subs, 1 of which is a coastal sub (*Fateh*), and 17 of which are midget submarines (*Qadir* and *Nahang*). An eighteenth midget submarine is reported to be in production.¹¹¹

There are conflicting reports as to where Iran’s *Kilo* class submarines are based. The Nuclear Threat Initiative suggests that the vessels are based out of Bandar Abbas, which is on the Gulf, in close proximity to the shipping lanes of the Strait of Hormuz.¹¹² However, IHS Jane’s suggests that Iran is likely to move its Kilos to Chabahar by the mid-2010s to avoid the entrapment of the vessels in the Gulf by US forces.¹¹³ Adding to operational difficulties in the Gulf, these submarines are limited in that they require 164 feet of water to operate.¹¹⁴ It is important to note though that the depth of the shipping channel in the Strait of Hormuz is roughly 66-86 meters (216-282 feet) deep, giving the *Kilos* ample depth to operate.

The torpedo and mine warfare capabilities of Iran’s submarines make them a threat to maritime security. Iran is reported to possess roughly 2,000 sea mines¹¹⁵ (one estimate suggests as many as 3,000 “‘smart’ mines”)¹¹⁶ – some indigenously made, others from China and perhaps Russia – as well as indigenously-made wake-homing torpedoes that can travel as far as 20 kilometers, and possibly supercavitating high-speed torpedoes.¹¹⁷

Efforts also may have been underway in 2006 to retrofit Iranian subs with Klub-S cruise missiles. According to IHS Jane’s, these missiles are “‘designed to hit an adversary’s surface ships, submarines and land targets at a range of up to 200 km.”¹¹⁸ The advanced – and hard to locate – mines at Iran’s disposal include the EM-52, a rocket-propelled mine that could loiter on the bottom of the sea before climbing for an attack.¹¹⁹

Iranian anti-ship missile capabilities include Silkworm missiles and more advanced Chinese C-801 and 802 missiles with ranges of 40 and 120 kilometers, respectively. These missiles are less detectable than the Silkworms given their closer engagement distance and low flight profiles.¹²⁰ Iran is reported to have an anti-ship ballistic missile dubbed the Khalij Fars in development.

The Khalij Fars is an electro-optical/infrared (EO/IR) missile, which Iran has suggested can travel 300 kilometers.¹²¹ Other Iranian anti-ship missiles include the Zafar, which the IRGC considers “‘a short-range, anti-ship, radar-guided missile capable of hitting and destroying small and medium-sized targets with high precision’,”¹²² in addition to the Nasr (35 kilometer range), Noor, and Ghader (200 kilometer, indigenous C-802 variation) missiles, which are not cruise missiles.¹²³

FIGURE 6: Iranian and Gulf Arab Naval Warfare and Coast Guard Capabilities

Iran

Category	Number	Comments
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Manpower	Over 38,000	Over 20,000 IRGC Naval Forces, Including Marines
Submersibles	29	21 tactical subs, 8 swimmer delivery vehicles
Destroyers	0	
Frigates	0	
Corvettes	6	
Missile Patrol Boats/Craft	About 80	58 IRGC Navy
Other Patrol Boats/Craft	About 186	About 55 IRGC Navy, About 90 under Law Enforcement Forces
Mine Warfare	5	3 coastal mine sweepers, 2 inland sweepers
Naval Aviation Assets	54	8 fixed-wing anti-submarine warfare (5 under Air Force), 16 fixed wing transport, 10 anti-submarine warfare helicopters, 3 mine countermeasures helicopters, 17 transport helicopters

Table compiled by the author. Source: Chapter Seven: Middle East and North Africa," in *The Military Balance*, 113:1, 353-414, International Institute for Strategic Studies. P. 379-380.

Saudi Arabia

Category	Number	Comments
Manpower	18,000	Includes Coast Guard
Submersibles	0	
Destroyers	3	
Frigates	4	
Corvettes	4	
Missile Patrol Boats/Craft	9	
Other Patrol Boats/Craft	70	
Mine Warfare	7	
Naval Aviation Assets	46	34 multi-role and 12 transport helicopters

Table compiled by the author. Source: Chapter Seven: Middle East and North Africa," in *The Military Balance*, 113:1, 353-414, International Institute for Strategic Studies. P. 401, 403.

United Arab Emirates

Category	Number	Comments
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Manpower	About 2,500	
Submersibles	About 10	Swimmer Delivery Vehicles
Destroyers	0	
Frigates	0	
Corvettes	5	
Missile Patrol Boats/Craft	8	Ocean Mine Hunter
Other Patrol Boats/Craft	85	Includes Coast Guard and UAE National Infrastructure Authority
Mine Warfare	2	
Naval Aviation Assets	20	2 fixed-wing light transport aircraft, 7 Anti-Submarine Warfare Helicopters, 11 Multi-Role Helicopters

Table compiled by the author. Source: Chapter Seven: Middle East and North Africa," in *The Military Balance*, 113:1, 353-414, International Institute for Strategic Studies. P. 408-409.

Kuwait

Category	Number	Comments
Manpower	About 2,000	Includes Coast Guard
Submersibles	0	
Destroyers	0	
Frigates	0	
Corvettes	0	
Missile Patrol Boats/Craft	10	
Other Patrol Boats/Craft	39	
Mine Warfare	0	
Naval Aviation Assets	0	

Table compiled by the author. Source: Chapter Seven: Middle East and North Africa," in *The Military Balance*, 113:1, 353-414, International Institute for Strategic Studies. P. 388-389.

Qatar

Category	Number	Comments
Manpower	1,800	Includes Marine Police
Submersibles	0	
Destroyers	0	
Frigates	0	
Corvettes	0	
Missile Patrol Boats/Craft	7	
Other Patrol Boats/Craft	14	
Mine Warfare	0	
Naval Aviation Assets	8	Anti-Submarine Warfare helicopters (under Air Force)

Table compiled by the author. Source: Chapter Seven: Middle East and North Africa," in *The Military Balance*, 113:1, 353-414, International Institute for Strategic Studies. P. 399-400.

Bahrain

Category	Number	Comments
Manpower	About 960	Includes Coast Guard
Submersibles	0	
Destroyers	0	
Frigates	1	
Corvettes	2	
Missile Patrol Boats/Craft	4	
Other Patrol Boats/Craft	58	
Mine Warfare	0	
Naval Aviation Assets	2	Light transport helicopters

Table compiled by the author. Source: Chapter Seven: Middle East and North Africa," in *The Military Balance*, 113:1, 353-414, International Institute for Strategic Studies. P. 373.

Oman

Category	Number	Comments
Manpower	4,600	Includes Police Coast Guard
Submersibles	2	Swimmer delivery vehicles
Destroyers	0	
Frigates	1	
Corvettes	2	
Missile Patrol Boats/Craft	4	
Other Patrol Boats/Craft	63	
Mine Warfare	0	
Naval Aviation Assets	0	

Table compiled by the author. Source: Chapter Seven: Middle East and North Africa," in *The Military Balance*, 113:1, 353-414, International Institute for Strategic Studies. P. 397-398.

Yemen

Category	Number	Comments
Manpower	2,900	Includes Coast Guard
Submersibles	0	
Destroyers	0	
Frigates	0	
Corvettes	0	
Missile Patrol Boats/Craft	0	
Other Patrol Boats/Craft	36	14 under Coast Guard
Mine Warfare	1	Ocean mine sweeper, reported to have 5 minehunters by Jane's**
Naval Aviation Assets	3	2 fixed-wing maritime patrol aircraft, 1 anti-submarine warfare helicopter (all under Air Force)

**="Navy [Yemen]," Jane's Sentinel Security Assessment – The Gulf States, IHS Jane's, last post August 1, 2013.

Table compiled by the author. Source: Chapter Seven: Middle East and North Africa," in *The Military Balance*, 113:1, 353-414, International Institute for Strategic Studies. P. 410.

Iraq

Category	Number	Comments
Manpower	3,600	Iraqi Coastal Defence Force
Submersibles	0	
Destroyers	0	
Frigates	0	
Corvettes	0	
Missile Patrol Boats/Craft	0	
Other Patrol Boats/Craft	29	
Mine Warfare	0	
Naval Aviation Assets	0	

Table compiled by the author. Source: Chapter Seven: Middle East and North Africa," in *The Military Balance*, 113:1, 353-414, International Institute for Strategic Studies. P. 382.

The broader presence of the IRGC Navy in the Gulf was claimed in October 2013 by IRGC Navy Commander Rear Admiral Ali Fadavi to be roughly 100 vessels strong.¹²⁴ Naval operations could be launched from the myriad Gulf bases of the Iranian Navy and IRGC Navy, including from the Naval operations headquarters at Bandar Abbas, Abu Musa, Bushehr, Farsi, Kharg Island, Siri, Halileh, Bandar Lengeh, and Larak.¹²⁵

The facilities at Bandar Abbas, Abu Musa, Siri, Bandar Lengeh, and Larak are of particular importance due to their very close proximity to the shipping lane through the Strait of Hormuz. In fact, Larak itself is an island within the Strait. Moreover, the facilities on the Gulf of Oman in Chabahar and Jask could be significant in applying pressure on the eastern side of the Strait of Hormuz and maritime traffic approaching or attempting to depart the Gulf. Iran is said to have naval aviation capabilities near the Gulf at Bandar Abbas and Bushehr.¹²⁶

Iran's Navy has conducted numerous exercises in recent years to prepare for an assault on regional shipping. The Velayat exercises, which appear to occur on nearly a yearly basis, are a key part of Iranian preparedness. The spring 2010 Velayat 89 exercise saw missile and torpedo training, reconnaissance training, and the deployment of air support platforms. The operation focused on the Gulf, Strait of Hormuz, and the Sea of Oman. Another operation was the December 2011-January 2012 Velayat 90 exercise, which included the launch of anti-ship missiles, the use of fast attack craft, and the laying of mines. The more recent Velayat 91 exercise was held from December 2012-January 2013 and saw the use of submarines and frigates. This exercise was geared toward the Islamic Republic of Iran Navy, rather than the IRGC Navy.¹²⁷

Escalation Drivers in Iranian Strategic Calculus

While it is impossible to fully grasp the decision making calculus of Iran's Supreme Leader or to predict future patterns of behavior, a number of trends can be observed that help explain why Iran has escalated maritime security tensions. For one, years of sanctions and international isolation have left Iran's conventional military forces in a deteriorated and outdated state. While Iran was able to procure advanced American aircraft such as the F-4, F-5, and F-14¹²⁸ in the past, the suspension of military aid from the United States in the wake of the 1979 revolution made it difficult for Iran to maintain a supply chain of parts to keep these aircraft fully operational. Tehran has also been left unable to procure newer technology from Western states. Given the poor state of conventional forces that have suffered from the lack of access to Western technology, coupled with the absence of a nuclear deterrent, Iran has had to rely on asymmetric capabilities that it has developed since 1979.

Iran's reliance on unconventional warfare was initially displayed in the 1980s. As previously mentioned, the conventional shortcomings Iran's military faced during the Iran-Iraq led Tehran to target Kuwaiti tankers. By targeting these tankers, Iran was attacking the financial backers of the Iraqi forces. Iran also developed the Shia extremist group Hezbollah in Lebanon to serve as a proxy during the Lebanese Civil War – a role which that group continues to maintain.

With limited conventional capabilities at its disposal, unconventional warfare – such as the targeting of maritime commerce – has been the most employed means of power projection since the shortcomings of the Iran-Iraq War and the onset of sanctions. A conventional military attack on U.S. or Gulf Arab forces would provoke a response that the Islamic Republic would struggle to defend against. An asymmetric attack, however, would be easier for Iran to execute with its limited resources, more difficult for its adversaries to protect against given their own strong reliance on conventional capabilities, and more difficult for the United States and its Gulf allies to respond to.

There can be little doubt that if tensions over Iran's nuclear problem were to escalate to the point of conflict, Iran would resort to the use of unconventional tactics, as Iran could gain little by attempting to wage a conventional war. The previous use of force against commercial maritime vessels during the tanker wars reflects Iran's interest and demonstrated capabilities in carrying out such attacks.

Any conventional attack – even on the Strait of Hormuz itself – or a broader attack that results in the Strait being unnavigable is unlikely to be carried out by the Islamic Republic unless it has little other choice. Iran must rely on the Strait for its own international trade, and any attack would lead to diplomatic fallout from key traders such as China. Iran has much more leverage to gain by either making threats that effect strategic thinking and drive up the price of oil, and launching smaller tactical attacks on individual vessels if need be.¹²⁹

Congressional Research Service experts suggest, however, that Iranian rhetoric about closing the Strait could be tied to economic sanctions against the country. According to a January 2012 report:¹³⁰

Most observers believe that Iran, because of its own dependence on commerce through the Strait, intends to shape the international debate on Iran policy rather than to actually attempt to close the waterway. [...] This

implies that the likelihood that Iran might attempt to close the Strait increases if a broad embargo on purchases of Iran's oil emerges.

Congressional Research Service experts also state that Iran's desire to cause conflict in the Strait might be reduced if the EU reduced its sanctions.¹³¹ While the November 2013 agreement involving the United States, the United Kingdom, France, Russia, China, and Germany (P5+1) and Iran offers a six-month accord that could lay the foundation for a broader, long-term agreement, the agreement could just as easily collapse in six months. The sanctions relief and nuclear safeguard provisions offered in this agreement should not be confused with long-term progress toward Western-Iranian rapprochement.

The P5+1 and Iran are now under heightened pressure to produce some kind of further progress toward a comprehensive nuclear agreement within the next six months. If these talks were to fall apart in that time, it may be more difficult for the United States to convince Israel not to pursue a preventive strike on Iran's nuclear infrastructure. Moreover, it could yield further sanctions that many members of the U.S. Congress already advocate,¹³² which could heighten Iranian pressure on the Strait and the broader Gulf.

Gulf Arab Maritime Security Capabilities

Force revitalization has been a common theme shaping naval capabilities in the Gulf Arab states – including Iraq – in recent years. For the GCC states, this means replacing platforms that are at least a quarter-century old with more modern equipment, while also broadening the range of tasks that this equipment could be used for. Patrol boats and corvettes have been on the order list of Gulf states as anti-submarine warfare and blue water operations become priorities of their navies. For Iraq, revitalization has meant creating a new fleet that can safeguard the country's waters, ports, and energy equipment.¹³³

Figure 6 provides a breakdown of the maritime security capabilities of the Gulf Arab states. As reflected by this data, the Arab states lack submarine warfare capabilities – giving Iran a decisive sub-surface warfare advantage relative to its Arab neighbors. This capabilities gap for the Arab states could be mitigated by the reported repositioning of Iranian submarines from the Gulf to the Gulf of Oman.

Below is country-specific information on maritime security capabilities for each of the Gulf Arab states, based on reporting from IHS Jane's:

- **Saudi Arabia:** Saudi Arabia is the only GCC navy with capabilities and bases in both the Gulf and Red Sea theaters. The Red Sea has displaced the Strait of Hormuz as the key interest of the Saudi Navy, and to make matters worse, the navy has received poor financial support relative to the other Saudi military branches. However, capabilities have been enhanced by the acquisition of three stealth frigates from France in the mid-2000s, and the Kingdom may be looking to develop submarine capabilities. The Saudis have conducted joint exercises with the United States, United Kingdom, France, and the GCC states – particularly Bahrain. As a part of the Foreign Military Sales (FMS) program with the

United States, they have contracted the consultancy Booz Allen for “technical and training support”.¹³⁴

- **Kuwait:** The development of Kuwait’s navy following the devastation of the Iraqi invasion has not been as substantial as the development of the country’s other armed forces. Nonetheless, mine warfare has been seen as a responsibility of the navy, despite the absence of mine warfare vessels or naval aviation assets. Kuwait is building cooperation with the United States, Iraq, and NATO forces and has pursued training and joint exercises with U.S., British, and French forces – including the 2008 Standing NATO Maritime Group 2 exercise.¹³⁵
- **Bahrain:** The maritime security forces of Bahrain are structured as a defensive trip wire for an attack upon the island, and maintain a focus on smuggling and terrorism – though is not an offshore-oriented force. The navy is reliant on foreign personnel, and according to IHS Jane’s “[...] has traditionally lacked adequate mine and anti-submarine warfare assets.”¹³⁶ Bahrain’s forces undergo joint training with the United States, United Kingdom, and the GCC states.¹³⁷
- **Qatar:** Like Bahrain, Qatar’s forces are not offshore oriented. Moreover, IHS Jane’s reports that “[...] elements of the main surface fleet were affected by poor serviceability in recent years, raising questions as to sustainability.” Steps were taken to start to address these problems in 2010. Qatar has pursued training with the United Kingdom and France.¹³⁸
- **United Arab Emirates:** Emirati maritime security forces have been working to transition away from the relatively localized posture of the smaller GCC navies to a force with an offshore presence. IHS Jane’s reports that the country “[...] needs to improve its anti-submarine warfare, mine counter-measures and anti-swimmer defences [...]” To that end, there is speculation that the country may possibly be looking to develop a submarine warfare capability. The United Arab Emirates trains with British, French, and Dutch forces, and pursues joint exercises with the United Kingdom and the GCC states.¹³⁹
- **Oman:** Oman’s maritime security forces suffer from weak mine and anti-submarine warfare forces. These forces have maintained an orientation toward addressing smuggling and piracy. They train with British forces and conduct joint missions with the United Kingdom and the GCC states.¹⁴⁰
- **Yemen:** Yemen’s forces are unique relative to many of the Gulf Arab states – aside from Saudi Arabia and the United Arab Emirates, it is the only state to have mine warfare vessels. However, Yemen’s ocean minesweeper and minehunter vessels obtained from the Soviet Union are aging, and it is reported that their “[o]perational status [is] doubtful.” Yemen’s forces have been oriented toward piracy and terrorism, as well as protecting Yemen’s waters and exclusive economic zone (EEZ), though this is seen as “[...] too demanding for existing capabilities.”¹⁴¹ Yemen pursues joint training with the United States, the United Kingdom, France, and the European Union Naval Force (EUNAVFOR).¹⁴²

- **Iraq:** Iraq's maritime security forces were established in 2004 as the Iraqi Coastal Defence Force (ICDF), and received 5 patrol craft later that year. Forces have been oriented toward protecting energy-related assets and ports, as well as terrorism and piracy. Iraq is reported to be interested in air and missile boat assets, however a U.S. Department of Defense report in 2009 suggests that Iraq's forces were being strained by new equipment – particularly 44 small craft – coming on line, and that contracted support for logistics and engineering was recommended. Iraq has pursued interoperability with Kuwait, and trains with the United States, United Kingdom, and France.¹⁴³

A few common trends and issues faced by Gulf Arab maritime security forces are worth highlighting. First, the naval forces are plagued by the fact that air and land forces have historically received more resources than maritime forces. Saudi Arabia is a case-in-point. The Kingdom spends a tremendous portion of its defense budget on maintaining advanced airpower capabilities. In 2010 and 2011, it agreed to a \$60 billion program with the United States to upgrade 70 F-15 aircraft and purchase 84 of the same aircraft type as well as about 168 helicopters. Ammunition was also included.¹⁴⁴

One view of the role of the smaller GCC militaries in the face of a major Iranian threat can best be understood in the context of Sean Foley's description of the UAE military. He writes, "[...] the UAE military's primary mission is to serve as a trip wire that can hamper an invading army and hold its ground until reinforcements arrive."¹⁴⁵ The development of indigenous military forces in the Gulf through U.S. security assistance programs has largely been to create a trip wire in the event of a conventional military assault on the Gulf from either of the two historical antagonists of the region: Iraq and Iran. However, the likelihood of an Iranian conventional military assault on the Gulf Arab states is unlikely for the aforementioned reasons. This begs the question: why are the force development plans of the Gulf Arab states and U.S. security assistance programs not being oriented toward capabilities that could defend against Iran's asymmetric naval warfare capabilities?

It has been over two decades since Iran demonstrated its strategic commitment to asymmetric warfare by launching the Tanker Wars and creating Hezbollah. Iran's airpower capabilities are in a state of limited serviceability, and even in the best of circumstances, are no match for even the slightly-ageing GCC air forces – to say nothing of the U.S. Naval Aviation and Air Force assets stationed in the Arabian Peninsula, the Gulf, and Turkey. Iraq has not had a functioning military capable of offensive operations in a decade. Yet the Gulf Arab states remain committed to investing valuable resources in airpower, at the expense of naval assets that are needed to deter against Iran's demonstrated maritime interdiction and sea mining capabilities.

Along these lines, the previous snapshots of the Gulf Arab naval forces show that mine and submarine warfare capabilities are lacking. None of the Gulf Arab states possess submarines, despite the fact that Iran has had such capabilities for over 20 years.¹⁴⁶ Only two of the Arab states on the Gulf – Saudi Arabia and the United Arab Emirates – possess mine warfare platforms. The distance from Saudi ports and U.S. anti-mine ships in Bahrain to the Strait of Hormuz could make international commerce reliant on the two anti-mine warfare ships under the Emirati Navy in the early period of any Iranian mining operations in the Strait of Hormuz.

Given the sophistication of Iranian mines and Tehran's ability to deploy them somewhat covertly using submarines, anti-mine warfare is a crucial part of securing regional waterways for the Gulf Arab states. However, data suggests that the presence of minesweepers in the Gulf is lacking compared to the number of vessels deployed in the region during the tanker crisis with Iran. There were 17 minesweepers involved in operations in the Gulf during that period in the 1980s. Today, however, the number of total mine warfare vessels in the Gulf is around 12 – 4 U.S. mine countermeasure vessels in Bahrain,¹⁴⁷ 6 Saudi minesweepers in the Eastern Fleet,¹⁴⁸ and two Emirati mine hunters.¹⁴⁹

If the Gulf of Oman were to be mined by Iran, which is not out of the realm of possibility given the Islamic Republic's aforementioned layered defense strategy and submarine redeployments, it will be critical for the regional states to mobilize anti-mine platforms to that region. However, such assets are lacking. If the Strait of Hormuz could not be navigated, the only other assets at the disposal of the Arabian Peninsula states would be Yemen's single ocean minesweeper and five minehunters – all of which are in a questionable state of serviceability¹⁵⁰ – and the one Saudi coastal minesweeper under the Western Fleet,¹⁵¹ which would have to be mobilized from the Red Sea.

A third trend that can be observed of Arab naval forces is that they are principally geared toward patrolling operations and combating terrorism, piracy, and smuggling. Several of the GCC states – as well as Iraq – lack blue water capabilities. Moreover, these forces appear to have no clear strengths and do not appear to have participated in joint training for tasks such as escorts, convoys, or other forms of commercial vessel protection in open waters. Nor do they appear to have joint training in responding to maritime emergencies, such as commercial vessels being assaulted by small craft or anti-ship missiles.

Recommendations to Promote Gulf Security

Improving Capabilities Under a Joint Framework

While Iran can benefit from the element of surprise through its mine, submarine, and fast attack boat capabilities, a unified GCC maritime security force could complicate any Iranian attempt at a sustained assault. As observed by IHS Jane's in their assessment of the Iranian Navy:¹⁵²

[...] its naval command structure lacks cohesion and co-ordination. Currently, nine different ministries deal with some aspect of sea power. In addition, the Iranian Navy does not have fixed-wing combat aircraft, and the P-3 and C-130 reconnaissance aircraft were purchased in the 1970s. Many of the naval air assets are believed to suffer from parts shortages, worn avionics, and ineffective maintenance.

In the fog of war, a GCC naval force with cohesion and coordination on its side could prove disruptive to Iranian naval objectives. The best defense that the Gulf Arab states could provide to maritime commerce would be to acquire the technology necessary to counter Iran's asymmetric threats, to ensure that these systems receive the logistical and training support needed to sustain operations, and to fully integrate GCC, Yemeni, and Iraqi maritime security forces under a collective security framework.

While it is understandable that not every navy in the region can realistically have a blue water navy with mine and submarine warfare capabilities, a unified GCC-Yemen-Iraqi naval strategy needs to be developed that designates a division of labor and capabilities between the respective countries. At the very least, anti-mine warfare vessels need to be developed in both the Gulf and the Gulf of Oman. Yemen's ageing fleet needs to be brought into the 21st century, and made strong enough to ensure that Iranian submarines cannot close the threshold to the Strait of Hormuz with mines.

The Gulf Arab navies need to maintain sufficient frigate and corvette capabilities for blue water operations in the Gulf as well as outside of the region in the Gulf of Oman. Patrolling littoral waters with light patrol boats will be of little benefit in protecting offshore shipping lanes from Iranian torpedoes and IRGC fast attack boat swarms. Planning on any potential submarine procurements must be discussed at the GCC level so that such platforms are interoperable with both existing and planned GCC equipment.

Advancing Collective Security from the Theoretical to the Practical

As has been argued in prior Burke Chair reporting,¹⁵³ there is a strong need for political and military integration amongst the GCC states. The threat to maritime commerce that Iran's forces could pose further stresses the need for the Gulf states to develop these capabilities to safeguard the global economy.

In addition to promoting integration and interoperability amongst patrol and response forces, cooperative steps must be made at the political level amongst the GCC states to adopt a common policy toward maritime security. Specifically, the GCC states must minimize the differences in foreign and security policy between member states, as these differences can easily be exploited by the Iranians to further divide the union.

In the current political environment of the Arabian Peninsula, each state has had to adopt nuanced foreign and security policies toward Iran as a result of each country's unique history, demographics, political philosophy, and economics. While Bahrain has maintained hostile

relations with Iran as a result of alleged Iranian meddling amongst the majority Shia population against the Sunni government, states like Kuwait have sought non-hostile relations with Iran due to concerns about instability triggered by the Shia minority.¹⁵⁴ Despite very strict sanctions in the West against Iran, some GCC states have even been able to maintain trade relationships with Iran: the UAE's third largest export market is Iran,¹⁵⁵ and Oman has been known to be a critical node in the smuggling network into Iran.¹⁵⁶ While these differences in policy exist for good reason, that does not mean that the GCC cannot set a common policy defining what Iranian actions would be seen as intolerable by the GCC as a whole.

While some GCC states may be closer to Iran than others, no GCC state has an interest in an aggressive and violent Iran, as evidenced by the universal GCC policy against an Iranian nuclear weapons capability.¹⁵⁷ The GCC must work together to craft a common policy defining what Iranian actions would be deemed unacceptable by the GCC, and what responses would be pursued in the event that such thresholds were breached.

The need for such a policy is reinforced by the fact that the most probable threat to regional maritime security is to individual vessels transiting any one of the GCC states, and not to the Strait of Hormuz as a whole. If Iran were to attack a vessel from a state that it already has unfriendly relations with – such as Bahrain – knowing that it would not elicit a broader GCC call to arms from countries such as Kuwait or Oman, Iran could have much to gain and little to lose by executing an attack.

The GCC must make clear to Iran that an attack on any vessel calling any country in the region, or an attack on the infrastructure of any GCC state, would trigger a response from the entire GCC. That response, which would most likely need to be economic in nature, must be articulated to Iran. If Tehran knew that an attack on a vessel transiting the waters of any regional state would lead to a crackdown in illicit trade and financial transactions from the United Arab Emirates and Oman to Iran, it would certainly raise the stakes of such an attack.

Under the new government of President Hassan Rouhani, Iran has publically sought diplomatic engagement with the GCC states. Iran's Foreign Ministry has made it a point to emphasize Iran-GCC diplomatic overtures. According to Iranian Foreign Minister Mohammad Javad Zarif:¹⁵⁸

The region's peace, progress and prosperity is also for all. [...] We see every progress of the countries in the region as a success for ourselves and any sort of danger or threat to them as one to ourselves.

The Foreign Ministry's spokeswoman, Marziyeh Afkham further emphasized:¹⁵⁹

The consolidation and development of relations with Islamic and Arab countries, particularly the countries in the key and sensitive Persian Gulf region, is the priority of the Islamic Republic's foreign policy.

In November 2013, the Foreign Minister of the United Arab Emirates was in Tehran for meetings with President Rouhani and the Iranian Foreign Minister.¹⁶⁰ The Speaker of the Iranian Parliament was scheduled to travel to Oman the following month to meet with Sultan Qaboos bin Said Al Said as well as the Omani Foreign Minister – this at a time when the Omani leadership has sought to further develop their country's economic relationship with Iran.¹⁶¹

If Iran's diplomatic efforts are genuine, some GCC states will be more inclined to explore a closer relationship with Iran. Those states that do not, and which have no meaningful economic or political links to Iran, could be vulnerable to attack from Iran in the event of an escalation in GCC-Iran tensions. Bahrain and Saudi Arabia are the two least likely GCC states to diplomatically and economically engage Iran much further due to the myriad historic friction between Iran and these

states.¹⁶² If Iran were to single-out the vessels or port facilities of GCC states to target during an escalation, those of these two states could perhaps be the most vulnerable due to the present lack of meaningful relations and the value Iran gains from relations with other GCC states. A strengthened and clearly articulated GCC collective security policy toward maritime threats, that preferably includes the participation of Yemen and Iraq, could go a long way in preventing Iranian exploitation of GCC divisions in times of crisis.

Strengthening Capabilities by Sustaining Them

Historically, few issues have plagued Arab military effectiveness more than insufficient tactical leadership as well as maintenance and technical shortcomings.¹⁶³ An obvious remedy to these problems is to provide contracted expertise to train local forces and offer logistical and technical support. Unlike the United States, much of the hardware used by the Gulf Arab militaries is not indigenous to the region. Even the most intelligent and adept local personnel must adjust to the use of imported systems. The United States and its European allies have several centuries of naval warfare experience over the Gulf Arab states, and can impart this experience through joint training and support programs both at the military and contractor level.

While it is reported that contractors have played a role in developing maritime security forces in Kuwait, Saudi Arabia, the United Arab Emirates, and Iraq,¹⁶⁴ it is unclear what role if any contractors play in the other regional states. As more complex systems are procured by these states – particularly submarines and mine warfare vessels – the United States and its allies must expand training, technical, and logistical support to the Gulf states to maintain a credible deterrent against Iran.

Chapter IV: Piracy in the Gulf of Aden, the Arabian Sea, and the Indian Ocean

A Brief Introduction to the Gulf of Aden, the Arabian Sea, and the Indian Ocean

The Gulf of Aden serves as a link connecting the Red Sea and the Arabian Sea, thus serving as a key transit point for East-West cargo traveling to or from the Suez Canal. The waterway is situated between the Yemeni coast on the Arabian Peninsula and Somalia and Djibouti on the east African coast.

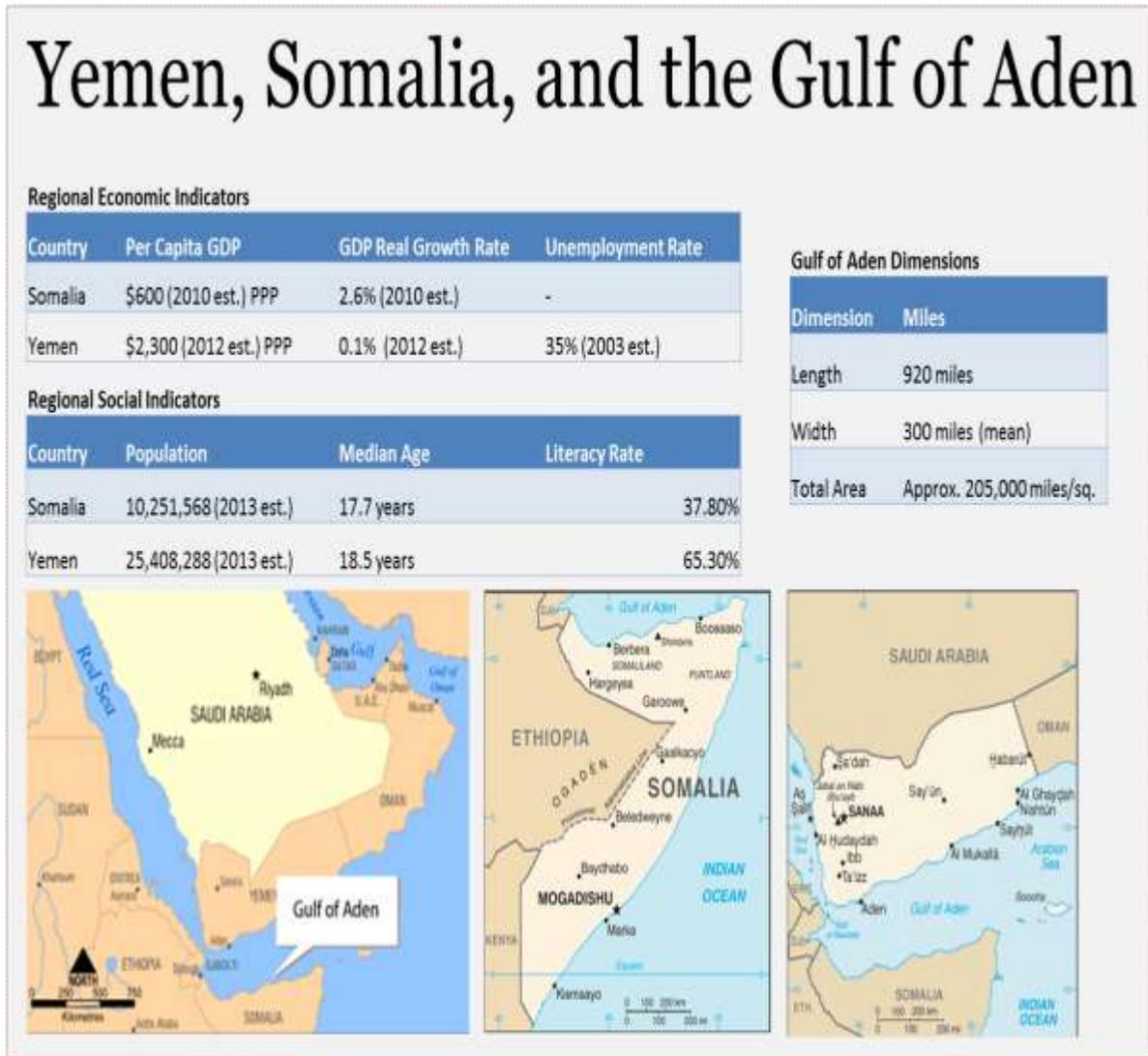
The Gulf of Aden opens to the northwest to the Red Sea through the Bab el-Mandab – a waterway that narrows to 18 miles between Yemen and the coastlines of Djibouti and Eritrea. This waterway is considered a “chokepoint” for oil trade by the U.S. Energy Information Administration. It handled roughly 3.4 million bbl/d of oil in 2011, and saw volume as high as 4.5 million bbl/d in 2008. Bab el-Mandab is navigable through a pair of channels – each two-miles wide.¹⁶⁵

To the east the Gulf of Aden opens to the Arabian Sea and eventually the broader Indian Ocean. The Indian Ocean encompasses the Gulf, Red Sea, Arabian Sea, and Gulf of Aden and is the world’s third-ranked ocean in terms of size – comprising 68.556 million square kilometers. Its waters are used to transport a high volume of petroleum and related goods, and is responsible for roughly 40% of offshore oil produced worldwide.¹⁶⁶

The waters off the east coast of Africa and extending to India have become prime environments for piracy in recent years – likely due to their vital importance to regional and global commerce. Asian access to the Suez Canal is dependent upon vessels transiting all three of these waterways. As mentioned earlier, the challenges facing the expansion of the Panama Canal has left the world’s larger container vessels increasingly dependent on Suez to bridge Asia with Europe and the Americas. As such, passage through these waters can be expected to increase as steamship lines require passage through the Red Sea to and from Suez.

At the regional level, several East African states are dependent on the Bab el-Mandab, the Gulf of Aden, the Arabian Sea, and the Indian Ocean for sea access – namely Eritrea, Djibouti, Somalia, Kenya, and Tanzania. Other states bordering these waters include the island nations of Madagascar, the Seychelles, and the Maldives – as well as Yemen and Oman on the Arabian Peninsula. The High Risk Area (HRA) for piracy incidents has been defined to include the

FIGURE 7: Background on Gulf of Aden, Somalia, and Yemen



Tables created by author. Economic and social indicators and country maps: Central Intelligence Agency, *The World Factbook [Yemen]*, last updated November 6, 2013. <https://www.cia.gov/library/publications/the-world-factbook/geos/ym.html>; Central Intelligence Agency, *The World Factbook [Somalia]*, last updated November 18, 2013. <https://www.cia.gov/library/publications/the-world-factbook/geos/so.html>; Gulf of Aden dimensions from: “Gulf of Aden,” Encyclopaedia Britannica. <http://www.britannica.com/EBchecked/topic/5650/Gulf-of-Aden> (Accessed December 3, 2013); Gulf of Aden map from: National Oceanic and Atmospheric Administration (NOAA), adapted from Wikimedia Commons. http://commons.wikimedia.org/wiki/File:Gulf_of_Aden_3_map.png.

waters off Tanzania, Kenya, Somalia, Djibouti, Yemen, Oman, Iran, Pakistan, India, the Maldives, and the Seychelles – as well as up the Red Sea to include Sudan, Egypt, and Saudi Arabia. Several of these states maintain key trading ports in the vicinity of the HRA. Such ports include Jeddah, Saudi Arabia; Muscat, Oman; Mombasa, Kenya; Karachi, Pakistan; and Mumbai (Nehru/Nhava Sheva), India.¹⁶⁷ Even goods not originating in or destined for these countries are liable to be transiting through HRA waters as these ports are called in major steamship line rotations.

Macroeconomic and Political Problems in the Surrounding States as Drivers of Instability

The unstable economic and political environments in the states bordering the Gulf of Aden pose a risk to maritime security in the surrounding waters and the broader Indian Ocean. Somalia in particular is the poorest country per capita bordering the Indian Ocean (and the fifth-poorest country in the world by the same metric),¹⁶⁸ and has suffered from a lack of permanent centralized governance since 1991.

As the country has splintered, it has yielded the Republic of Somaliland in the north – which despite its name is not considered by the international community to be a sovereign state – as well as Puntland, which has its own government but is also not sovereign.¹⁶⁹ According to an April 2011 report from the Congressional Research Service, “[t]he absence of a functioning central government there [in Somalia] provides freedom of action for pirates and remains the single greatest challenge to regional security.”¹⁷⁰

The social, political, and economic situation in Somalia has been a major factor in the rise and spread of piracy. There is a considerable youth bulge among the population of 10.25 million, with roughly 63% of the population age 24 or below. Overall and youth dependency ratios are 100.1 and 94.4% respectively, indicating both the pressures on the economy of the youth bulge, as well as the poor quality of Somalia’s educational system. The percentage of Somalis over the age of 15 who are capable of reading and writing was last reported at an abysmal 37.8%, with the average education lasting only three years. The poor overall living conditions in the country means that the average Somali will live to only 51 years of age.¹⁷¹

The Somali economy is predominantly agrarian, with agriculture accounting for nearly 60% of GDP and 71% of the labor force. The poor quality of education, strong reliance on agriculture, and lack of central governance have led to myriad problems for the Somali economy: per capita GDP was estimated as a mere \$600 in 2010 – making it the world’s fifth-poorest country per capita,¹⁷² with an overall GDP ranking of 165 out of 299 countries (including the EU both as a whole as well as individual member states),¹⁷³ and a current account deficit on par with about 9% of GDP.¹⁷⁴ Add to these problems the fact that local fisherman are experiencing less and less yield, and a perception amongst some Somalis that piracy is the result of illegal fishing siphoning revenues from the local community.¹⁷⁵

Somalia is not the only state in the region where political and economic instability are persistent problems. Across the Gulf of Aden, the situation in Yemen has grown precipitously dire. Yemen suffers from many of the same social, political, and economic problems as Somalia, though to a less severe extent: 63.1% of the country is 24 years of age or younger, only 65.3% of the country is classified as literate, and school life expectancy is only nine years. GDP per capita is a mere \$2,300 – an improvement from Somalia’s dangerously anemic rate, though still one of the lowest in the world. While the Yemeni economy is more diversified than that of Somalia – with services and industrial sectors contributing 55.6 and 35.7% of GDP respectively – the country still suffers from an unemployment rate of 35%,¹⁷⁶ and a negative current account balance in 2011 of over a billion dollars.¹⁷⁷

Politically, Yemen has a similar history of fractious divisions within the country. Yemen was two countries – a southern former British protectorate turned Marxist state and a northern former-

Ottoman state – until the two became a single state in 1990. Though no longer two states, Yemen's north and south have maintained tense relations even after 1990. A civil war broke out in 1994, and the south has been keen to regain its independence. Social and political factions include anti-government protestors who set the stage for protests against President Ali Abdullah Saleh, who ceded power in a February 2012 election following a gradual political transition backed by the GCC.

Other factions include one in the south that seeks to break away from Yemen, and a violent Houthi movement in the north of the country,¹⁷⁸ members of whom believe that their Zaydi Shiite identity has been sidelined in Yemen. The result has been an anti-government and anti-Saudi Arabian insurgency that has been a sustained threat to Yemeni stability and a faction that has gained ground as a result of the political chaos to the south.¹⁷⁹ It is believed that Iran is providing consultation to the Houthis, and that efforts have been made by Iran to provide weapons to this faction.¹⁸⁰

Although a new government under the leadership of President Abd Rabuh Mansur Hadi took shape in the spring of 2013 and a National Dialogue was established,¹⁸¹ tensions still persist within the country, as well as political violence launched by an al-Qaeda-linked group that killed 74 government personnel between early 2012 and February 2013.¹⁸²

While it does not appear that pirate attacks have been launched directly from Yemen as they are from Somalia, the country's turmoil is a problem that some believe can exacerbate the piracy threat. In 2011, Riad Kahwaji of the Institute for Near East and Gulf Military Analysis (INEGMA) suggested that observers in Yemen were providing pirates with the intelligence necessary to identify which ships transiting the Gulf of Aden were ideal for targeting. A *Financial Times* piece citing Kahwaji also cites a principal at a maritime risk firm in suggesting that Yemen's instability could prompt disenfranchised Yemenis to resort to work in the piracy trade.¹⁸³

Piracy and Its Impact on International and Local Commerce

Attempted pirate attacks and hijackings have been a threat troubling the broader Indian Ocean for several years. While the data in **Figures 9-11** suggest a decreasing trend in piracy incidents, that should not be mistaken to be the result of the elimination of piracy. Skewed data may be at least partially responsible for the impression that piracy attacks are falling. According to an experienced maritime security expert interviewed for this assessment, reporting data on piracy incidents may be skewed by the fact that as requirements for reporting change, accounts of incidents are not making it into statistics.

Even though these statistics indicate fewer piracy-related incidents than in years past, the threat of hijackings and hostage situations still places an economic burden on the international shipping and insurance industries, states bordering the HRA, and foreign governments with naval operations in the Indian Ocean – to say nothing of the human impact it has had on the hundreds of hostages pirates have claimed, many of whom have suffered from abuse.

The below accounts are adapted verbatim from the reports of the International Maritime Organization, describing recent acts of piracy in the region:

FIGURE 8: Regional Piracy-Related Incidents from January to September 2013 – As Reported by the IMO

July 16, 2013 – Chemical tanker *Concord* in Red Sea international waters near Yemen: “D/O on board the chemical tanker underway sighted small crafts around 3nm on the radar. Onboard security team took their position and non-essential crew mustered in the citadel. Three skiffs carrying weapons and RPG launchers in between 16 fishing vessels crossed the tanker from starboard to port. Ship’s whistle was sounded but the skiffs continued their approach. The security team fired warning flares, resulting in the skiffs turning on their lights. They eventually stopped their approach and moved away.”¹⁸⁴

June 5, 2013 – Dhow *Shahe Faize Noori* in Gulf of Aden international waters near Somalia: “The dhow was hijacked and 14 crew members were taken hostage. Later the pirates released the dhow. The crew and dhow proceeded to a safe port.”¹⁸⁵

June 3, 2013 – Cargo vessel *Tongbao World* in international waters in the Red Sea, Gulf of Aden: “While underway, the ship was pursued alternately by two skiffs launched from a suspected mother ship. The armed guards fired about 20 warning shots and flares when the skiff closed in within one cable from the ship. The skiffs abandoned their pursuit and headed back to their mother ship.”¹⁸⁶

May 19, 2013 – Cargo vessel *SE Pelagica* in international waters in Gulf of Aden near Somalia: “Five pirates armed with AK47 rifles and a RPG approached the ship underway. Master enforced anti-piracy measures and the on board armed guards fired warning shots, when the skiff closed in to appr. 400m from the ship, resulting in the skiff aborting the attack and moving away. Crew and ship safe.”¹⁸⁷

May 19, 2013 – LPG tanker *Nadeshiko Gas* in Iranian territorial waters near the Strait of Hormuz (IMO suggests the incident took place in the Gulf, though the latitude and longitude provided are for a location in the Gulf of Oman just east of the Strait): “While enroute to the Strait of Hormuz passing the coast of Iran, a skiff approached the stern of the ship. Suddenly the skiff changed course, and chased the ship. Other skiffs joined in, with a total of four skiffs chasing the ship. Each skiff had about three men on board, armed with rifles and long knives. They chased the ship at a distance of appr. 200-300 metres. The master raised the alarm, increased speed, activated ship protection measures and commenced small alterations of course. After 30 mins, the skiffs stopped pursuing the ship, and left.”¹⁸⁸

April 2, 2013 – Cargo vessel *Alpha Kirawira* in international waters in the Arabian Sea near Somalia: “Around seven to eight armed pirates in a skiff approached and fired at the ship underway. The on board armed security team fired warning shots, resulting in the pirates moving away.”¹⁸⁹

April 1, 2013 – Bulk carrier *Condor* in international waters in the Arabian Sea near Oman: “The ship was chased by eight speed boats.”¹⁹⁰

March 28, 2013 – Fishing vessel *Saad I* in international waters near Somalia: “Pirates boarded and hijacked the fishing vessel and took its 20 crew members hostage. The fishing vessel was rescued on the same day and sailed to a safe place. The crew were unharmed.”¹⁹¹

March 15, 2013 – Cargo vessel *Hosanger* in international waters in Gulf of Aden near Somalia: “While underway inside the Internationally Recommended Transit Corridor (IRTC) in the Gulf of Aden, three suspected pirate boats approached the ship triangularly on its port beam, starboard beam and port bow, at the speed of 7 to 20 knots. The Master activated two fire pumps and the armed guards onboard fired three warning shots. The Master increased the ship’s speed and took evasive manoeuvres to keep clear from the three suspected pirate boats which at one point, had closed to within 1.2nm of the ship. The suspected pirates eventually abandoned their pursuit at about 1435 LT. All 25 crew onboard were safe.”¹⁹²

March 14, 2013 – Tanker *Orange Stars* in international waters in the Gulf of Aden near Somalia:

“Four suspicious dhows along with skiffs were noticed by the crew onboard the tanker underway. From this group, one skiff approached the tanker at high speed. The alarm was sounded and non-essential crew retreated to the citadel. As the skiff approached, weapons and a ladder were sighted in the skiff. Onboard armed security team fired one warning shot resulting in the skiff stopping and turning back to regroup with the rest.”¹⁹³

March 4, 2013 – Tanker *Al Buhaira* in international waters in the Arabian Sea near Yemen:

“Four skiffs with around six persons in each skiff approached the tanker from her port bow, mid-ships and astern. A ladder and a RPG were sighted in the approaching skiffs.”¹⁹⁴

February 25, 2013 – Oil tanker *Alam Bakti* in Iranian territorial waters in Gulf near Strait of Hormuz:

“While underway, the ship was pursued by three suspected pirate skiffs for about 40 mins and closed in within 50 metres from the vessel. Master mustered the crew in the citadel and increased the vessel’s speed, in accordance with guidelines in [Best Management Practices] BMP4. At around 2200hrs (local time), the pirates eventually abandoned their pursuit of ALAM BAKTI due to the evasive manoeuvres undertaken by the vessel.”¹⁹⁵

February 18, 2013 – Cargo vessel *Alba Star* in international waters near Somalia:

“Two white speed boats approached and fired on the general cargo ship underway. Onboard armed security returned fire resulting in the skiffs moving away.”¹⁹⁶

January 27, 2013 – Multi-purpose ship *Rickmers Antwerp* in Omani territorial waters:

“Vessel was transiting on a course of 340° at 17.8 knots when three suspicious skiffs approached at a speed of 30 knots, bearing of 100°. Two of the skiffs turned to port and proceeded [sic] behind the vessel, the other skiff turned to starboard and closed in. The onboard security team then fired 3 red parachute flares in the direction of the skiff. On the 3rd flare the skiff turned hard to starboard and reduced speed. The vessel continued the journey without further being pursued.”¹⁹⁷

January 5, 2013 – Container vessel *MSC Jasmine* in international waters near Somalia:

“Six pirates in a skiff chased and fired on the ship using automatic weapons and RPG. Master raised the alarm, crew mustered in the citadel and armed security team fired warning shots resulting in the pirates aborting the attack and moving away. A warship and a naval helicopter were dispatched to the location. Crew and the ship are safe.”¹⁹⁸

These reports reflect a number of trends that are worth elaborating. First, in the vast majority of cases, the actions of onboard security personnel or the actions of the crew in compliance with the Best Management Practices (BMP) guidelines appear to have been a turning point in deterring further pirate aggression. In nine of the incidents, the pirates abandoned their missions following decisive action on the part of the security team. In other cases, acceleration of the vessel or evasive maneuvers were either decisive in and of themselves or – along with actions from armed security teams – led to the pirates retreating.

Moreover, it appears that one of the only successfully reported hijackings of sea craft of any kind in the region was of a fishing vessel. The gap in security between large cargo vessels that can often outrun and outmaneuver pirate skiffs – as well as often benefit from armed security – and local fishing boats is a regional economic problem and perhaps the most persistent negative effect of piracy. Yemen indicated in 2009 that piracy and theft cost the country’s fishing industry \$150 million.¹⁹⁹

While this is a small sum of money in relative terms, such money can be vital to feed communities in the poor coastal regions of the country. According to the most recent U.N. Food and Agriculture Organization (FAO) data – which is from 2002 – fisheries were responsible for some 15% of Yemeni GDP.²⁰⁰ At least some of the illegal fishing that is taking place off the coast of Somalia –

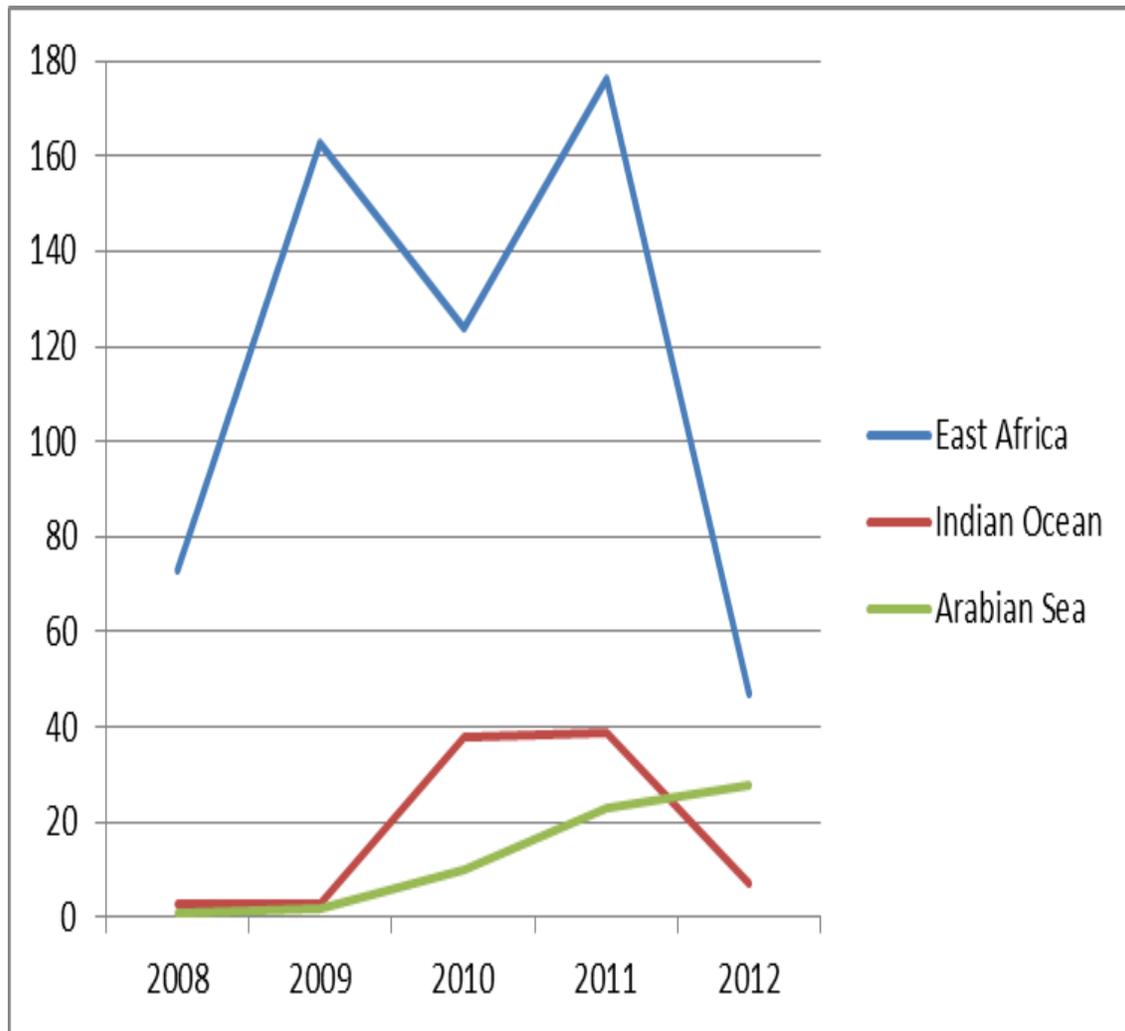
to the chagrin of Somalis – is from Yemeni fishing vessels operating within the 12 miles of Somali territorial waters. Such fishing vessels could be at growing risk. As the instance of piracy among larger vessels continues to wane,²⁰¹ attention may be diverted to driving foreign fishing craft further and further from the coast. To make matters more difficult, fishing vessels are prone to not file official reports when attacked,²⁰² meaning that the problem may be even worse than the data indicates.

It is uncertain what exact impact this can have on regional states. Smaller and poorer countries where the fishing industries represent larger sectors of the economy could be particularly vulnerable – states such as Yemen, Oman – where according to a 2001 estimate ¼ of the population relied on fishing income²⁰³ – and the Seychelles, where piracy-related tourism and fishing losses are estimated to cut GDP by 4% annually.²⁰⁴ For some Somalis, the loss of fishing revenues is perceived to be a driver of piracy.²⁰⁵ If this is true, the continued effects of piracy on other fishing communities – particularly in a poor and unstable state such as Yemen – could in itself spawn other hubs of piracy.

There are no reports of EU, NATO, or other military vessels playing a decisive role in preventing a pirate attack once the pirates began their pursuit of a vessel. In fact, the only mention of any military vessel is in the January 5th *MSC Jasmine* incident, in which an unidentified military ship and helicopter responded – presumably after the incident.

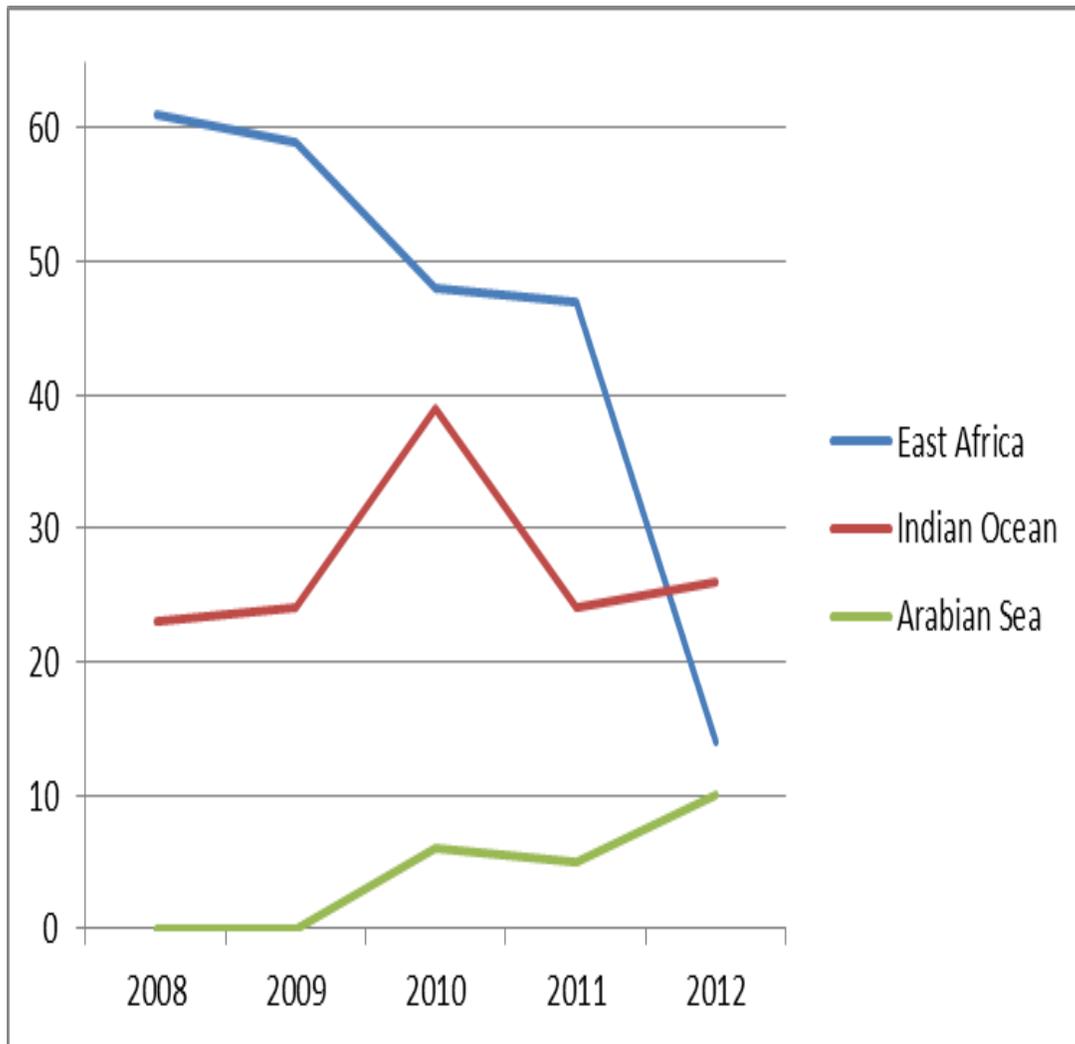
Another similar incident – though not mentioned in the IMO data since it occurred relatively recently – was the attempted attack on the liquefied petroleum gas (LPG) vessel *Bootanon* in the Bab el-Mandeb Strait in October 2013, in which the Iranian Navy reportedly responded and prevented more serious incident.²⁰⁶ The Iranian Navy claims that it has prevented 112 freight vessel hijackings.²⁰⁷

FIGURE 9: Attempted Piracy Incidents



Graph created by author. Data from: “Reports on Acts of Piracy and Armed Robbery Against Ships: Annual Report – 2008,” International Maritime Organization, March 19, 2009. <http://www.imo.org/OurWork/Security/SecDocs/Documents/PiracyReports/133-Annual2008.pdf>. Annex 2, p. 1-2; “Reports on Acts of Piracy and Armed Robbery Against Ships: Annual Report – 2009,” International Maritime Organization, March 29, 2010. <http://www.imo.org/OurWork/Security/SecDocs/Documents/PiracyReports/152-Annual2009.pdf>. Annex 2, p. 1-2; “Reports on Acts of Piracy and Armed Robbery Against Ships: Annual Report – 2010,” International Maritime Organization, April 1, 2011. <http://www.imo.org/OurWork/Security/SecDocs/Documents/PiracyReports/169-Annual2010.pdf>. Annex 2, p. 1-2; “Reports on Acts of Piracy and Armed Robbery Against Ships: Annual Report – 2011,” International Maritime Organization, March 1, 2012. <http://www.imo.org/OurWork/Security/SecDocs/Documents/PiracyReports/180-Annual2011.pdf>. Annex 2, p. 1-2; “Reports on Acts of Piracy and Armed Robbery Against Ships: Annual Report – 2012,” International Maritime Organization, April 2, 2013. <http://www.imo.org/OurWork/Security/SecDocs/Documents/PiracyReports/193-Annual2012.pdf>. Annex 2 (A), (B).

FIGURE 10: Committed Piracy Incidents



Graph created by author. Data from: “Reports on Acts of Piracy and Armed Robbery Against Ships: Annual Report – 2008,” International Maritime Organization, March 19, 2009. <http://www.imo.org/OurWork/Security/SecDocs/Documents/PiracyReports/133-Annual2008.pdf>. Annex 2, p. 1-2; “Reports on Acts of Piracy and Armed Robbery Against Ships: Annual Report – 2009,” International Maritime Organization, March 29, 2010. <http://www.imo.org/OurWork/Security/SecDocs/Documents/PiracyReports/152-Annual2009.pdf>. Annex 2, p. 1-2; “Reports on Acts of Piracy and Armed Robbery Against Ships: Annual Report – 2010,” International Maritime Organization, April 1, 2011. <http://www.imo.org/OurWork/Security/SecDocs/Documents/PiracyReports/169-Annual2010.pdf>. Annex 2, p. 1-2; “Reports on Acts of Piracy and Armed Robbery Against Ships: Annual Report – 2011,” International Maritime Organization, March 1, 2012. <http://www.imo.org/OurWork/Security/SecDocs/Documents/PiracyReports/180-Annual2011.pdf>. Annex 2, p. 1-2; “Reports on Acts of Piracy and Armed Robbery Against Ships: Annual Report – 2012,” International Maritime Organization, April 2, 2013. <http://www.imo.org/OurWork/Security/SecDocs/Documents/PiracyReports/193-Annual2012.pdf>. Annex 2 (A), (B).

FIGURE 11: Maritime Security Incidents in 2013 – As of November 25, 2013

Category	Somalia	Worldwide
Incidents	13	234
Hijackings	2	12

Table created by author. Data from "Piracy & Armed Robbery News and Figures," ICC Commercial Crime Services, International Maritime Bureau, data updated November 25 ,2013. <http://www.icc-ccs.org/piracy-reporting-centre/piracynewsfigures>

The data also show that while the piracy issue may be emanating from Somalia, the scope of the threat stretches far beyond the Somali coast. All of the attacks reported thus far in 2013 by the IMO took place outside of Somali territorial waters. Of these, two took place in Iranian territorial waters and one in Omani waters. This suggests that either pirate motherships have been able to operate far off the Somali coast in locations such as the Gulf, Strait of Hormuz, or Gulf of Oman, or pirates have been able to launch land-based assaults from non-Somali territory. In either case, a greater number of ships operating far from Somalia's coast now must be wary of these threats, and limited naval forces must now protect a growing area of the Indian Ocean.

The data in **Figure 10** indicate that while committed incidents have been falling over the past four years in East Africa, as of 2012 they had been rising in the Arabian Sea, and peaking in 2010 in the Indian Ocean. Though these statistics also include armed robbery, there is something to be said about the steep decline in incidents in East Africa since 2008 and the growth that has taken place since then in other areas.

It has been noted that pirated merchant vessels known as "mother ships" have been used to bring pirates further offshore and closer to India, increasing the range of pirates by over 1,500 nautical miles.²⁰⁸ If pirate access to mother ships is sustained, it will continue to be difficult for international naval forces to ensure the protection of every commercial vessel operating in the Indian Ocean, and response times in the event of an emergency can be hampered by the size of the vulnerable zone.

The direct economic impact of piracy on shippers has declined over time, along with the number of incidents, but still remains a high figure. In 2012, \$63.5 million was paid in ransoms and associated fees²⁰⁹ – a significant decrease from the \$177 million paid in 2009 and \$238 million in 2010.²¹⁰ According to the One Earth Future Foundation:²¹¹

While the number of seafarers attacked and taken hostage dropped 37% in 2012 (after falling 50% the previous year), the rate at which seafarers were ultimately taken hostage after the vessel was fired upon increased from 14% in 2011 to 41% in 2012. In effect, this figure indicates that the success rate of pirate attacks improved at the same time that the total number of attacks where the vessel was fired upon dropped. There are a variety of potential explanations for this shift, including the possibility that the percentage of attacks reported to the IMB, EU NAVFOR, and Oceanus may have decreased. These statistics may also indicate that pirates have learned to fire upon and attack only the more vulnerable vessels, for example vessels that do not carry armed guards or show no evidence of implementing protective measures as per BMP.

It is reported that 589 hostages were taken in 2012 as a result of Somali piracy – 133 of which were captured in 2010, and 107 of which were caught in 2011. At least some of those taken hostage have been "abused both physically and psychologically" according to One Earth Future. Data

samples from that organization suggest that hostages spent longer times in captivity in 2012 compared to 2011, and that physical abuse rates have been rising.²¹²

The reports of torture in One Earth Future's 2012 *Human Cost of Maritime Piracy* study are particularly barbaric:²¹³

In another case, the pirates did not understand the capabilities and limitations of the ship's engine, leading to the continual physical abuse of the engine room crew. The pirates demanded unsustainable speeds resulting in the engine surging, overheating, and finally bursting into flames. Even at this point, it has been reported, the pirates did not allow the crew to stop the engine. They continued to run it in this manner until the engine seized. While the crew worked to extinguish the fire, the vessel grounded and started flooding, which led to the pirate leader cutting the ears of a senior crew member as punishment and then putting him in solitary confinement for six months. The remaining seafarers were beaten with rods and wires while they tried to remove the water from the engine room manually.

Other reported abuses included systematic physical isolation and deprivation including being forced to stand on deck in the sun without any water, kneeling on the hot deck plates causing second degree burns, being crammed together in a small cabin without ventilation on a hot day, being tied up and kept isolated, and being removed from the ship and taken ashore. Other reported examples of serious abuse included one crewmember's fingers being squeezed with pliers, seafarers being hung overboard and immersed in the sea up to their shoulders, and some even being taken by boat a few miles away from the main vessel, thrown overboard, and abandoned in the water for a period of time.

As is the case with terrorism and Suez Canal shipping, the impact of piracy to commerce in the Indian Ocean goes beyond the successful hijacking of a vessel. According to an estimate by the One Earth Future Foundation, insurance premium increases for cargo traveling through the Horn of Africa was \$4.69 billion each year in 2009 and 2010 due to kidnap and ransom and war risk premium surcharges.²¹⁴ However, these costs to traders reportedly fell to \$550.7 million in 2012, likely – at least in part – due to the increased use of armed security, which brings down security related surcharges for those vessel that use their services.²¹⁵

Increased insurance premiums are not the only toll piracy has had on broader regional shipping. One Earth Future also notes that some vessels have gone out of their way to bypass waters where piracy is a concern. According to the 2010 *Economic Cost of Maritime Piracy* report, “[...] we speculate that around 10% of shipping traffic avoids transiting this region as a result of the threat of piracy.”²¹⁶ The result is roughly \$2.3-3 billion per year in costs to avoid piracy areas.²¹⁷ By 2013, these figures were adjusted to \$290.5 million.²¹⁸

Piracy has had a measurable impact on the economies of the states neighboring the HRA. One Earth Future provides the following data from 2010:²¹⁹

- **Somalia:** Prices can fluctuate by as much as \$4 each month for food imports due to piracy. Somalia imports more than 50% of its food.
- **Yemen:** Piracy and theft cost Yemen's fishing industry \$150 million, according to a 2009 statement by the country's Prime Minister.
- **Egypt:** Piracy may be costing the Egyptian economy as much as \$642 million annually from vessels bypassing the Suez Canal to keep clear of the HRA.
- **Kenya:** Imports are \$23.8 million a month more expensive, while exports are \$9.8 million a month more costly due to piracy.

- **Seychelles:** Security incidents involving vessels are believed to burden the economy by \$10.5 billion annually, according to the country's Environment and Natural Resources Ministry.

While these data are from a time when piracy was a more common phenomenon than it is today, these figures could serve as useful indicators of what the future regional impact could be if the international community does not continue to take steps to prevent and deter piracy. Moreover, it is not entirely clear that the occurrence of piracy has been reduced, or that vessels are less likely to report hijackings or attempts. According to One Earth Future's *Economic Cost of Somali Piracy 2012* report:²²⁰

Either the tendency to underreport pirate attacks increased fairly dramatically from 2011 to 2012, or the pirates who are still actively operating in the HRA – though smaller in number – are adapting to the improved international response seen since 2010. On balance, the evidence suggests that increased underreporting between 2011 and 2012 is the main driver of the variance in success rate between 2010 and 2012.

The decrease in the incidence of piracy attacks in the HRA can be the result of several phenomena. For one, the adoption of BMP measures by vessel crew has proven useful in ensuring that the presence of suspicious skiffs near a vessel does not escalate into a pirate attack, as the above encounters show. Along those lines, the presence of armed security aboard vessels has also been decisive, with a proven track record in armed security driving away suspicious vessels.

Other explanations for the lower rates are rooted in problems with incident reporting. A maritime security expert interviewed for this analysis suggests that at least part of the drop in incident reporting has to do with problems in the reporting process itself. As the standards for reporting security incidents evolve, some reports are not being processed and may not be reflected in official statistics.

Regional and International Maritime Security Capabilities

The military capabilities of the states surrounding the HRA – particularly Somalia and Yemen – has led to the onus of maritime security efforts in the region being placed on the shoulders of the broader international community, specifically NATO and the EU. The lack of a functioning central government in Mogadishu has made for a virtually non-existent Somali naval force. According to the Stockholm International Peace Research Institute (SIPRI), as of 2012 the last known weapons transfers to Somalia took place in 1999, when several armored personnel vehicles were transferred to the country. In terms of watercraft, the most recent transfers appear to have been of a landing ship and fast attack craft from the Soviet Union during the early and mid-1970s.²²¹

Somalia's Navy has lacked any role in local or regional security in the decades following the collapse of the central government in 1991. It was reported in 2009 that efforts were underway to re-develop the force, as the Somali government expressed a willingness to address piracy if the international community were to funnel at least some resources away from international anti-piracy operations toward developing a Somali military force that could launch land and sea missions targeting pirates.²²² However, these efforts do not appear to have borne any progress in developing an indigenous maritime security capability.

In Puntland, attempts have been made at developing a regional force dubbed the Puntland Maritime Police Force (PMPF). The organization, launched in 2010, is the product of Emirati funds and training support from the South African private security company Saracen International, which has since been re-established as the Emirati company Sterling Corporate Services. The force, as of a March 2012 report, has limited capabilities, consisting of skiffs, 4x4 vehicles, and Kalashnikovs.²²³ According to the group's website:²²⁴

The Puntland Maritime Police Force promotes peace and stability in the region by deterring, detecting, and eradicating piracy, illegal fishing and other coastal crimes; protecting marine resources; and delivering much-needed humanitarian relief supplies to the Somali people.

While the concept of developing an indigenous maritime security force to take local ownership of counter-piracy operations is laudable, efforts to actually develop this force has been far from ideal. At least part of the force's failure stems from its reliance on training from private security companies. Sterling Corporate Services' activities in Puntland were perceived by the United Nations as falling under the Somalia arms embargo.²²⁵ Framing support for the PMPF in such a way could complicate future foreign support for the organization.

Other problems with private security support to PMPF stem from the training itself and the poor force quality it has yielded. The United Nations believes that at least one recipient of training was physically abused and killed in October 2010. Other problems facing the force include the facts that it is not clear what level of accountability the force has to any superior power and what level of operational capability the force maintains. Reporting suggests that there are men with some skills and weapons in a highly volatile environment with no clear source of authority or employment due to the shortcomings of PMPF development. There is concern that members of the force could, ironically, contribute to regional instability unless a consistent source of funding emerges.²²⁶

As a result of these shortcomings amongst indigenous forces, the international community has mobilized to provide security within the region. The EU has mobilized through the EU Naval Force (NAVFOR) Somalia – Operation Atalanta, which commenced in late 2008. The operation takes place under the following guidelines, according to its website:²²⁷

Under the EU Council Joint Action, which is based on various UN resolutions, EU NAVFOR's mandate is to conduct:

- The protection of World Food Programme (WFP) vessels delivering aid to displaced persons in Somalia, and the protection of African Union Mission in Somalia (AMISOM) shipping.
- The deterrence, prevention and repression of acts of piracy and armed robbery at sea off the Somali coast.
- The protection of vulnerable shipping off the Somali coast on a case by case basis.
- In addition, the EU NAVFOR also contributes to the monitoring of fishing activities off the coast of Somalia.

On 23 March 2012 the Council of the EU extended the Mandate of Operation Atalanta until December 2014. At the same time, the Council also extended the Area of Operation to include Somali coastal territory and internal waters.

Through this mission, ships protect vessels traveling through the Internationally Recommended Transit Corridor (IRTC), "conduct reconnaissance and surveillance operations," engage with fishermen and other stakeholders in promoting the Best Management Practices for Protection Against Somali Based Piracy (BMP), and pursue pirates. The mission includes contributions from EU member states, as well as Norway. The force has also received staff from Montenegro, Serbia,

and Ukraine. Operation Atalanta includes not only naval vessels (between four and seven at any time), but between two and four Maritime Patrol and Reconnaissance Aircraft (MPRA) and Vessel Protection Detachment (VPD) personnel.²²⁸

In recent years, the scope of Operation Atalanta has been increased to allow for operations against land-based pirate targets. Though the EU is not interested in deploying troops to Somalia itself, its forces in the region are permitted to launch helicopter air strikes against targets in Somalia.²²⁹ Initial European airstrikes in Somalia commenced in May 2012 – about two months after the EU gave its blessing on land attacks – and included the targeting of “speed boats, fuel depots and an arms store” in the Mudug region, according to a media report.²³⁰

Several reports have surfaced indicating that Operation Atalanta will continue through 2016.²³¹ These claims cannot be confirmed through the EU NAVFOR website and Twitter feed do not reflect this new mission timeframe.

In 2008 NATO also contributed forces to promote regional maritime security under Operation Ocean Shield. According to NATO:²³²

NATO's role is to provide naval escorts and deterrence, while increasing cooperation with other counter-piracy operations in the area in order to optimise efforts and tackle the evolving pirate trends and tactics. In March 2012, the North Atlantic Council extended this operation until the end of 2014. NATO is conducting counter-piracy activities in full complementarity with the relevant UN Security Council Resolutions.

The area of responsibility (AOR) for Operation Ocean Shield runs further south than the HRA – extending along the coast of east Africa south of the tip of Madagascar. However, the NATO AOR does not extend as far east as the Maldives, and does not cover much of India's western coast. Rotations have included anywhere from two to six ships – typically four or five.²³³ At the time of this writing, Standing NATO Maritime Group 1 (SNMG1) was on the Operation Ocean Shield rotation,²³⁴ under the command of Norway's Commodore Henning Amundsen²³⁵ and the flagship frigate *Fridtjof Nansen*.²³⁶

There are no reports suggesting whether or not Operation Ocean Shield will continue beyond 2014. The Ocean Shield website and the NATO Maritime Command (MARCOM) Twitter feed provide no information on if the program will be prolonged as of the time of this writing.

The EU and NATO are not alone in providing forces for the protection of the region's waters. As of December 2012, 10 vessels from additional states – including China, India, Russia, South Korea – were providing anti-piracy support.²³⁷ The Iranian Navy has also been operating an anti-piracy force since 2008 as a result of the pirate attack on the MV *Delight*, which Iranian media claims was an “Iranian-chartered cargo ship.”²³⁸ These patrols were conducted by the Iranian Navy's 26th Fleet, and subsequently the 27th Fleet, which is reported to have prevented a pirate attack on an Iranian LNG tanker in the vicinity of the Gulf of Aden in October 2013.²³⁹

There has also been talk about the creation of a non-state maritime security force that would provide escort services to ships traveling through the IRTC. In May 2012, the concept of a Convoy Escort Programme (CEP) came to light, with plans for the force to be functional by December 2012. The force – composed of Cypriot-flag vessels – was to be backed by insurance giants Jardine Lloyd Thompson (JLT) and Lloyds of London.²⁴⁰ Despite these ambitious plans, there is no open source information to suggest that plans for this force have come any closer to materializing.

Aside from state and non-state maritime security forces, private on-board security forces and preventive measures that can be taken by ship crews have become a growing part of the regional

maritime security landscape. Private security is in some cases employed to provide armed security for vessels transiting through the HRA. According to an experienced maritime security expert interviewed for this study, many of the companies providing such security are British firms, though there are American companies as well participating in these operations.

Another challenge facing the use of security personnel is ensuring quality control and responsible rules of engagement. According to the same expert, efforts have been made toward promoting uniformity, such as the establishment of ISO28007 standards for security personnel and publications such as David Hammond's *100 Series Rules*, which provides guidelines for rules of engagement. However, there are no international rules that are enforced to govern the use of private security contractors on commercial vessels.

One other development that has promoted preventive measures was the creation of *BMP4: Best Management Practices for Protection Against Somalia Based Piracy*. This report, put together by organizations with a stake in maritime security, recommends several criteria that ship operators and crew can take as preventive measures to better protect their vessels from pirate attacks. Below is a list of several measures recommended in the report:²⁴¹

- Familiarizing ship personnel with vessel security procedures before entering the HRA – including the Ship Protection Measures and Ship Security Plan.
- Sending a Vessel Movement Registration Form to the Maritime Security Centre Horn of Africa (MSCHOA) before the vessel enters HRA waters;
- Filing position reports each day with United Kingdom Maritime Trade Operations (UKMTO) during HRA operations;
- Designating a citadel aboard the ship for the crew to retreat to in the event of a hijacking;
- Maintaining at least 18 knots of speed in the HRA so as to outrun pirates;
- Avoiding technical work aboard the vessel while in the HRA;
- Utilizing the Group Transit Scheme through the IRTC and convoys – if possible;
- Positioning concertina wire outside of the vessel's railing to prevent pirates from climbing aboard;
- Using water cannons and fire hoses to prevent pirates from approaching the vessel.

As the previous section suggests, BMP-advocated practices have been highly effective in preventing and deterring piracy throughout 2013. Likely due to the controversial nature of private security, the presence of armed guards aboard vessels is discussed in BMP4, but is not specifically encouraged by the authors.²⁴²

Recommendations for Promoting Regional Maritime Security

Though Somali piracy may have spawned as an entrepreneurial enterprise in a poor country largely lacking a formal economy, its evolution has led to the security of international commerce through the region becoming in part a function of Somali security. The problems of a failed state that has lacked a government for over 20 years have become the problems of traders, shipping companies, underwriters, and ordinary consumers around the world. In that regard, the long-term development of Somalia economically, politically, and militarily is essential to making regional trade and fishing less risky.

Such goals are clearly ambitious, and dependent in large part on factors out of the West's control, such as reconciliation amongst regional and tribal entities in Somalia and a political transition that the entire country can unite behind. Western states cannot force such an outcome, but should do what they can to facilitate that process and foster a stable and sovereign Somalia ruled by a government that can both secure the country and develop a formal economy that is integrated with the international economic and financial systems.

Strengthening Preventive Measures and Increasing Their Use

Fortunately, until a stable Somalia emerges, there are proven steps that states and the international shipping community can take to mitigate the impact of Somali instability on trade through the Indian Ocean. The data for the past year indicate that the BMP4 guidelines and the use of armed security have been highly effective in preventing the hijacking of vessels. With a proven framework in place, steps must be taken to continuously adapt and fine-tune these preventive measures, and to ensure that their adaptation is more widespread, which will not only lower the risk of piracy, but decrease the burden of security surcharges on shipping insurance premiums.

Efforts must be made to address the stigma of using armed security aboard commercial vessels. Steps taken in recent months by the Japanese government to permit armed security aboard Japanese vessels is a step in this direction – with Tokyo maintaining final approval over which companies could service which ships.²⁴³ This law could demonstrate how the proven benefits of having armed security in the Indian Ocean could outweigh misperceived risks. To allay concerns against private security, the IMO should develop a comprehensive policy on the use of such forces, adapting an approval system for contractors, a list of approved parties, and clearly-defined rules of engagement and approved weapons that such contractors could use.

Similarly, efforts must be taken by the IMO, stakeholder governments, and shipping companies to further refine the BMP and to ensure that carriers are implementing its recommendations whenever possible. While insurance costs can be brought down by the use of armed security and implementing BMP is “frequently a requirement for underwriting,”²⁴⁴ these preventive measures should be embraced by the entire global insurance syndicate and made mandatory for insuring shipments through the HRA. Continued international dialogue and agreements related to private security and the BMP will be necessary to build confidence in these measures within the insurance and shipping communities. The track record of private security and BMP success in deterring and preventing piracy is ultimately the best confidence building measure.

Though BMP measures have been effective in preventing incidents and adherence to it is required for some insurance policies, adherence is not universally exercised. According to an experienced maritime security expert interviewed for this study, maintenance of vessel security plans is a

challenge to ensuring that a ship and its crew are adequately prepared to face threats in the HRA. According to one expert, some carriers do not update vessel security plans as often as required to address these threats. In fact, in some cases private security contractors may not be made privy to a vessel's security plan until they are on the ocean.

This represents a serious yet easily correctable problem. Certain basic aspects of the BMP – such as position reporting and possessing recently updated and thorough vessel security plans – should be made requirements by the IMO – not simply recommendations. Steamship lines should be required to update these plans on a regular basis, crews should be briefed in advance of leaving port, and these plans should be audited by national maritime bodies to ensure that BMP recommendations are being taken into account.

Moreover, random inspections should be conducted on vessels to ensure that current security plans are in place and that the crew is fully aware of the plan and any contingencies in the event of an emergency. If national maritime bodies are not in a position to enforce such measures, the insurance industry should uphold these requirements for coverage, and conduct random inspections and audits as necessary to ensure that the BMP is not simply ignored by operators.

As for armed security contractors, similar efforts need to be made at the international level to establish agreed upon and enforceable standards. While efforts have been made toward uniformity in standards for armed maritime security personnel, none of these efforts appear to be taking place at the governmental and international levels. ISO28007 standards are a step in the right direction, but until such standards are mandatory, the quality of armed security could not be universally ensured. This risk is exasperated by the fact that, according to the expert interviewed, low-cost service providers that are less capable than other firms are often favored by the market.

At the very least, mechanisms such as ISO28007 should be used as a framework for developing internationally recognized standards that can be required at the governmental level and endorsed by the IMO. According to the expert interviewed, not a single U.S. firm is involved in ISO28007, which is not an encouraging sign. The U.S. government needs to respond to these developments, ensuring that American businesses are at the forefront of maritime security standards and requirements.

Measures can also be taken by the shipping industry itself to reduce piracy risks. To the extent possible, the shipping industry should ensure that ships assigned to rotations in the HRA have both high freeboards and operating speeds at or above 18 knots as per the BMP. These two criteria are perhaps the simplest ways of preventing a hijacking. According to the BMP4, “[t]o date, there have been no reported attacks where pirates have boarded a ship that has been proceeding at over 18 knots.”²⁴⁵

Lastly, reporting measures for attempted and committed piracy incidents need to be simplified and streamlined so as to ensure that statistics on piracy accurately reflect reality. The account given by the maritime security expert interviewed that changing reporting standards may be leading to reports falling through the cracks is troubling. Without accurate data, policymakers, insurers, shipping companies, and other stakeholders lack a clear picture of the piracy threat.

Developing Sustainable Regional Maritime Security Capabilities

While current international maritime security efforts have proven successful, there are a number of challenges that make prolonged reliance on them unsustainable. The first challenge is fiscal. Both the EU security force under Operation Atalanta and the NATO force have already taken steps

to reduce their presence in the region. The EU force was reduced by about 1-3 vessels between 2011 and 2012, while the NATO force was halved during the same time period, though other states have assisted in picking up the slack through their own deployments.²⁴⁶ However, with a price tag of \$1.09 billion in 2012,²⁴⁷ maritime security operations in the Indian Ocean could become increasingly difficult operations for EU and NATO forces as fiscal austerity becomes more widespread, as the operating areas of pirates increases to an unpatrolable size, and as Western governments mistakenly perceive that the threat of piracy has adequately waned and is thus no longer a priority.

This challenge is exacerbated by the other strategic challenges in the broader Middle East. Any of the threats mentioned in the previous chapters, as well as growing instability in Syria, Lebanon, and Iraq could pose strategic challenges to Western governments, requiring the redeployment of naval forces for deterrence purposes or military operations. Such deployments could further constrain the already thin forces in the Indian Ocean.

A second challenge is the fact that the operating area for pirates is known to have increased over time, placing much of the Indian Ocean within its boundaries. The escort of vessels through the Gulf of Aden is no longer sufficient to safeguard against pirate attacks, yet it would be unreasonable to arrange escorts for vessels operating throughout the HRA. This development, coupled with the fact that Western military vessels do not seem to be playing nearly as significant of a role in preventing piracy as BMP measures and on-board private security, suggests that a new, more sustainable strategy should be explored.

Long-term efforts should be explored to develop regional maritime security capabilities so nearby states can both protect and patrol their littoral waters, and being properly equipped to respond to off-shore incidents if necessary. The example of the PMPF demonstrates the shortcomings of a piecemeal approach with limited foreign support. Without the backing of the UN, the US, and regional and global powers, any endeavors toward developing a maritime security force are doomed to fail.

The piracy problem is rooted in a lack of governance. The private security solution is reactionary – building sustainable state institutions is difficult, yet proactive and the only solution that could lead to success. A state security force would require a broad and diversified base of support – as opposed to the PMPF, which was limited in part by the fact that the United Arab Emirates controlled financing.

While the lack of a functioning government challenges the establishment of a state-controlled maritime security force in Somalia, other states in the region could certainly boost their naval capabilities with Western assistance. As mentioned in the previous chapter, Yemen's naval capabilities are in troubling shape. As **Figure 6** displays, the force almost completely lacks blue water naval capabilities.

Oman's naval forces are similarly constrained by a lack of naval aviation assets and only a single frigate. As previously mentioned, the general lack of blue water capabilities amongst much of the GCC inhibits the ability of some of the largest stakeholders in Indian Ocean trade from directly protecting their own interests. As has been recommended throughout this report, the naval capabilities of the Middle Eastern states must be developed so as to enhance their ability to protect their own interests, thus reducing the burden on foreign naval forces.

Further integration is necessary amongst regional states and foreign actors operating in the HRA to ensure that each is aware of the other's operations and the intelligence is shared and operations are coordinated. The October 2013 seizing of a U.S. private-security anti-piracy vessel by Indian authorities²⁴⁸ is proof of the shortcomings of international coordination toward a common goal.

Overall, the role that private security companies can play in promoting maritime security is significant, though that role should be limited to providing on-board security in an environment that is closely regulated by the IMO. Preventing and deterring pirate activity in littoral waters, and responding to activities at sea in the unlikely instances where private security and the BMP fall short should be left in the domain of state naval and coast guard forces. These responsibilities should be increasingly met by regional actors with the most expertise of their littoral waters, the best concept of who is and is not a fisherman, and who have the greatest stake in preventing and deterring piracy.

Chapter V: Conclusions

Emphasizing Unconventional Versus Conventional Threats in Force Development

A number of common themes can be deduced from the prior three chapters of this analysis. First, all of the most significant maritime security threats in the Middle East and North Africa are unconventional threats. Even in the case of Iran, where threats are posed by the country's naval forces, the non-military nature of the target makes the threat unconventional.

In the cases of Egypt and Somalia, the threats largely emanate from a lack of stable state institutions and functional economies, thus driving illicit acts. Without a government and economic opportunity in Somalia, some have resorted to piracy as an industry and a means to provide for themselves. In Egypt, the political chaos, the government's alienation of many Sunni Muslims who look to the Muslim Brotherhood for leadership, and the poor state of the Egyptian economy has led to violence directed at the state and maritime interests that are a powerful symbol of the state.

Despite an emphasis on countering unconventional threats that has dominated the global security environment for over a decade, the states of the Middle East and North Africa are not adequately prepared to deter and prevent unconventional threats from the sea. Egypt's canal is vulnerable to terrorism, and the current internal security policies of the government in Cairo are arguably doing more harm than good in reducing extremism and violence.

The Gulf Arab states have no means to counter Iran's naval capabilities on their own, with a lack of strong blue water naval capabilities, an absence of submarine warfare capabilities, anemic mine warfare capabilities, and an incomplete collective security framework. Somalia and the Arab Gulf states have no means of protecting their waters from piracy, and are completely dependent on foreign navies and private security forces.

While the risks of these unconventional threats may appear to outweigh the risks of a conventional military engagement in the region, U.S. security assistance is still strongly geared toward developing conventional capabilities – particularly in the realm of airpower – at the expense of more useful naval and coast guard capabilities. Billions of dollars in U.S. security assistance has been offered to the GCC states in upgrading fighter fleets despite the unlikelihood of an air war being fought in the region anytime soon, to say nothing of the already large gap in aviation technology between the GCC states and the region's principal adversary: Iran.

The current threat environment merits a shift in U.S. security assistance towards Egypt and the GCC states. A much greater emphasis needs to be placed on building up naval and coast guard fleets that could give these states a sense of ownership over their own waters and the shipping lanes outside of their littoral waters. Such assistance must be part of a broader U.S. strategy to advance U.S. interests through assistance.

In Egypt for example, assistance needs to be refined from providing broad support to the Egyptian armed forces to providing support that specifically advances U.S. national security interests in that country. The era of broad security assistance in the wake of the Camp David Accords is over. Support in the current political environment must be more tailored than in years past. U.S. commercial shipping interests could be at stake if Suez security is further compromised, and assistance must be geared more toward maritime capabilities than obsolete airpower capabilities.

Joint training with Egypt should be resumed, with maritime security and counterterrorism made centerpieces of that training.

The Need for Sustainable Defense

The concept of sustainability is one that has taken hold in the discourse on economic development. It is based on the premise that international assistance must go beyond providing states with needed materials such as food aid, and rather work with recipient countries to develop a domestic capability to provide for themselves over the long term. The same concept should be adapted into Washington's strategy for security assistance programs.

One of the clearest trends this analysis has identified is that many regional states lack the ability to take ownership over security issues in their own region. The Arab Gulf states have a lacking capability to project naval power deep into the Indian Ocean to address potential Iranian naval threats or to patrol waters accessible by pirates. Somalia completely lacks a national naval or coast guard capability, resulting in a failed and dangerous attempt at creating a private coast guard, and the burden of maritime security falling largely upon Western militaries.

As defense spending is reduced throughout the West, military assistance programs to the Arab Gulf states should be recalibrated to build up the capabilities of each of these states to address regional security threats in a more significant way. Helping the GCC develop a joint naval force and strategy that could counter IRIN and IRGC Navy threats would be a good start, as would assisting the GCC and Yemen to increase their involvement in anti-piracy operations through joint training and material assistance. A military assistance strategy for the region needs to be developed that places less of an emphasis on building up conventional airpower capabilities, while placing a greater emphasis on naval and coast guard capabilities that can address unconventional threats.

As for Somalia, the lack of a stable central government is undoubtedly a challenge, and there is only so much the United States or any other state can do to ensure that a national government emerges in Mogadishu that can project power throughout the country and advance the Somali economy. However, improvising security by creating a private force that lacks both accountability and legitimacy is not a solution to the problem. Inevitably, Somalia will need a naval and coast guard capability with enough training, expertise, and equipment to patrol the country's littoral waters and to deter piracy before it reaches vital shipping lanes.

Keeping a NATO and EU force deployed to the region indefinitely is not a sustainable solution to the piracy problem, and is no guarantee that piracy can be deterred and prevented. Local capabilities must be developed to ensure that pressure remains firm against piracy, and that regional states are adequately invested in securing their own commerce.

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