OFFSHORE ENERGY GEOPOLITICS: AN EXAMINATION OF EMERGING RISKS TO FUTURE OIL AND GAS ACTIVITIES IN HOTSPOT MARITIME REGIONS

by
Erik Fagley

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ABSTRACT

As the world's conventional oil and gas fields decline, the oil and gas industry seeks to exploit new sources of energy to satisfy demand and promote economic growth. The most promising geographical regions left to explore are offshore waters that contain a substantial reserve base that contain decades of supply. Although offshore development is not new, certain regions slated for production are vulnerable to a wide-array of risks that might derail future activity. The examination of these risks is a timely study given its relevance to energy security and the ever-increasing vulnerabilities in maritime regions. To better explain the offshore energy geopolitical landscape, this thesis explores three regions – the South China Sea, Arctic, and the Gulf of Guinea. Each region typifies political, legal, economic and environmental risks associated with offshore development; however, each region is faced with markedly different risks to future operations. Whether this includes territorial disputes between claimants over control of seabed resources in the South China Sea, the absence of an effective framework to govern and regulate offshore activities in the Arctic, or the emergence of oil theft and maritime piracy in the Gulf of Guinea, each chapter highlights the importance of addressing these risks. In response, the thesis provides mitigating strategies and policy recommendations to alleviate tensions, resolve gaps in governance and regulation and combat maritime piracy. The thesis makes clear that if offshore development is to reach its potential, national governments, the private sector, and the international community must address such risks with resoluteness to enhance global energy security and effectively combat new forms of volatility.

Thesis Advisors: Drs. Kathy Wagner-Hill and Rameez Abbas

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PORTFOLIO INTRODUCTION

For decades, offshore exploration and production has occurred in concentrated maritime areas. Such ventures were considered high risk due to a project's cost and general vulnerability to extreme weather and remoteness. These concerns still exist today, but offshore development is now widely embraced and with over 12,000 various floating platforms and fixed rigs, the future is seemingly bright in the offshore.[1] This spike in investment is partly due to sustained high oil prices, seismic mapping, new advanced drilling technologies, and renewed commitments by national governments to allocate offshore acreage for future production. It is also driven by the decline of conventional oil and gas fields. As demand growth increases and is paced by emerging economies, like China, new supply is required to offset declines in mature provinces.

Supply-demand dynamics are key components to energy security and illustrate how the global oil market continues to evolve. In the past, price spikes were primarily driven by supply-side events, like the 1973-1974 OPEC embargo. Today, demand-side events dominate the scene where the era of relentless growth in petroleum fuels has led to a renaissance for the oil and gas industry. However, this does raise concerns about the long-term availability of global oil and gas supplies. Resource scarcity fears and price volatility are compounded by the fact that some of the world's largest remaining offshore reserves are located in highly volatile maritime regions.

This is where another key component of energy security comes into play. To securitize future supply, importers now favor a strategy of diversification. By purchasing oil and gas from a variety of suppliers rather than just one, a state is less vulnerable to

[1] John Ferentinos, "Global Offshore Oil and Gas Outlook," *Infield Systems Limited* (2013) 20-23.

potential supply disruption. This has become an integral part for energy security agendas of many national governments and has signaled a shift in energy trade. In particular, many importers, like the United States, are moving away from the politically volatile Persian Gulf towards safer and more stable suppliers. In addition, there has also been a push to explore domestic production potential. This includes offshore areas where many countries seek to enhance domestic production to lower import bills and further diversify its supply chain. Energy vulnerability is an omnipresent threat that will remain so as long as hydrocarbons and centralized energy systems are depended upon to fuel the global economy. To curb such vulnerabilities, diversification of supply and suppliers represents a new norm to ensure energy security and insulate from potential supply disruption.

Often considered a safer and less-risky alternative, the offshore contains some of the largest remaining untapped reserves. However, this thesis argues that despite reserve potential, there are maritime regions susceptible to conflict and tension that could inhibit future development options. It is the purpose of this thesis to examine the wide-array of risks associated with offshore development and whether such risks can be overcome and tempered to pave the way for future energy production. The impact of these risks in each region is examined in each chapter to better illustrate how offshore energy geopolitics presents a wave of implications over the exploitation of seabed oil and gas resources.

CHAPTER SUMMARIES

The first chapter asks whether a joint development agreement (JDA) can mitigate long-standing tensions and prevent a wider conflict between competing claimants over seabed resources in the South China Sea (SCS). The JDA mechanism is part of the United Nations Convention on the Law of the Sea (UNCLOS) that has been successfully

ratified around the world. To achieve ratification, claimants must agree to shelve sovereignty and jurisdictional disputes to pave the way for joint exploitation. However, there are legal, economic, and political obstacles to ratification that deserve examination. Since tensions in the SCS are at a breaking point, it is pertinent to analyze the entire JDA negotiation and implementation process to highlight what obstacles or barriers might derail these arrangements. This chapter provides extensive research on international maritime law, scholarly analysis, government documents and reports to identify the risks and which would be most difficult to overcome. With the addition of a case study on a JDA arrangement in the tense East China Sea (ECS), the chapter found that the regional political climate makes joint development an impossible reality in the near-term. In particular, the rise of nationalism and resource competition are driven by China's rise to power as well as strong domestic opposition to ceding sovereign control over oil and gas resources. Further, poor bilateral relations and the lack of political willingness of leaders and parties have made JDA negotiations untenable. In the ECS case study, a change of leadership, deep-seeded mistrust between Japan and China, negative public opinion and domestic politics were important factors that unglued eventual ratification. Finally, a history of confrontation only reinforced assertive behaviors among claimant states, which now more than ever before are unwilling to shelve disputes in favor of joint development.

The second chapter asks whether large-scale offshore development can be achieved in the Arctic, which is undergoing dramatic environmental changes due to climate change and global warming. To address sustainability, the chapter asks how offshore development ought to be governed and regulated and what framework most effectively could manage the economic, environmental, and political risks. This chapter

determined that the ineffectiveness of existing international regimes to govern and regulate offshore activities represents a significant gap in oversight and protection. For a region largely undeveloped, the Arctic states and oil and gas industry lack critical infrastructure, comprehensive spill response strategies, and funding for its regulatory agencies and ongoing climate change research. Such inadequacies raise concerns over the economic and environmental risks associated with large-development. To address gaps in governance and regulation and the capabilities of the oil and gas industry to operate in such a harsh and unpredictable climate, the chapter provides two options – the Antarctic Treaty System (ATS), a legally binding international treaty; and the Arctic Council (AC), a non-legally binding entity already utilized in the region. The chapter finds that a new international convention would not be supported by the Arctic states. Rather, the AC is considered an effective option to tackling issues of environmental protection and oil and gas regulations. In fact, the AC has adapted to the evolving marine environment by creating offshore guidelines to improve safety and operations, reduce pollution and enhance environmental protection. Although these guidelines are not mandatory, they influenced member states to raise these issues within their national legislatures.

The third chapter asks to what extent maritime piracy in the Gulf of Guinea poses a threat to future offshore oil and gas development and how it might impact global energy security. In an effort to address the piracy threat, the chapter also explores counter-piracy operations undertaken by the international community and regional powers. In particular, the chapter asks if industry self-help efforts and mobilization of international naval forces were effective tools to combatting piracy in the Gulf of Aden, and then assesses whether these strategies can be applied to the Gulf of Guinea. Moreover, the chapter highlights

lessons from the Gulf of Aden experience, examines gaps in counter-piracy operations in the Gulf of Guinea and provides policy recommendations to address existing gaps.

The chapter provides a comprehensive examination of maritime piracy through a comparative analysis of both regions by identifying differences in geography, motivation, tactics, and organizational structure. This provides clarity as to why piracy is so prevalent, how operations are conducted, what targets are most vulnerable to attack, and if counter-piracy operations are effective. Moreover, piracy in the Gulf of Guinea does contrast significantly from that in the Gulf of Aden. In particular, pirates in the Gulf of Guinea target oil infrastructure and marine shipping. In a region comprised of important oil exporting nations and substantial offshore reserves, this threatens the security of existing and future operations. Further, the Gulf of Guinea is a regional body of water not an international waterway, like the Gulf of Adan. As a result, the littoral states assume complete control over their own territorial waters. Unfortunately, Gulf of Guinea states lack the capability and capacity to combat maritime piracy. Whether this includes the absence of naval and coast guard capabilities, widespread corruption, inaccurate reporting of attacks or ineffective law enforcement and judicial prudence, legitimate concerns exist about the region's ability to address maritime security. Because such deficiencies will take decades to improve, the oil and gas industry must adopt strategies to safeguard shipments, infrastructure and its employees. For instance, the implementation of best management practices (BMPs) and the use of private maritime security contractors (PSMCs) offer immediate and short-term solutions to the piracy threat. In the long-term outlook, the international community must improve regional capacities and capabilities, strengthen regional organizations, and create an integrated maritime security framework.

For this to be successful, leaders of the Gulf of Guinea states must be willing to embrace collective action against maritime piracy as it represents a cost-effective resolution.

The purpose of the thesis portfolio is not only to examine emerging risks associated with offshore development, but to illustrate the complexities of offshore exploration and production. With the easily accessible oil and gas in rapid decline, the industry is faced with significant challenges by expanding into remote regions, like the Arctic or into more politically volatile regions, like the SCS and the Gulf of Guinea. Regardless, the offshore represents an arena of growth and as long as hydrocarbons remain the fuels of choice, these reserves will be needed to power the global economy. However, rising political tensions over seabed resources, the impacts of climate change on marine environments, and the threat of maritime piracy, not only raise the stakes, but also highlight concerns about the security and safety of future activities. Each chapter provides a mitigative strategy to counter intractable disputes, resolve gaps in governance and regulation, and combat maritime piracy. While these policy recommendations represent viable options, they do face pushback from littoral states that have sovereign and jurisdictional claims over seabed resources in these regions. Concepts of resource-sharing, enhancing governance and regulation standards and bolstering maritime security capacities are not quick-fixes nor are unanimously supported. In fact, when examining the long-term outlook, the implementation of these policy recommendations will take patience, cooperation and sustained political will from leadership to reassure the oil and gas industry that future development can continue without disruption. There has been some traction to improve regional cooperation, implement new oil and gas standards, and adopt an integrated maritime security strategy. Although these are positive steps to

address various risks associated, a long-term commitment from littoral states, the international community, the private sector, and indigenous peoples must be sustained and expanded to minimize such risks and continue to promote future development that will benefit all interested parties and ensure future energy demand can be satisfied.

JOINT DEVELOPMENT OF SEABED RESOURCES IN THE SOUTH CHINA SEA

A STRATEGY TO SHELVE INTRACTABLE MARITIME DISPUTES AND EMBRACE RESOURCE-SHARING

INTRODUCTION

The SCS is a hotbed for competing maritime claims. Disputes range from minor sources of friction between claimant states to open-water confrontations that threaten regional peace and security. The claimants, China, Vietnam, the Philippines, Indonesia, Malaysia, and Brunei have all made claims over the SCS and its geographical features. Further, the discovery of significant oil and gas resources in the region has intensified disputes and competition over these resources. With growing fears over energy scarcity, claimants have become more assertive in the search for future energy supply.[2] This is due to the fact that the Asia-Pacific region is comprised of import-dependent states, but is also expected to pace global economic growth and energy consumption in the future.[3] In addition, technological advancements in deep-water drilling have made once unreachable offshore oil and gas now a feasible option to extract.[4] All claimant states reiterated how critical seabed oil and gas these resources are to their energy security agendas; however, the question remains if they are willing share such resources. Therefore, the thesis asks whether joint development arrangements offer an effective way to circumvent disputes in the SCS in order to proceed with offshore oil and gas development.

To answer this question, the thesis highlights an effective conflict avoidance mechanism that circumvents maritime disputes. In the past JDAs served as a mechanism to diffuse unsettled disputes and promote resource-sharing. There are examples where JDAs have been successfully implemented, but the focus of this thesis is whether this

[2] On May 26, 2011, Chinese maritime vessels cut off the exploration cables of a Vietnamese oil survey ship searching for oil and gas deposits off the southern Vietnamese coast. In 2011, the Philippines reported seven incidents involving Chinese harassment including an incident on March 2 where Chinese patrol boats harassed an oil exploration ship in the Philippine claim zone.
[3] International Energy Agency, *World Energy Outlook 2011*, 49-75.
[4] Will Rodger, "The Role of Natural Resources in the South China Sea," in *Cooperation from Strength: The United States, China and the South China Sea*, ed. Patrick M. Cronin (Washington, D.C.: Center for New American Security, 2012) 87.

provisional instrument can be applied in the SCS to help shelve maritime disputes and enhance cooperation through joint development of seabed resources? Given that the SCS presents a web of complex obstacles to JDAs, this thesis analyzes the legal, economic, and political barriers that could inhibit JDA implementation. In the first section, the thesis analyzes ongoing legal maritime disputes that overlap and are intractable. This presents a challenge to the JDA process as the level of intractability of disputes influences claimants willingness to cooperate. The second section presents a look at the economic obstacles of JDA arrangements ranging from investment concerns, resource competition to issues about the equitable split of revenues and resources. In the third section, the thesis examines political obstacles to the JDA process and highlights key variables that have impacted the negotiation and ratification process. In particular, nationalism, public opinion, the existence of good bilateral relations, and political will of parties and governments represent influential factors to the JDA process. Finally, the thesis presents a case study that examines the 2008 China-Japan Principled Consensus to better illustrate the negotiation and ratification process and identify key obstacles that had an impact on this JDA arrangement and also relate to the conditions in the SCS.

UNWILLINGNESS TO SHELVE DISPUTES IS INFLUENCED BY INCONSISTENT AND INTRACTABLE SOVEREIGNTY AND JURISDICTION CLAIMS

Maritime disputes are not uncommon and have existed for as long as states have competed over territory, jurisdiction, and resources. The question surrounding the SCS is how claimants can resolve disputes in the presence of deeply entrenched national sensitivities. In an effort to address these circumstances, UNCLOS established JDAs to

be used to help mitigate tensions in maritime domains.[5] Articles 74(3) and 83(3) in UNCLOS provide an impetus for claimants to "make every effort to enter into provisional arrangements of a practical nature and, during this transitional period, not to jeopardize or hamper the reaching of a final agreement."[6] The JDA was designed for maritime disputes and as Ian Townsend-Gault argues "most joint development zones come about because of the inability of the countries concerned to agree on a maritime boundary."[7] Thus, the JDA presents an interim solution for claimant states to shelve disputes in order to jointly develop natural resources. Although a JDA is not designed to solve legal disputes, it is critical to examine how legal disputes, like sovereignty and jurisdictional claims and the presence of a joint authority can impact such arrangements.

Complexity of sovereignty claims and the delimitation of maritime rights

An obstacle to JDA implementation is ongoing sovereignty disputes. As Tara Davenport argues, the presence of sovereignty disputes is a serious obstacle to joint development in the SCS.[8] In fact, disputes over sovereignty have had an impact on previous JDA negotiations. Jonathan Charney and Lewis Alexander argue that the 1982 Cambodia-Vietnam JDA was almost dissolved because of the contentious sovereignty claims made by each claimant. If Cambodia had not been willing to concede full

[5] Zou Keyuan, "Cooperative Development of Oil and Gas Resources in the South China Sea," in *Security and International Politics in the South China Sea: Towards a Cooperative Management Regime*, ed. Sam Bateman (New York: Routledge, 2009) 81-90.
[6] Hazel Fox, *Joint Development of Offshore Oil and Gas: A Model Agreement for States for Joint Development with Explanatory Commentary* (London: British Institute of International and Comparative Law, 1989), 45.
[7] Ian Townsend-Gault, "The Contributions of the South China Sea Workshops: The Importance of a Functional Approach," in *Security and International Politics in the South China Sea: Towards a Cooperative Management Regime* (New York: Routledge, 2009), 200.
[8] Tara Davenport, "Joint Development in Asia: Lessons for Sustainable Peace in the South China Sea," *Center for International Law University of Singapore* (2011), 2-4.

sovereignty claim over some of islands, the JDA would have likely failed.[9] Also, in the 1974 Japan-South Korea JDA, parties shelved sovereignty disputes in an effort to push resource-sharing negotiations. In its provisions, it established that, "nothing in this agreement shall be regarded as determining the question of sovereign rights over all or any portion of the Joint Development Zone or as prejudicing the positions of the respective parties with respect to the delimitation of the continental shelf."[10] This illustrates that agreements can be achieved even in the presence of sovereignty disputes *only* if the claimants were willing to shelve disputes. However, the SCS represents a complex environment where six claimants have made sovereignty claims over offshore features, including seabed oil and gas deposits. With more claimants added to the mix, Craig Snyder argues that shelving of sovereignty disputes has not happened. Although Snyder believes this is not a valid reason to forgo JDA arrangements it does raise concerns about the effectiveness of these arrangements where SCS claimants are unwilling to reach an agreement over joint development options.[11]

The best example of the intractability and complexity of sovereign disputes rests in the Spratly Islands. Here, states justified their sovereign claims over various geographical features through different channels, either by historical justification or international maritime law. For instance, China and Vietnam claimed sovereignty over all features based off of historical title. The other claimants, like Indonesia, Malaysia, and Brunei submitted partial sovereignty claims through provisions in UNCLOS.[12] According

[9] Jonathan Charney and Lewis Alexander, *International Maritime Boundaries* (Leiden: Martinus Nijhoff, 1998), 2336.
[10] Article XVIII, Japan South Korea JDA 1974.
[11] Craig Snyder, "The Implications of Hydrocarbon Development on the South China Sea," 52:1 *Canadian Foreign Policy* (Winter 1996-1997): 154.
[12] Tara Davenport, "Joint Development in Asia: Lessons for Sustainable Peace in the South China Sea," 2-4.

to Peter Dutton, China's historical claim over the Spratly Islands poses a significant challenge towards JDA implementation. Its nine-dash claim, which is based on the fact that they discovered these features centuries ago, violates UNCLOS.[13] Lesek Buszynski argues China's historical claims reinforce its rationale that it has "indisputable sovereignty over the South China Sea islands and their adjacent water."[14] Taylor Fravel disagrees with this assessment, arguing that China has become less assertive in the SCS when compared to the last period of tension from 1988 to 1994 that involved the physical seizure of contested features and the use of force against other claimants that challenged China.[15] What cannot be denied is that China's behavior is more assertive and continues to influence how other claimants react and act. If such assertive behavior to the SCS disputes escalates or remains unchanged, it will likely force other claimants to act apprehensive to entering into JDA arrangements.

There is also a prevalence of undefined areas of dispute in the SCS. Much of the blame is placed on UNCLOS and its limited capacity to resolve these disputes as well as its ambiguous definition of geographical features. In fact, Robert Beckman argues that UNCLOS does not include provisions to resolve disputes over offshore islands, especially if it involves sovereignty claims. Although provisions exist for uses of the ocean adjacent to continental land territory and islands, UNCLOS does not address disputes where a state has sovereignty over land territory and islands. To address this issue, UNCLOS allows these claims to be heard by an international court for resolution;

[13] Peter Dutton, "Cracks in the Global Foundation: International Law and Instability in the South China Sea," in *Cooperation from Strength: The United States, China and the South China Sea*, ed. Patrick M. Cronin (Washington, DC: Center for New American Security, 2012), 69-70.
[14] Lesek Buszynski, "The South China Sea: Oil, Maritime Claims, and U.S.-China Strategic Rivalry," *The Washington Quarterly*, 35:2 (2012): 140.
[15] M. Taylor Fravel, "China's Behavior in its Territorial Disputes and Assertiveness in the South China Sea," *Center for Strategic and International Studies,* (2011):1-6.

however, most claimant states prefer not to rely on third-party to resolve sensitive disputes.[16] At this point, there has been no third-party involvement over sovereignty disputes in the SCS and as a result, has made the unresolved claims more intractable. Other scholars point out that ambiguous definition of offshore features is a source of contention.[17] Clive Schofield and Dustin Kuan-Hsiung Wang argue most features in the SCS are not islands rather they should be defined as reefs, rocks and low-lying features.[18] Nevertheless, claimant states still have to reach an agreement on which of the islands are rocks or reefs and to date, there has not been any such agreement over the status of every geographic feature. This is primarily driven by the fact that these claimant states assume positions on the features that favor national interests. One solution is for claimants to set aside these disputes to jointly develop oil and gas resources; however, Tara Davenport cautions that sovereignty claims are undefined under international maritime law and without defined blocks or boundary limits, the prospects for joint development remain limited.[19]

Regarding maritime delimitation, Taylor Fravel argues different states justify their claims to maritime rights differently. Vietnam, the Philippines, Malaysia, and Brunei assert their claims from their coasts. Indonesia asserts maritime rights from Natuna Island. While China bases its maritime rights on its claims to sovereignty over disputed islands,

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[16] Robert Beckman, "Legal Regimes for Cooperation in the South China Sea, in *Security and International Politics in the South China Sea: Towards a Cooperative Management Regime*, ed. Sam Bateman, et al., (New York: Routledge, 2009), 221-225.
[17] Clive Schofield and Dustin Kuan-Hsiung Wang, "The Regime of Islands under UNCLOS: Implications for the South China Sea," in *Maritime Energy Resources in Asia: Legal Regimes and Cooperation*, ed. Clive Schofield, (Seattle: National Bureau of Asian Research, 2011), 73-77.
[18] *Ibid*, 74-77.
[19] Tara Davenport, et. al, "Conference on Joint Development and the South China Sea," (paper presented at Grand Copthorne Hotel with Center for International Law at National University Singapore, Singapore, June 16-17, 2011.

in addition to the coast of the Chinese mainland.[20] UNCLOS entitles states to claim an EEZ up to 200 nautical miles from the same baselines from which the territorial sea is measured. But, Lowell Bautista argues that claimants fail to negotiate on the basis of UNCLOS and do not adhere to the baseline criteria.[21] As discussed, a key step in the JDA negotiation process is to establish a defined area of dispute for a joint development zone (JDZ) to be established as the future location for joint development. However, the SCS is remains undefined, which makes it difficult to even begin JDA negotiations.

An inconsistent regional response to maritime disputes

Where intractable disputes exist, a neutral third-party or regional authority can be utilized to resolve tensions and in the case of a JDA, manage exploration and production activities. In the SCS, claimant states are reluctant to relinquish control over resources as they view this option as an infringement upon national interests.[22] Despite these concerns, David Ong argues that the establishment of a regional authority was critical for the success of Malaysia-Thailand JDA 1979/1990. An agreement between governments established a joint authority to assume all the rights and responsibilities on behalf of the two parties for the exploration and exploitation of oil and gas resources in the disputed area.[23] This is not to argue that the establishment of a regional authority between

[20] M. Taylor Fravel, "Maritime Security in the South China Sea and the Competition over Maritime Rights," 34-35.
[21] Lowell Bautista, "The Implications of Recent Decisions on the Territorial and Maritime Boundary Disputes in East and Southeast Asia," in *Maritime Energy Resources in Asia: Legal Regimes and Cooperation*, ed. Clive Schofield, (Seattle: National Bureau of Asian Research, 2011), 120-123.
[22] Ian Townsend-Gault, "Maritime Cooperation in a Functional Perspective," in *Maritime Energy Resources in Asia: Legal Regimes and Cooperation*, ed. Clive Schofield, (Seattle: National Bureau of Asian Research, 2011), 20-21.
[23] David M. Ong, "The 1979 and 1990 Malaysia-Thailand Joint Development Agreements: A Model for International Legal Cooperation in Common Offshore Petroleum Deposits?" *The International Journal of Marine and Coastal Law*, 14:2 (1999): 227-28.

Thailand and Malaysia was not without dispute, but does provide an example of where a joint authority was successfully used to manage the entire operation.

The success of a joint authority in the SCS rests on the effectiveness of the Association of Southeast Asian States (ASEAN) as well as China's acceptance of regional cooperation. To date, Ian Storey argues there is little agreement on how to address SCS disputes as ASEAN members have competing interests and China is hesitant to support a regional approach. China's strategy is influenced by its desire to utilize bilateral negotiations as a means to resolve disputes rather than rely upon a regional or international authority.[24] Despite its preference for bilateral negotiations, China has participated in multilateral diplomacy through ASEAN in order to improve relations with Southeast Asian states and show its support for regional cooperation. In fact, China and ASEAN agreed to sign the Declaration of the Conduct of Parties in the South China Sea (DoC) in 2002. This was a landmark treaty where all sides put opinions aside to frame a common language for regional security and cooperation; however there has been little traction to expand cooperative initiatives after ratification. Although there is a lack of clarity as to what China's intentions are for the SCS, Taylor Fravel argues that the DoC signing created "breathing space that might be exploited to reduce the competition over maritime rights" but cautions political will and diplomatic creativity is necessary for this initiative to move forward.[25] Further, Zou Keyuan argues "the recent change of China's posture, from sticking to bilateral talks to accommodating the whole ASEAN region, has

[24] Ian Storey, "China's Bilateral and Multilateral Diplomacy in the South China Sea," in *Cooperation from Strength: The United States, China and the South China Sea*, ed. Patrick M. Cronin (Washington, D.C.: Center for New American Security, 2012), 57.
[25] M. Taylor Fravel, "Maritime Security in the South China Sea and the Competition over Maritime Rights," 47.

paved the way for reaching a joint development arrangement in the future."[26] Regardless, China's commitment to a regionally-focused solution is still viewed with mixed feelings as the other claimant states are concerned that China's real intentions are to unilaterally control the SCS as part of their maritime strategy.

IMPACT OF RESOURCE NATIONALISM ON RESOURCE-SHARING AND OTHER ECONOMIC FACTORS ON JOINT DEVELOPMENT OPPORTUNITIES

Maritime disputes have intensified with the discovery of substantial seabed oil and gas in the region. Consequently, resource-sharing has not been viewed as an acceptable option among claimant states for certain reasons. In particular, the existence of oil and gas not only intensified competition, but also adversely influenced a claimant state's willingness to enter into a resource-sharing agreement.[27] The emergence of resource competition has transformed the SCS and other regional waters into a maritime zone of energy nationalism. In an effort to define and track this transformation, Andrew Erickson and Gabe Collins identified key criteria, such as state flagging of oil tankers, the acquisition of additional military systems to protect resources and transit routes, intensified maritime surveillance programs, and more assertive air and naval posturing near offshore resource zones and key seal lanes.[28] Collectively, these key indicators provide a scorecard for each claimant state and other Asian states regarding their level of risk to triggering conflict. Unsurprisingly, China, India, Japan and Vietnam are the high-risk states capable of sparking conflict. Also, the expansion of Asian national oil

[26] Zou Keyuan, "Joint Development in the South China Sea: A New Approach," *The International Journal of Marine and Coastal Law*, 21:1 (2006): 105-06.
[27] Tran Truong Thuy, "The Declaration on the Conduct of Parties in the South China Sea and Developing Maritime Energy Resources," in *Maritime Energy Resources in Asia: Legal Regimes and Cooperation*, ed. Clive Schofield, (Seattle: National Bureau of Asian Research, 2011), 189-90.
[28] Gabe Collins and Andrew S. Erickson, "Energy Nationalism Goes to Sea in Asia," in *Asia's Rising Energy and Resource Nationalism: Implications for the United States, China, and the Asia-Pacific Region*, (Seattle: National Bureau of Asian Research, 2011), 21.

companies (NOCs) continues to fuel resource competition. Because Asian NOCs are located in large oil and gas-importing states, their primary focus rests on acquiring oil and gas-producing assets abroad and securing long-term supplies – both onshore and offshore. This directly impacts resource-sharing opportunities in the SCS where these NOCs seek to securitize resources to bolster their nation's domestic oil and gas production as well as improve economic performance at home.[29]

In the event that joint development is feasible, there are other factors that could derail ratification. A contentious issue among other JDAs was resolving issues on the equitable split of resources and revenues. Also, the creation of a sustainable framework is critical for a JDA to garner support from investors, IOCs and even claimant states. Finally, joint development has to address preexisting rights issues where some oil and gas companies might already be involved in offshore activities that are slated to be designated as a JDZ.

The discovery of hydrocarbons drives resource nationalism

Because the Asian-Pacific region is more import-dependent, energy security is viewed as a strategic vulnerability.[30] With the discovery of oil and gas deposits, claimant states have an option to develop resources that closer to market and curb ever-increasing import-bills. However, resource-sharing has not been overwhelming supported due to fears of ceding sovereign control over seabed resources.[31] Further, China released oil and gas estimates for SCS that put its reserve potential on par with that of the Persian Gulf.

[29] Mikkal E. Herberg, "Asia's National Oil Companies and the Competitive Landscape of the International Oil Industry" in *Asia's Rising Energy and Resource Nationalism: Implications for the United States, China, and the Asia Pacific Region*, ed. Mikkal Herberg (Seattle: National Bureau of Asian Research, 2011) 31-33.
[30] Collins and Erickson, 17-18.
[31] Tara Davenport, "Joint Development in Asia: Some Valuable Lessons Learned," in *Maritime Energy Resources in Asia: Legal Regimes and Cooperation*, ed. Clive Schofield, (Seattle: National Bureau of Asian Research, 2011), 141.

These estimates have not been confirmed and with little seismic mapping of the region's reservoirs, it is difficult to discern if estimates are accurate. Nevertheless, the publication of these estimates have politicized SCS disputes and intensified competition among claimant states. In fact, China, the Philippines, Vietnam, and Indonesia, which already have substantial offshore operations, have reiterated their intent to expand further into the disputed areas. When considering assets and operational capacity, China remains the dominant regional energy producer where it obtains 15 percent of its domestic oil production, more than 600,000 barrels per day (bpd), from offshore fields.[32] China's three major oil and gas companies – PetroChina, China Petroleum and Chemical Corporation (SINOPEC), and China National Offshore Oil Corporation (CNOOC) have shown their international dominance in the last decade through the purchase of onshore and offshore acreage and other major assets. These companies carry the mandate of China's government, which has voiced its willingness to expand further out into the SCS.

This is not reflective of all areas of dispute where hydrocarbons are present. For instance, Malaysia's discovery of gas deposits in a disputed area with Vietnam pushed both states towards joint development. In fact, these states expressed a real willingness to negotiate by suspending all exploration and exploitation activities at the time negotiations.[33] Also, the Australia-Indonesia Timor Gap Treaty was initiated due to the discovery of hydrocarbons near Timor Gap area in which both parties (later East Timor) negotiated a JDZ to extract seabed oil and gas.[34] These examples illustrate that the discovery of hydrocarbons does not necessarily result in a zero-sum approach, but can

[32] Collins and Erickson, 21.
[33] Nguyen Hong Thao, "Joint Development in the Gulf of Thailand," *International Boundaries Research Unit* (Autumn 1999): 83.
[34] Anthony Bergin, "The Australian-Indonesia Timor Gap Maritime Boundary Agreement," *International Journal of Estuarine and Coastal Law*, 5:4 (1990): 383-84.

ignite tensions among claimants, especially if these hydrocarbons are in close proximity to their refineries and domestic markets.

Asian NOCs and their sphere of influence

Beyond the consortium of Chinese NOCs involved in the region, other claimant states like Vietnam, Indonesia and the Philippines are focused on pursuing new energy resources in the SCS. Mikkal Herberg contends there are two forces driving the push abroad by Asian NOCs. First, energy security concerns are growing across the region as dependence on imported oil and gas accelerates and second, the growing apprehension over the vulnerability of Asian economies to supply disruptions, scarcity, rising prices, and economic damage.[35] Herberg further argues that "energy security has moved to the top of the economic and strategic agenda in Asia and has led to a surge of old-fashioned mercantilism, with governments supporting and encouraging their NOCS to go abroad to secure 'national control' of overseas oil and gas resources."[36] This is also linked to current economic conditions in Vietnam, the Philippines and Indonesia, where soaring food prices, weakening confidence in their currencies and a stagnating job market are forcing their governments and NOCs to find and develop new energy resources, including the SCS.[37] One ASEAN diplomat voiced his concern in a recent interview with the International Crisis Group stating that "eventually, some country will need to drill for oil which will lead to conflict if agreements are not reached beforehand."[38]

[35] Herberg, "Asia's National Oil Companies and the Competitive Landscape of the International Oil Industry," 32-33.
[36] *Ibid,* 32.
[37] International Crisis Group, "Stirring up the South China Sea II: Regional Responses," *Asia Report* 229 (2012): 14.
[38] *Ibid*, 14.

Revenue and resource-sharing issues

Many JDAs have revenue-sharing clauses for parties involved. Wendy Duong states that the negotiations process faces obstacles over the percentages of profit, control mechanism for stakeholders, and a consensual legal and administrative system to accommodate each state.[39] Fiscal provisions between states and oil companies are also important. Commercial investors require clarity on governance issues before entering an agreement to explore and develop these resources. In the case of the SCS, certain claimant states, like China and Vietnam have attempted to maintain complete control over resources, which presents unfavorable terms for IOCs to enter an agreement.[40] That said, there are examples like the 2002 Australia-East Timor JDA were a 90:10 split was agreed upon in favor of East Timor. This agreement had unique circumstances as the rationale behind this uneven split was to provide incentives for East Timor to participate in a JDA. Thus, an inequitable split in revenue does not necessarily inhibit JDA negotiations, but most JDAs solicit equitable resource sharing provisions. For example, in the Malaysia-Vietnam 1992 JDA, all costs incurred and benefits derived from the exploration and exploitation of petroleum in the defined area have been shared equally by both states.[41] Although PETRONAS undertakes production sharing contracts (PSC) in the "defined area" it remits PETROVIETNAM an equal share of net revenue free of any taxes, levies or duties.[42]

[39] Wendy Doung, "Following the Oil Path: The Law of the Sea or Realpolitik: What does Law do in the South China Sea Territorial Conflicts?" *Fordham International Law Journal*, 30: 4 (2006): 1145.
[40] Tara Davenport, "Joint Development in Asia: Lessons for Sustainable Peace in the South China Sea," 29-33.
[41] Thao, 82.
[42] *Ibid*, 82-83.

JDAs are also capital-intensive operations and to efficiently exploit deepwater oil and gas, advanced technology, capital, and technical expertise are required.[43] Since Asian NOCs lack the capital and technical skills for these complex projects, IOCs are seen as critical players to assist in guiding future development.[44] However, IOCs are reluctant to invest in disputed areas where political and legal uncertainties exist and hesitate to undertake additional risk in an already capital-intensive operation. IOCs have attempted to lead exploration and production operations in the SCS only to withdraw due to ongoing territorial disputes. Another reason for withdrawing is due to China's assertive behavior. Since 2007, the Chinese government has repeatedly warned oil companies that cooperated with Vietnam in the SCS would affect their business with China. As a foreign energy analyst explained in Vietnam, "when push comes to shove, none of the foreign oil and gas companies are going to risk their business in China for something small in Vietnam."[45] In the absence of IOC support, Dini Djalal argues claimant states, like Indonesia are unprepared to finance offshore oil and gas development. Because Indonesia depends on offshore development to bolster their revenues, the absence of foreign investment and technical advice impedes its economic recovery.[46] This is where joint development represents a viable option to reduce project costs by utilizing IOCs, their investment dollars as well as their management and technical expertise to build-out these projects.

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[43] Rodgers, 87.
[44] Lee Lai To and Chen Shaofeng, "China and Joint Development in the South China Sea," in *Security and International Politics in the South China Sea: Towards a Cooperative Management Regime*, ed. Sam Bateman (New York: Routledge, 2009), 164.
[45] International Crisis Group, 33.
[46] Dini Djalal, "Indonesia: Domestic Transformation and the Implications for Maritime Energy Security in Southeast Asia, in *Maritime Energy Resources in Asia: Legal Regimes and Cooperation*, ed. Clive Schofield (Seattle: National Bureau of Asian Research, 2011), 68-69.

Preexisting rights within joint development zones

Another obstacle to JDA implementation is preexisting rights in a future designated JDZ. Preexisting rights are rights granted unilaterally by states prior to the establishment of the JDZ to IOCs and NOCs for future exploration and production.[47] These preexisting rights can serve as an obstacle to joint development, especially if existing right holders refuse to give up their holdings. This was an issue for the Malaysia-Thailand JDA where both parties negotiated separate joint agreements between PETRONAS (Malaysia) and PTT (Thailand), which took control over the permit licenses and concessions from Texas Pacific Oil. Although a resolution was reached in 1974, it serves as a reminder that preexisting rights must be addressed in regions slated as a JDZ where oil and gas companies might already be operating.[48]

VOLATILE POLITICAL LANDSCAPE: A REGION OF DISPUTES AND TENSION

The existence of international law does not prevent states from acting in self-interest. As Craig Snyder argues, when states adopt a zero-sum approach over access to resources, joint development is objectionable.[49] This is attributed not only to a long history of confrontation, but also poor bilateral relations, the rise of nationalism, and China's assertive behavior in the region. Further, public perception influences governments or political parties. Failure to address public opinion or choosing to adopt a strategy of appeasement has been fiercely opposed and has led to nation-wide protests and demonstrations. Finally, involvement of the United States has been standoffish and tepid. Resolving such disputes is in its national security interests; however, the United

[47] Fox, 378.
[48] David Ong, "The 1979 and 1990 Malaysia-Thailand Joint Development Agreements: A Model for International Legal Cooperation in Common Offshore Petroleum Deposits?" 224-226.
[49] Craig Snyder, 152-51.

States has made a calculated decision to minimize its influence to avoid fracturing its relationship with China and potentially escalating tensions in the region.

A history of disputes, tensions, and confrontation

The beginning of tensions and disputes over the SCS and its geographical features followed the conclusion of World War II when China claimed the Spratly Islands as an extension of its Guangdong province in 1946.[50] After the Japanese empire was dissolved so to were all its SCS claims, which then opened the door for other claimants, like Vietnam, the Philippines, and Indonesia to submit their own claims. Since the 1970s, there have been numerous incidents where open-water confrontations occurred between these claimant states. Most notably, China's occupation of the Paracel Islands in 1974, the bloody naval skirmish between Chinese and Vietnamese sailors in 1988, the Chinese capture of Philippine military installments in the Philippine-claimed Mischief reef in the Spratlys in 1995, and the clash between Philippine troops and Chinese fisherman near the island of Palawan have come to symbolize the ongoing struggle to control the region.[51] With the discovery of hydrocarbons, the stakes grew as the claimants became more assertive and were unwilling to cede sovereign control. William J. Fallon, a retired four-star admiral who headed the U.S. Pacific Command from 2005 until 2007 contends that Beijing's view of disputed waters is not just an arena for nationalist flag-waving, but is indispensable to its future economic stability. "The potential for what lies beneath the sea is clearly a big motivator in a recent shift by China to a more pugnacious posture in the South

[50]"Timeline: Disputes in the South China Sea," *The Washington Post*, http://www.washingtonpost.com/wp-srv/world/special/south-china-sea-timeline/
[51]*Ibid*.

China Sea."[52] This shift in strategy left the other claimant states concerned that without U.S. support, the Chinese might be able to seize control of the entire SCS without a much resistance.

The influence of public opinion and nationalist sentiment

A misconception with the general public is that joint development means sacrificing state sovereignty. This rhetoric threatens resource-sharing, especially where political decisions are in line with public opinion.[53] Sam Batemen argues that nationalism can "destroy political will and militate against cooperation and dialogue that might be perceived as compromising national sovereignty."[54] Clive Schofield states in a tense climate, "claims to the sovereignty of islands can be important symbolically, perhaps especially in times of national difficulty."[55] This is reflective of the current tensions in the Spratly and Paracel Islands where claimant states attempt to control its features in part due to national interests and perceived sovereign rights. In contrast, adopting a passive stance to such disputes has lead to public backlash who view a government's strategy of appeasement as weak and a sign of vulnerability. Public opinion naturally influences a leader or political parties' decision-making abilities when under intense domestic pressure. In the case of the SCS, leadership's attitudes over disputes tend to align with the prevailing domestic sentiment.[56] Such attitudes are reinforced by a fear that adopting resource-sharing options, like a JDA, might lead to protests and demonstrations by its

[52] Andrew Higgins, "In South China Sea, a dispute of energy," *The Washington Post*, September 17, 2011, http://www.washingtonpost.com/world/asia-pacific/in-south-china-sea-a-dispute-over-energy/2011/09/07/gIQA0PrQaK_story.html
[53] International Crisis Group, 20-21.
[54] Sam Bateman, "The Prospects For a Cooperative Management Regime," in *Security and International Politics in the South China Sea: Towards a Cooperative Management Regime*, ed. Sam Bateman, et al., (New York: Routledge, 2009), 241
[55] Clive Schofield, "Dangerous Ground: A Geopolitical Overview of the South China Sea," in *Security and International Politics in the South China Sea: Towards a Cooperative Management Regime*, ed. Sam Batman, (New York: Routledge 2009), 8-19.
[56] Davenport, "Joint Development in Asia: Some Valuable Lessons Learned," 145.

electorate and could fracture allegiances within the political party. Further, the media has played a powerful role in stoking nationalist sentiments in an effort to convince the public that joint development is too conciliatory and a form of capitulation of what is their territory and resources.[57] The media continues to reinforce the importance of nationalism to apply more pressure on their leaders and political parties.

Political willingness and the existence of good bilateral relations

Another obstacle to resource-sharing is the political willingness of governments. In times of political stability, states favor JDA arrangements. Ian Townsend-Gault and William Stormont argues that consent between states must be achieved otherwise it is "merely redrafting the problem and complicating it further."[58] They further argue that political will of governments are the "single most important ingredient in the successful conclusion and continuation" of any joint development arrangement.[59] Other scholars argue that political will requires clarity on the factors that define it. For instance, Hasjim Dalal argues that states are different from one another – in land size, population, and per capita income – and these differences weigh on a state's willingness to participate in cooperative arrangements.[60] It also means that with varying political systems it serves to influence a claimant state's interpretation of disputes. Chidinma Bernadine Okafor agrees that governments are sensitive to these factors and must "withstand domestic upheavals

[57] Davenport, "Joint Development in Asia: Some Valuable Lessons Learned," 145.
[58] Ian-Townsend-Gault and William Stormont, "Offshore Petroleum Joint Development Arrangements: Functional Arrangement? Compromise? Obligation?" in *The Peaceful Management of Transboundary Resources*, ed. Gerald Black, et. al. (London: Graham & Trotman, 1995), 52.
[59] *Ibid*, 51-76.
[60] Hasjim Djalal, "The South China Sea: The Long Road towards Peace and Cooperation," in *Security and International Politics in the South China Sea: Towards a Cooperative Management Regime*, ed. Sam Batmen, (New York, 2009), 175-76.

like change in government or internal strife between both states" for JDAs to succeed.[61] For example, implementation of the 1979/1990 Malaysia-Thailand JDA was delayed years due to regime change. In Thailand, the new government was unwilling to get involved in a scheme that might not be favored by future governments.[62] Ultimately, a desire to access resources outweighed the political obstacles and through years of negotiations, Malaysia and Thailand reached an agreement. As Peter Reid argues, joint development is not effective without a determined exercise of political will by the governments and political parties involved.[63]

Good bilateral relations are also a critical component for JDA success. In fact, JDAs are often pursued during periods of good bilateral relations between states. The 1979/1990 Malaysia-Thailand JDA and the 1992 Malaysia-Vietnam JDA were implemented in these times of good relations and was a major incentive for other regional states to negotiate JDAs.[64] Conversely, in times of conflict, the souring of bilateral relations dissuades states from cooperating and pursuing resource-sharing opportunities. In the context of the SCS, there is a history of confrontation and tension that extends back decades. Although this has not resulted in widespread conflict between claimants, there have been instances where violent skirmishes have occurred. Provided there is an underlying fragility to diplomatic relations in this region, the presence of hydrocarbons has only intensified ongoing disputes that could blow over if cooperation and conflict-resolution strategies are not adopted.

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[61] Chidinma Bernadine Okafor, "Joint Development: An Alternative Legal Approach to Oil and Gas Exploitation in the Nigeria-Cameroon Maritime Boundary Dispute?" *International Journal of Marine and Coastal Law*, 21:4 (2006) 489-95.
[62] Okafor, 489-95.
[63] Peter C. Reid, "Petroleum Development in Areas of International Seabed Boundary Disputes: Means for Resolution," *Oil & Gas Law and Taxation Review*, (1985): 221.
[64] Davenport, "Joint Development in Asia: Some Valuable Lessons Learned,"140.

China's coercive diplomacy and assertive behavior

Patrick Cronin contends "China is pursuing a policy of tailored coercion in the East and South China Seas that is destabilizing the Asia-Pacific region and spurring maritime competition."[65] Although other claimant states also seek to advance their maritime and territorial claims, China's behavior is uniquely escalatory and revisionist. Further, Cronin points out that China "is refining coercive diplomatic instruments of power to assert its maritime reach and alter the administrative status quo in the Western Pacific. This behavior is being executed through a series of policy pronouncements, domestic laws and maritime operations in and around its near seas."[66] Such assertive attitudes has been influenced by Chinese 'triumphalism' in the wake of the 2008 Olympics and the global financial crisis, growing Chinese nationalism, enhanced Chinese military and maritime capabilities, bureaucratic politics and competition, dependence on energy imports and external responses to internal sources of instability.[67]

Collectively, these factors have helped formulate China's coercive diplomacy as a means to addressing the SCS disputes and projecting power in the region. In fact, China is seeking to revise the situation in Asia through a variety of means designed to exert maximum influence without crossing the military threshold. Those means include proclaiming ownership over the SCS in contravention of UNCLOS; announcing fishing regulations that could justify Chinese action against other claimants; undertaking frequent military and civilian law enforcement patrols in and around the Senkaku Islands (Diaoyu Islands in Chinese); pressuring a Philippine withdrawal from Scarborough Reef in the

[65] Patrick M. Cronin et al., "Tailored Coercion: Competition and Risk in Maritime Asia," *Center for New American Security* (March 2011): 5-6.
[66] *Ibid*, 6.
[67] Cronin et al.,6.

SCS and then achieving *de facto* control over the reef.[68] All things considered, the concept of joint development seems above all else, a distant reality in the presence of China's assertiveness and maritime strategy set on controlling the SCS.

Implications of U.S. intervention

The U.S. fleet has adopted a maritime strategy focused on protecting global seaborne trade. In the 2007 maritime strategy titled, *A cooperated Strategy for 21st Century Seapower* (CS-21), the U.S. Navy, Marine Corps and Coast Guard vowed to "join with other like-minded nations to protect and sustain the global, interconnected system through which [we] prosper."[69] However, such a strategy faces fierce opposition from China, where political, economic and military power continues to grow. The Chinese are highly sensitive to U.S. intervention and view this as a means of containing its rightful aspirations. China views the SCS as their domain with indisputable sovereign rights to all its geographical features. The critical nature of the SCS to Chinese national security interests was reinforced by Wu Shengli, commander of the People's Liberation Army Navy. Shengli retorted "how would you feel if I cut off your arms and legs? That's how China feels about the South China Sea."[70] As a result, any discussion of intervention has been avoided by successive U.S. presidents because of the potential ramifications, especially to its growing economic relationship with China. Although it is in the U.S. national interests to protect the sovereign interests of its regional allies, the United States is reluctant to get involved in these territorial disputes. Rather, the United States has

[68] Cronin et al., 6-7.
[69] James R. Holmes, "Rough Waters for Coalition Building," in *Cooperation from Strength: The United States, China and the South China Sea*, ed. Patrick M. Cronin (Washington, D.C.: Center for New American Security, 2012), 102.
[70] June T Dreyer, "The Growing Chinese Naval Capacity," *Topics*, 41:7 (2011), http://www.amcham.com.tw/content/view/3332/.

enhanced other regional militaries, including Indonesia, the Philippines and Vietnam. To date, this has been successful, but it has also raised concerns in China who see this as an indirect threat to its desires to control the seabed resources. [71]Nonetheless, there are significant constraints to intervention and Washington has put an emphasis on utilizing diplomatic channels to work towards resolving regional disputes.

However, President Obama's recent visit to Japan provided a dramatic shift in its stance over maritime disputes. Although President Obama reiterated Washington's refusal to take sides in the sovereignty dispute and called on China and Japan to resolve their differences through dialogue, he reinforced U.S. commitment to Japan's national security. President Obama stated "our commitment to Japan's security is absolute and article five [of the security treaty] covers all territories under Japan's administration, including the Senkaku islands," Further, he stated that the United States does not have a position on the sovereignty of the Senkaku Islands, but agreed that historically these islands have been administered by Japan and as a result, should remain under their control.[72] This statement signified a shift in the administration's stance on territorial disputes and might be viewed by the Chinese as a form of political provocation.

IS JOINT DEVELOPMENT A VIABLE OPTION FOR THE SOUTH CHINA SEA?

As Clive Schofield points out that joint development is not a "solution to a jurisdictional problem and should not be seen as a panacea to all problems associated with overlapping maritime claims."[73] JDAs were not designed to resolve longstanding

[71] Holmes, 112.
[72] Justin Curry, "Obama says US will defend Japan in island dispute with China," *The Guardian*, April 24, 2014, http://www.theguardian.com/world/2014/apr/24/obama-in-japan-backs-status-quo-in-island-dispute-with-china
[73] Clive Schofield, "No Panacea: Challenges in the Applications of Provisional Arrangements of a Practical Nature" (paper presented at the 35th Center for Ocean Law and Policy Conference, Bali Indonesia, June 22-24, 2011)

disputes, but are more of an interim mechanism to diffuse tensions in order to rebuild trust and strengthen relations through the joint development of resources. This concept embodies international principles of conflict resolution and cooperation; however, it is not mandatory under international maritime law so its success hinges upon a state's willingness to cooperate and enter into a JDA arrangement. In fact, JDAs have been successful between IOCs and NOCs in the form of joint ventures and claimant states in Africa, South America, Europe and Asia. However, the SCS presents a wide-array of legal, economic and political obstacles that complicate any future JDA prospects.

The most glaring obstacle to JDA implementation is the current political climate. During times of peace and stability, JDAs have been successfully implemented in East Asia, the Gulf of Thailand, and East Timor. In these arrangements, claimants shelved disputes to proceed with resource-sharing negotiations. In most cases, negotiations faced obstacles, but the willingness of leadership and their governments to resolve disagreements proved to be the driving factor for success. In addition, good bilateral relations and positive public opinion of joint development helped policymakers on both sides adopt this JDA without fear of domestic upheaval.

The bigger question is if the JDA concept is applicable to the SCS. To further understand the region's political climate, the thesis explores the 2008 Japan-China Principal Consensus (2008 Principled Consensus) in the neighboring ECS and analyzes what factors played a critical role in this JDA's ratification. Further, tensions similarly escalated in the ECS due to ongoing disputes over the Senkaku-Daioyu Islands. As a result, bilateral relations have deteriorated and have inflamed nationalistic sentiments. Throughout negotiations of the 2008 Japan-China Principled Consensus, leadership

adopted assertive attitudes in part from domestic pressures. This case study provides a timely comparative analysis to SCS and offers a similar geopolitical situation. Finally, the ECS also contains significant offshore oil and gas resources. Preliminary estimates are comparable to the SCS and could provide China and Japan with ample supply in the coming decades that are in close proximity to their refineries and domestic markets.[74]

CASE STUDY: 2008 JAPAN-CHINA PRINCIPLED CONSENSUS IN THE EAST CHINA SEA

This thesis attempts to explore how the political factors influenced the outcome of this JDA. By examining the 2008 Principled Consensus, the thesis illustrates how political factors, ranging from nationalism to political will of leadership have complicated both the negotiation and ratification process. It is important to note that there were various legal and economic issues that served as obstacles to the 2008 Principled Consensus. On the legal side, the intractability of sovereignty and maritime delimitation issues persisted throughout negotiations and were a point of contention. As for the economic issues, the discovery of natural gas ignited tensions, but also raised disagreements over the equitable split of the giant Chunxiao gas field. Alone, these legal and economic obstacles inhibited negotiations process; however, the current political climate proved to be the most influential factor in determining the final outcome of the 2008 Principled Consensus. In fact, the combination of political factors almost upended negotiations and eventual ratification. Although it is argued that political will of Sino-Japanese leadership proved to be the most critical component to pave the way for the 2008 Principled Consensus ratification, other political factors, including public opinion,

[74] EIA estimates that the ECS has between 1 and 2 trillion cubic feet (tcf) in proven and probable natural gas reserves and between 60 and 100 million barrels of oil (mmbbl). In the SCS, USGS estimated the total of discovered reserves and undiscovered resources at 28 billion bbl. For natural gas, Husky Energy with CNOOC estimated proven natural gas reserves of nearly 4 to 6 tcf in the Spratly Islands alone.

resource competition, nationalism, and diplomatic relations also played a critical role in the process.

A historical perspective of the 2008 Principled Consensus

There were three reasons why China and Japan initially decided to negotiate a JDA arrangement in the ECS. First, the Chinese had carried out unilateral exploration operations of Chunxiao (Shirabaka in Japanese) oil and gas fields. According to the Japanese, exploration and production operations were located close to the median line claimed by Japan. Although the Chunxiao gas field was on the Chinese side of the boundary, Japan insisted that some of gas was located on their side of demarcation line and feared the Chinese were stealing their natural gas.[75] Second, an increase of Chinese naval patrols in disputed areas raised concerns with Japanese leadership and its electorate that China was becoming more assertive over its claims in the area. Third, relations improved between states following the resignation Junichiro Koizumi, a self-proclaimed nationalist.[76] Thus, in 2004, Japan and China began negotiations to jointly develop seabed oil and gas in this disputed area. Both claimant states agreed to set aside a disputed offshore block and designate a JDZ for future exploration and production. The area agreed upon had previously been part of the China-Japan 1997 Fisheries Agreement.[77]

After years of negotiations, China and Japan reached a "Principled Consensus on the East China Sea Issue," which included provisions for the joint development of offshore oil and gas. Although this was considered a landmark agreement, Guo Rongxing

[75] Gao Jianjun, "A Note on the 2008 Cooperation Consensus between China and Japan in the East China Sea," *Ocean Development & International Law*, 40:3 (2009):294.
[76] Alexander M. Peterson, "Sino-Japanese Cooperation in the East China Sea: A Lasting Arrangement?" *Cornell International Law Journal*, 42 (2009): 460.
[77] Jianjun, 291-303.

argued that it did not resolve the wider conflict over territorial disputes. Rongxing stated, "international conflict is due to a perpetually self-reinforcing dynamic: one side responds to the other's last provaction with a new provocation of its own."[78] In this case, provocations were exacerbated by tactical asymmetry and nationalist politics where China and Japan continued to unilaterally exploit the hydrocarbon deposits and adopt uncompromising attitudes during territorial-dispute negotiations. Consequently, the 2008 Principled Consensus did not strengthen Sino-Japanese relations as the signing precipitated confrontational rhetoric and assertive attitudes on both sides. In fact, China and Japan presented conflicting interpretations over provisions in the 2008 Principled Consensus, citing an unwillingness to renegotiate to overcome these differences. Specifically, the Chunxiao field was at the center of the debate. China viewed the Chunxiao gas fields within its sovereignty and argued it should not be included with the JDA. On the other hand, Japan regarded the Chunxiao field a critical part of the 2008 Principled Consensus.[79] Moreover as the political climate deteriorated with territorial disputes in the neighboring Senkaku-Daioyu Islands, both states sought to ramp up efforts to strengthen nationalist sentiments as a means of provocation. Nonetheless, the Senkaku-Daioyu island disputes did complicate efforts to implement the JDA in the ECS as it led to more intense and frequent demonstrations and protests in China and Japan.

The public viewed the territorial disputes with a similar zero-sum perspective. The idea of surrendering sovereignty over resources was unacceptable as the JDA concept was seen as too conciliatory. As a result, demonstrations and protests put considerable pressure on both central governments during the JDA negotiations.

[78] Guo Rongxing, "Territorial Disputes and Seabed Petroleum Exploitation: Some Options for the East China Sea," *The Brookings Institution Center for Northeast Asian Policy Studies* (September 2010): 13.
[79] Jianjun, 294-95.

Sensitivities over sovereignty were reinforced by Chinese and Japanese media as a tool to intensify negative sentiments of JDA arrangements.[80] Inevitably, the success of any JDA requires political willingness of parties and governments that must "withstand domestic upheavals such as change in government or internal strife between both states."[81] In this instance, China and Japan were willing to negotiate and reach an agreement in 2008; however, the absence of sustained political will allowed the agreement stall out as it failed to reach the end goal. In fact, relations further soured as they willingly used public dissent against one another as a tool of provocation and to boost national approval ratings.[82]

Negative public opinion and the rise of nationalism

There has been a long history of tensions and disputes between China and Japan that is cross-generational and influences public perception. Although nationalist sentiments can lie dormant, these maritime disputes have ignited flag-waving protests and demonstrations due to long-standing fears and mistrust between these regional powers. On one hand, the Japanese viewed Chinese efforts to exploit resources in the ECS as part of a strategy called "creeping expansionism" where China seeks to exert its influence and power past Japan into the Pacific Ocean.[83] Such fears were reinforced by the expansion of Chinese maritime power through its efforts to build-up naval capabilities. This sparked protests in Japan, who feared that creeping expansionism posed a serious threat to their national security. Conversely, China viewed Japan's activist posture over the region's maritime domain and involvement in jurisdiction disputes as a dominant threat to its

[80] Jianjun, 295.
[81] Okafor, 489, 510.
[82] Kent E. Calder, "China and Japan's Simmering Rivalry," *Foreign Affairs* (March-April 2006): 77-88.
[83] Shigeo Hiramatsu, "China's Naval Advance: Objectives and Capabilities," *Japan Review of International Affairs*, 8:2 (Spring 1994):118-32.

national security. If anything, public perception illustrates how deep-seeded mistrust and fear persists despite the ratification of the 2008 Principled Consensus. And it is a natural tendency for these governments to make decisions under the influence of prevailing grievances. Unfortunately, these grievances threaten to jeopardize the JDA process where ongoing territorial disputes are inextricably linked to the control over seabed resources.[84]

Historically, protests and demonstrations have fueled nationalism in China and Japan and influenced policymakers. Since the mid-1990s, both states antagonized each other by sending naval, coast guard and seismic surveying vessels into disputed waters as a means of intimidation. Prior to the 2008 Principled Consensus, there were multiple attempts by activists in Taiwan and Hong Kong to occupy the Senkaku-Daioyu Islands in response to then Japanese Prime Minister Koizumi's visit to the controversial Yakusuni Shrine. In response, the Japanese arrested Taiwanese fisherman and sent Japanese coast guard vessels to the disputed islands.[85] Back in China, Honda, Nissan and Toyota reported massive drop-offs in automotive sales due to a boycott of Japanese imports and wide-spread protests where rioters even smashed Japanese cars and torched dealerships across the country.[86] These events were a result of hardened nationalist sentiments and a tit-for-tat posture that led to open-seas confrontation over disputed geographical features. James Manicom argued that the reason for delaying the 2008 Principled Consensus ratification was due to domestic reactions in China.[87] Although protests were controlled by Chinese authorities, nationalists within the government influenced the terms of the

[84] Mark Valencia, "The East China Sea Dispute: Context, Claims, Issues, and Possible Solutions," *Asian Perspective*, 31:1 (2007): 128-131.
[85] *Ibid*, 131.
[86] "Honda to Nissan Extend China Sales Plunge on Islands Dispute," *Bloomberg News*, November 2, 2012, http://www.businessweek.com/news/2012-11-12/honda-china-sales-plunge-54-percent-in-october-on-territorial-dispute
[87] James Manicom, "Growing Nationalism and Maritime Jurisdiction in the East China Sea," in China Brief, *The Jamestown Foundation,* 10:21 (October 22, 2010): 9-12.

agreement, particularly the first clause under which China agreed to a JDZ that straddled Japan's median line. In Japan, protests and demonstrations were aimed at applying pressure on their government to adopt a more assertive policy towards these maritime disputes. As a result, a growing anti-Chinese sentiment in Japan took hold following the signing of the 2008 Principled Consensus as the electorate criticized the Han administration for its handling of the disputes.[88] Sovereignty and jurisdictional disputes have always carried a level of political sensitivity; however with seabed oil and gas deposits added to the mix, such sensitivities were elevated due to energy scarcity fears and concerns over sovereign rights to these resources. It also invigorated the media to pressure governments to be confrontational in the ECS disputes.[89] In the past, disputes created small crises in the Sino-Japanese relationship that were tempered by strong leadership and political willingness to diffuse tensions. [90] Today, this is markedly different as leaders are more susceptible to domestic fallout for adopting a conciliatory approach as negative approval ratings could forcibly oust leaders and their ruling party.

Regarding ECS disputes, nationalism intensified following the breakdown of negotiations over claims to the Chunxiao gas fields. Without consensus over how the Chunxiao gas fields could be jointly managed, nationalist sentiment intensified over fears that any agreement to cooperate or share resources would mean conceding sovereignty. For instance, in China, the 2008 Principled Consensus was criticized by the public on the grounds that China was compromising too much by allowing Japan to develop the

[88] Manicom, 10.
[89] Gong Yingchun, "The Development and Current Status of Maritime Disputes in the East China Sea," in *Maritime Energy Resources in Asia: Legal Regimes and Cooperation*, ed. Clive Schofield (Seattle: National Bureau of Asian Research, 2011), 112.
[90] James Manicom, "Sino-Japanese Cooperation in the East China Sea: Limitations and Prospects," *Contemporary Southeast Asia: A Journal of International and Strategic Affairs* 30:3 (December 2008): 455-478.

Chunxiao gas field. Whereas in Japan, people were angered that Japanese companies involved in the development of the Chunxiao field had to abide Chinese law and be labeled as "foreign enterprises" in offshore operations.[91] This influenced how both delegations interpreted the 2008 Principled Consensus, especially as public opinion on joint development grew more negative. As Mark Valencia states, "the key problem lies not so much with governments but with nationalist political constituencies in each state and the pressures that they can bring to bear..."[92] To date, leadership on both sides have not been able to temper nationalism, which does not bode well for the long-term outlook for this JDA.

The political will of leadership and political parties

The political will of parties and leadership play a critical role in deciding the fate of the JDA process. In this case, the political will of parties and leadership have been inconsistent often having reservations during negotiations for fear of public backlash and disapproval among party hardliners. Another reason for inconsistency is the change of leadership that negatively impacted the negotiations of the 2008 Principled Consensus. As seen in other JDA arrangements, like the 1979/1990 Malaysia-Thailand JDA, the resilience of new regime even in the face of domestic political changes, proved to be vital to the success of this arrangement. As David Ong argues, both states circumvented differences in legal interpretation of petroleum resource development and minimized domestic political influence to continue negotiations. It also showed that political willingness from both sides was driven by the desire to derive the benefits rather than

[91] "China, Japan Reach Principled Consensus on East China Sea Issue," *Xinhua* , June 18, 2008, http://news.xinhuanet.com/english/2008-06/18/content_8394206.htm
[92] Valencia, 163.

engage in a wasteful diplomatic stalemate.[93] In contrast, the 2008 Principled Consensus was only possible because of the change in Japanese leadership following the resignation of Prime Minister Junichiro Koizumi. It was then that the Chinese were willing to renegotiate the terms to reach an agreement. The fragility of political willingness is highlighted by the change of leadership where the election of a nationalistic leader in one country can force their counterpart to become equally assertive to counter a perceived threat to its national security.[94] That said, there is a distinct difference in Malaysian-Thai and Sino-Japanese leadership. Most obvious is there are layers of mistrust, animosity and historical grievances attached to the already fragile and fractured Sino-Japanese relationship. Although not visible, these grievances are omnipresent and can resurface with ferocity when maritime disputes, such as the Senkaku-Daioyu islands, emerge.

Strong leadership is integral for resolving disputes and developing real resource-sharing opportunities, but China and Japan were strongly influenced by domestic pressures and this has a lasting impact on the integrity of the JDA and agreed upon provisions. Sino-Japanese leadership was able to reach an agreement on the 2008 Principled Consensus even in the presence of strong public opposition. To reach ratification, eleven rounds of director-general level discussions and ministerial and executive level meetings were required. Then Chinese Prime Minister Hu Jintao and Japanese Prime Minister Fakuda Tasuo pledged that this agreement would make the ECS a "sea of peace, cooperation, and friendship."[95] At first glance, the political will of leadership seemed responsible for reaching this agreement; however, there was little

[93] Ong, 235.
[94] Erik Beukel, "Popular Nationalism in China and the Sino-Japanese Relationship: The Conflict in the East China Sea and Introductory Study," *Danish Institute for International Studies* (2011): 5-6.
[95] Reiji Yoshida, "Fukuda, Hu Put Focus on Future," *Japan Times*, May 8, 2008, http://www.japantimes.co.jp/text/nn20080508a1.html

substance to the agreement, especially when examining the provisions for the JDZ. In fact, vague wording on the principles of joint development and a lack of commitment by both sides left Japan with a non-binding legally agreement with China. Further, no official signatures of the participating officials were required and the treaty does not even have a title as most do. The outpouring of media coverage made the 2008 Principled Consensus seem like a landmark event; however, such a provisional agreement remained dependent on sustained political will of leaders to ensure joint development could be realized.[96] Unfortunately, there was a strong difference of interpretation and little recourse by either side to reconcile differences. Shortly after ratifying the 2008 Principled Consensus, China and Japan carried out unilateral activities in the disputed ECS.[97] This not only escalated tensions, but it signified a lack of political will to renew negotiations and a failure to be more cooperative. There was a lot of finger pointing on both sides over who was responsible for a breakdown in the 2008 Principled Consensus and this has led to a diplomatic stalemate that now has put the JDA in jeopardy of failing to achieve its end goal.

Sino-Japanese leadership became more assertive in negotiations partly because of the sensitivities over the control of seabed natural gas. China was reluctant to accept the JDZ location which straddled a median line and was a point of contention with the public that viewed this as too conciliatory to Japanese interests. The development of Chunxiao gas fields created new friction on both sides as there was no agreement on what percentage of the profits Japanese entities were entitled to. To date, no Japanese entity

[96] Yuki Tatsumi, "East China Sea Disputes – A Japanese Perspective," in *Maritime Security in East Asia: Boundary Disputes, Resources, and the Future of Regional Stability*, ed. Richard Cronin and Zachary Dubel, (Washington DC: The Stimson Center, 2012), 3-16.
[97] *Ibid*, 7-8.

has stepped forward and expressed any interest in participating in the venture because of the risks and sensitivities of involvement.[98] The reality is that neither Chinese nor Japanese leadership can reach a consensus on an equitable spit of revenues and resources. Instead, an assertive response only reinforces the struggle of national interests and efforts to control these natural resources.[99] As Céline Pajon discusses, adhering to these attitudes will escalate tensions, radicalize leadership, and create more regional instability, where Japan will become more defensive towards Chinese encroachment and in turn, might influence future Japanese leaders to become more conservative and nationalistic.[100]

The importance of good bilateral relations

In the presence of good bilateral relations, the JDA concept is a viable resource-sharing option for claimant states. This paper examined examples where good relations among claimants paved the way for JDA implementation in disputed areas. However, in the presence of ongoing tensions, JDAs are shelved as national security interests take precedent. In the case of the 2008 Principled Consensus, China and Japan were able to negotiate and reach an agreement after years of high level talks and improved relations. But, this was not a seamless process and if anything, illustrates how delicate Sino-Japanese relations were even prior to negotiations. The fragility of relations weighs on China's resentment and opposition towards Japan, both important elements to Chinese identity.[101] For Japan, the policy shift away from restraint towards assertiveness was precipitated by fears of China's political, military and economic rise throughout the

[98] James Manicom, "Sino-Japanese Cooperation in the East China Sea: Limitations and Prospects," 461.
[99] Céline Pajon, "Crossing the Line - A New Status Quo in the East China Sea?" *Institute Français des Relations Internationales* (2012): 1-4.
[100] *Ibid*, 2.
[101] Beukel, 9.

region and growing fears of vulnerability especially as the United States has promised not to intervene.[102]

In the events leading up to the 2008 Principled Consensus, bilateral relations deteriorated under the Japanese leadership of Prime Minister Junichiro Koizumi. It was after his resignation that China reopened negotiations with the Abe administration who voiced a commitment to repair their damaged relationship. This paved the way for the 2008 Principled Consensus, but it did not improve their fragile relationship. In fact, it highlighted the current positions of each state and left the door open to future disagreement in the event of a regime change.[103] Consequently, improvements to bilateral relations were soon displaced by zero-sum ideologies where Japan and China carried out unilateral exploration and production and even threatened to engage one another in disputed waters. These actions sent mixed signals about the level of commitment to the JDA concept and reinforced mistrust over the real intent between claimants over maritime disputes. More damaging was Japan's decision to purchase a number of the Senkaku-Daioyu islands from a private owner. Although there is debate over why Japan purchased these features, it created new frictions between these states. Céline Pajon argues that this might become the new *status quo* in the ECS where a radicalization of public opinion will drive politicians on both sides to be more assertive and adopt excesses of patriotism to diver the public's attention for other issues and direct it towards each other.[104] This political environment is clearly not conducive to rebuilding relations and will continue to inhibit JDA ratification. Moreover, the added domestic pressures put political parties and leadership in a bind and could force them to adopt an

[102] Tatsumi, 16.
[103] James Manicom, "Sino-Japanese Cooperation in the East China Sea: Limitations and Prospects," 471.
[104] Pajon, 1-2.

uncompromising attitude on issues relating to national sovereignty. A growing challenge is if China and Japan can ease bilateral tensions without losing face, not only with its neighbor, but among their own electorate and political parties.

In the end, Sino-Japanese relations will remain tense and will force policymakers on both sides to be more realistic about the outlook of managing issues of delimitation, sovereignty, and resource-sharing. Given these issues are politically sensitive and carry national importance, there are doubts if a JDA is achievable in the ECS where decision-making is beholden to protecting national security interests. That said, China and Japan did successfully negotiate and ratify the 2008 Principled Consensus. In a hostile political climate, policymakers overcame adversity to reach an agreement. Inevitably, for this JDA to succeed Sino-Japanese leadership must adopt a more amicable and cooperative approach over disputes even in the presence of public opposition and seabed oil and gas resources.

CONCLUSION

Economic growth and demand for energy are the critical factors behind import-dependent Asia-Pacific states to search for new sources of oil and gas, both at home and abroad. The maritime domain, once considered too expensive and remote for the extraction of seabed oil and gas, now represents one of the hottest areas of growth. The SCS with its significant offshore reserves has come to symbolize a much-needed short-term solution for the energy-starved region. However, the SCS is a highly-contested region where six states have claimed sovereignty and jurisdictional rights over its geographical features. Disputes are intensifying due to the discovery of hydrocarbons and

this means a strategy to curb tensions, rebuild cooperation, and promote resource-sharing should be explored to rebalance and strengthen regional stability.

One strategy is the JDA, which is a provisional instrument designed to help claimants shelve intractable disputes in order to jointly development offshore resources. The JDA concept is an interim solution to long-standing maritime disputes and has been successfully implemented around the world in an effort to improve cooperation and enhance resource-sharing opportunities. Whether the JDA instrument is applicable in the SCS depends upon if certain legal, economic, and political obstacles can be overcome to open up channels for negotiation. Legal and economic obstacles, such as JDZ designation, sovereignty claims, preexisting rights, equitable revenue and resource-sharing, and management of operations all present significant issues, but they do not compare to the current political climate and its impact over JDA implementation.

Collectively, these political obstacles are a real threat to JDA implementation and will put pressure on the concept's effectiveness in a region where national interests and resource scarcity fears still reign supreme. In the case study, the thesis highlights how nationalism, resource competition, public perception, political will of leadership, and poor bilateral relations all played roles in the 2008 Principled Consensus. China and Japan were able to work towards establishing a JDA in the ECS and symbolized the first step towards building positive dialogue between two states with a long history of mistrust and animosity. However, erasing historical grievances and layers of mistrust is impossible and only reinforces that in a hostile political climate, JDA implementation can be difficult to accomplish. The rise of nationalism among hardliner politicians and public protest also influenced the JDA's success. As nationalism intensified and protests became

more frequent, policymakers became more attentive to domestic politics in their approach to maritime disputes. In particular, Sino-Japanese leadership reacted favorably to domestic pressures and adopted more assertive attitudes during negotiations. This aggressive stance also led to confrontations on the open seas where numerous clashes, including boat ramming, the arrest of fisherman, and disruption of oil and gas exploration and exploitation operations. Without question, an assertive strategy negatively impacts bilateral relations and fuels nationalism among the populous and policymakers. Leaders on both sides were pressured to satisfy JDA negotiations and appease their constituents and political parties at home. Unfortunately, the 2008 Principled Consensus has not led to the joint exploitation of seabed oil and gas and until relations normalize, joint production is unlikely to occur.

There is direct correlation to the deteriorating political climate in the ECS and SCS with the exception of the number of claimant states involved in maritime disputes. With the addition of claimants, it does raise concerns over how effective JDAs could be in a region where there have not been any agreements on disputed areas or a willingness to shelve disputes. Since territorial disputes are more dangerous than other types of conflicts, the risk of escalation might occur if claimants continue to push to secure seabed resources.[105] In fact, small confrontations have occurred between China, Vietnam, the Philippines and Indonesia, which all have substantial offshore operations in the region. Such confrontations are fueled by resource competition, but fortunately have not resulted in wider conflict. Despite the current political climate, claimant states have voiced their

[105] Llewelyn Hughes, "Resource Nationalism in the Asia-Pacific: Why Does It Matter?" in *Asia's Rising Energy and Resource Nationalism: Implications for the United States, China, and the Asia Pacific Region* (Seattle: National Bureau of Asian Research, 2011), 11-12.

confidence in regional solution to resolve ongoing disputes. China has strongly opposed the internationalization of the SCS disputes and has been more receptive to the creation of a regional authority to address maritime disputes and joint development opportunities. Whether this is reason to be optimistic remains to be seen especially since little traction on joint development has taken place thus far.

In the end, JDA implementation depends on the political will of parties and governments to shelve sovereignty claims to pave the way for joint development and cooperation. At this time, resource-sharing is a distant reality and although JDAs are useful mechanisms, claimants are not obligated to enter into these arrangements. Provided the SCS contains overlapping territorial and maritime jurisdictional disputes, claimants have adopted a hardened approach over their claims following the discovery of hydrocarbons. That said, the JDA concept symbolizes more than just a pathway for cooperation and resource-sharing rather it is a mechanism designed to diffuse conflict and resolve longstanding disputes. In a region with significant oil and gas reserves, the utilization of resources serves to benefit all claimant states. If claimants truly seek a regionally-based resolution to tensions in the SCS, JDAs can be an effective strategy to exploit seabed oil and gas resources as well as rebuild trust and strengthen cooperation. However, the burden of responsibility falls on the claimant states, which have yet to embrace this provisional instrument. Instead, maritime disputes persist due to resource competition, nationalism, fears of losing sovereignty, and the lack of political support for resource-sharing. In the short-term, JDA implementation is unlikely to occur without sustained political will of leaders and governments and domestic support to shelve or resolve these disputes. In order to succeed, claimant states must embrace and strengthen

cooperative efforts and rebuild confidence with the public, political parties and leadership. Also, there needs to be a reassessment about the importance of resource-sharing for this energy-starved region and its long-term benefits for all claimant states and their energy security concerns. It is critical to recognize that each claimant state can win by adopting joint development strategies opposed to further hardening their stance over this seabed oil and gas that will only escalate tensions in an already fragile and contested region.

OFFSHORE EXPANSION INTO THE LAST FRONTIER

THE SEARCH FOR AN EFFECTVE FRAMEWORK TO ADDRESS EMERGING RISKS TO OIL AND GAS DEVELOPMENT IN THE ARCTIC

INTRODUCTION

The iconic image of the Arctic as a vast, ice-covered region is rapidly changing. There is no question that the driving force behind a dramatic environmental shift is global warming and climate change. In fact, the Arctic is warming twice as fast as anywhere else on Earth and the impacts are hard to ignore. The polar ice cap is 25 percent smaller today than it was in 1978 and summer ice continues to decrease at a rate of 12 percent per decade. Further, sea thickness has also decreased by 40 percent in the past couple decades, raising concerns among climatologists that the Arctic could reach a tipping point where it might become ice-free in twenty years.[106]

The retreat of sea ice is also driving economic activity. Following the release of its 2008 report, the United States Geological Survey (USGS) estimated that the Arctic contains 13 percent of the world's remaining undiscovered oil, 30 percent of the undiscovered natural gas, and 20 percent of the undiscovered natural gas liquids (NGLs). Almost 84 percent of these hydrocarbons are located within territorial waters of littoral states.[107] The resource potential has ignited what some have coined a "gold rush" as governments and the oil and gas industry have already invested billions into offshore projects.[108] Coupled with the rapid decline of older oil and gas fields, the oil and gas industry is desperate to find new supply to replenish their reserve replacement ratios (RRR) and satisfy shareholders.[109]

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[106] William H. Chapman, "Arctic Climate Change: Recent and Projected," *Swords and Ploughshare: Global Security, Climate Change, and the Arctic XVII*, 3 (Fall 2009):8.
[107] US Geological Survey Fact Sheet 2008, "Circum-Arctic Resource Appraisal: Estimates of Undiscovered Oil and Gas North of the Arctic Circle," http://pubs.usgs.gov/fs/2008/3049/
[108] Vsevolod Gunitskiy, "On Thin Ice: Water Rights and Resource Disputes in the Arctic Ocean," *Journal of International Affairs*, 61:2 (Spring/Summer 2008): 261.
[109] Greenpeace, "Out in the Cold: Investor Risk in Shell's Arctic Exploration," *Greenpeace United Kingdom* (May 2012): 4.

Nevertheless, the Arctic has the potential to become a new frontier for future offshore development. However, the economic promise that the region holds does not come without certain risks. Beyond the fact the Arctic is a remote region with some of the harshest and most unpredictable weather conditions, global warming and climate change are rapidly altering the marine environment. Failing to respond to these risks will have consequences on this already fragile marine environment, but will also adversely impact the indigenous peoples and future prospects for offshore development. The reality is that to operate in the Arctic, the oil and gas industry will be required to invest heavily into hardened infrastructure, improved safety and spill response equipment and more extensive environmental impact studies. In response to Royal Dutch Shell's (Shell) botched drilling campaign off the Alaskan coast last summer, there are concerns that there are significant gaps in existing governance and regulatory standards. There is a call to create a new convention that is inclusive and tackles a wide-array of emerging issues, like climate change and spill response strategies. The research question in the thesis asks how offshore oil and gas development should be governed in the Arctic and what framework can effectively tackle emerging environmental, economic, and political risks associated with large-scale development.

This thesis is divided into five sections. The first section provides a theoretical overview of global energy governance and outlines the debate behind its structure and capabilities. For the second section, the thesis examines existing legal regimes that address offshore oil and gas activities and also highlights some gaps in governance and regulation. The third section looks at the economic and environmental challenges to offshore governance and regulation in the Arctic. The fourth section analyzes the political

conditions and if energy geopolitics is a real threat that could create conflict between littoral states. Finally, the thesis suggests two governance pathways for the Arctic – a hard law or soft law instrument. The first governance option explores the legally binding treaty, Antarctic Treaty System (ATS) and the second option analyzes the Arctic Council (AC), an intergovernmental forum comprised of Arctic states, indigenous organizations, and non-member states. Separately, these options might provide a pathway to address emerging risks to offshore activities.

ENERGY GOVERNANCE – ADDRESSING AND MANAGING COMPLEX ENERGY ISSUES

By definition, global energy governance is an institutional structure that facilitates the provision of global energy security in the absence of a global authority. However, this definition, fails to capture the complexities and interpretations of what role governance should play in an evolving energy world. Some scholars argue global energy governance has become too complex due to the presence of so many actors and interest groups as well as the emergence of complex energy issues.[110] The combination of these factors make consensus on energy issues, like climate change or energy investment, difficult to achieve at the international level. In addition, socio-political shifts within the energy sector influence and mold new structures, like the transition from state-centric governance structures to multilayered and non-hierarchal structures.

Further, the global energy governance is designed to address complex energy issues that individual states might otherwise might not have the capacity to manage or resolve. This could include geopolitical, environmental or economic issues where international organizations like the International Energy Agency (IEA), the Energy Trade

[110] Benjamin K. Sovacool, et al., "Examining the Complications of Global Energy Governance," *Journal of Energy & Natural Resources Law*, 30: 3(2012): 237-55.

Charter (ETC), the International Energy Forum (IEF), and the World Trade Organization (WTO), provide guidance and the capacity to address these issues. However, Ann Florini suggests that international organizations are often subdivided and might have limited abilities to address energy policy or technology transfer crosses national domains. In other words, limitations within the international structure do adversely impact the overall effectiveness and resoluteness of an institution or a convention.[111]

Beyond deficiency issues, member states can lack coordination in tackling energy issues. In some instances, governments are unprepared to negotiate because they often lack a coherent strategy of how to address issues, like cross-border energy investments, energy inequality, and the mitigation of supply shock impacts. Andreas Goldthau argues that the global energy system "barely has clearly defined processes, rules for regulation, and interference."[112] Other experts view shortcomings differently, adding there is a misunderstanding of how energy governance is meant to function. On one side, states might perceive 'effective' global energy governance simply by the benefits received by providing their support while others might prefer regional or multilateral forums to address energy issues because they feel international regimes are exclusive or even ineffective. Thus, there is a lack of clarity as to what global energy governance ought to provide its member states. As the uses and types of energy evolve with demand, there is an urgency to engage in robust dialogue about the nature, scope and challenges of global energy governance. This could alleviate misconceptions by providing direction and definition of what global energy governance should mean to member states.

[111] Ann Florini and Benjamin K. Sovacool, "Bridging the Gaps in Global Energy Governance," *Global Governance*, 17 (2011): 57.
[112] Andreas Goldthau and Benjamin K. Sovacool, "The Uniqueness of the Energy Security, Justice, and Governance Problem," *Energy Policy*, 41 (2012): 232-240.

Reform of global energy governance is not a new phenomenon. But debate over where reforms are needed does remain contentious. Gilles Carbonnier argues that greater assistance from international organizations, transnational extractive industries, and nongovernmental organizations (NGOs) is required to help developing countries combat the resource curse.[113] Carbonnier also contends that existing institutional architecture in the IEA, ECT, IEF, and WTO, is not designed to resolve peak oil, climate change, and resource curse. This is a result of the lack of coordinated action at the international level that reflects a widening gap between "geological temporality and realities and short-term time horizon presiding over politics and economic policymaking."[114]

Conversely, Oran Young views the increase of competing interests for resources as the more significant challenge to global energy governance. Young argues the ability for states to harmonize and implement provisions with consistency is one of the more difficult tasks within any global governance framework. Even more so, governance structures tend to be cost-intensive, time consuming, and expose externalities that further delay negotiation and ratification. These obstacles inhibit the development of cooperative arrangements and reinforce negative sentiment about the efficiency and practicality of these governing bodies.[115] In particular, Young states that the exploitation of oil and gas perpetuates the complexities of governance at regional and state levels because it introduces a system of high politics where economics and politics of global energy markets are introduced that tend dominant negotiation.[116]

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[113] Gilles Carbonnier, "Introduction: The Global and Local Governance of Extractive Resources," *Global Governance*, 17 (2011): 137-8.
[114] *Ibid*, 144-45.
[115] Paul A. Berkman, et al., "Governance and Environmental Change in the Arctic Ocean," *American Association for the Advancement of Science*, 234 (April 2009): 339-40.
[116] Oran Young, "Arctic Politics in an Era of Global Change," *Brown Journal of World Affairs*, 19: 1(2012): 165-77.

Equally important to global energy governance is the formation of regimes and how they are structured. Regimes are commonly defined as "sets of implicit or explicit principles, norms, rules, and decision-making procedures around which actors' expectations converge in a given area of international relations."[117] International treaties have also grown exponentially, which in turn creates an overcrowding of regimes that often overlap and address the same issues. When addressing and resolving "issues," Robert Keohane argues that this should be "dealt with in common negotiations and by the same, or closely coordinated, bureaucracies."[118] However, at the international level, regimes focus on specific subject matter, narrower in scope than an issue. For instance, the energy regime complex is organized by sectors – oil, gas, coal, and renewables. Moreover, Daniel Drezner argues that regime complexes create ambiguity that often leads to strengthening the power asymmetries to favor powerful players.[119] Other scholars contend the traditional definition of power is changing global governance with the emergence of non-state actors. The inundation of actors and their interests in the global governance system makes it difficult to manage transnational problems, like climate change, pollution, and energy investment. It also raises concerns about the validity of global governance when regional and multilateral regimes can effectively resolve similar issues without international intervention.[120]

[117] Amandine Orsini, et al., "Regime Complexes: A Buzz, a Boom, or a Boost for Global Governance," *Global Governance*, 19(2013): 29.
[118] Robert O. Keohane, *After Hegemony: Cooperation and Discord in the World Political Economy* (Princeton: Princeton University Press, 1984), 61.
[119] Daniel W. Drezner, "The Power and Peril of International Regime Complexity," *Perspectives on Politics*, 7 (2009): 65-70.
[120] Orsini, 35.

EXISTING MARITIME CONVENTIONS: ARE THEY EFFECTIVE AGENTS TO MANAGE AND ENFORCE OFFSHORE DEVELOPMENT?

The Arctic depends on legal regimes to protect marine ecosystems, regulate offshore oil and gas activities, and minimize offshore pollution. Some experts argue the current regimes – the Convention for the Protection of the Marine Environment (OSPAR), and the United Nations Convention on the Law of the Sea (UNCLOS) and the International Convention for the Prevention of Pollution from Ships (MARPOL 73/74) – are sufficient mechanisms to regulate and manage offshore development. Other experts disagree, stating that not only are there gaps in governance and regulation within these regimes, but there is no global regulatory or governance body to monitor offshore hydrocarbon activities.[121]

OSPAR's uneven capacity to protect and govern marine environments

An important regime to "prevent and eliminate marine pollution and achieve sustainable management of the maritime area" is the OSPAR convention.[122] This convention has its own commission and full-time Secretariat that can adopt binding decisions and recommendations for prevention and elimination of pollution.[123] Some experts argue that OSPAR is a model for a new Arctic regime, but Lousie Fayette argues that OSPAR fails to embrace an integrated ecosystems-approach.[124] Through this approach, all economic activity is monitored and regulated under one umbrella and in parts of the world has been an effective strategy to improve overall marine management and protect surrounding ecosystems. However, an integrated ecosystems-approach has

[121] Timo Koivurova and Erik J. Molenaar, "International Governance and Regulation of the Marine Arctic," Worldwide Wildlife Fund (December 2009), 31-33.
[122] Convention for the Protection of the Marine Environment of the North-East Atlantic, pmbl., Sept. 22, 1992, 32 I.L.M. 1072.
[123] Convention for the Protection of the Marine Environment of the North-East Atlantic, arts. 10(2) – (3).
[124] Louise Angelique de la Fayette, "Oceans Governance in the Arctic" *The International Journal of Marine and Coastal Law*, 23 (2008): 558.

yet been fully implemented in the Arctic. More concerning, the World Wildlife Fund (WWF) reported that the United States, Russia, and Canada have not ratified OSPAR and without their support, OSPAR's effectiveness to prevent marine pollution, enforce ecosystem protection, and control offshore operations remains quite limited.

Outer continental shelves disputes and delay of US ratification of UNCLOS

With over 157 signatories, UNCLOS is one of the most important international regimes "where division of ocean space, sovereign rights over ocean resources, protection of the marine environment, and the conduct of activities in and under the world's oceans" are governed.[125] In the case of the Arctic, most offshore oil and gas is located within national exclusive economic zones (EEZs), leaving most legal disputes in the outer continental shelves (OCS). Peter Ripley argues that beyond 200 nautical miles the situation has become complicated as UNCLOS allows Arctic states to submit claims of the natural prolongation of their OCS. Approval ultimately falls on the Commission on the Limits of the Continental Shelf (CLCS), which has only provided recommendations not final approval.[126] Clive Schofield argues that the Arctic states are more assertive by assuming a sovereign rights-oriented approach to securitize territory even if such claims lack accuracy.[127] This sovereign-rights approach has created friction between Russia and Denmark, which are embroiled in disputes over the Lomonosov Ridge and as Kristin

[125] The United States abides by most UNCLOS principles, but has not ratified the treaty.
[126] Peter Riley, "Unlocking Oil and Gas Reserves in the Arctic Ocean: Is there a Conventional Solution to Delimitation of the Maritime Boundaries?" *Journal of Energy & Natural Resources Law*, 29: 2(2011): 247-8.
[127] Clive Schofield, et al., "Boundaries, Biodiversity, Resources, and Increasing Maritime Activities: Emerging Oceans Governance Challenges for Canada in the Arctic Ocean," *Vermont Law Review*, 34 (2009): 54.

Casper contends, ambiguous provisions in UNCLOS only exacerbate tensions among claimants. [128]

Another issue over UNCLOS is that the United States has yet to ratify this international treaty. Although the United States adheres to most UNCLOS provisions, it is not required to abide to the dispute settlement mechanism under Part XV. [129] Consequently, failure to sign this international maritime treaty has raised concerns about its commitment to the Arctic and general support of international treaties to which all Arctic states are signatories. It could create tensions over maritime disputes, especially with the OCS. To this end, the Aspen Institute argues "there is an obvious need for greater international cooperation and collaboration between states, which includes participation from all levels of civil society and interested stakeholders, to support effective management of the Arctic ecosystem."[130]

An outdated convention to an evolving problem

The MARPOL convention regulates dumping and pollution by protecting offshore areas through "the complete elimination of intentional pollution of the marine environment by oil and other harmful substances and the minimization of accidental discharge of such substances" from commercial ships. [131] This includes any vessel operating in the marine environment and fixed or floating platforms. [132] In addition, MARPOL allows parties to designate special areas, otherwise known as a "particularly sensitive sea area," where discharges from oil and gas rigs or ships are prohibited as long

[128] Kristin Casper, "Oil and Gas Development in the Arctic: Softening of Ice Demands Hardening of International Law," *Natural Resources Journal*, 49 (Summer-Fall 2009): 843-47.
[129] Koivurova and Molenaar, 9-10.
[130] The Aspen Institute, "The Shared Future: A Report of the Aspen Institute Commission on Arctic Climate Change, *The Aspen Institute Energy and Environment Program* (2011), 10.
[131] International Convention for the Prevention of Pollution from Ships, pmbl., Nov. 2, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78), Feb. 17, 1978, 140 U.N.T.S. 61.
[132] MARPOL 73/78, 168, art.2 (4).

as it does not exceed 15 parts per million.[133] However, portions of the Arctic have not been designated as a special area under the MARPOL convention and fall outside of its regulatory powers.[134] In a region now witnessing an increase in commercial shipping traffic and offshore activities, there are concerns that this convention is outdated and must be modified to address the changing environment. In particular, unpredictable weather, extreme remoteness, freezing temperatures, the lack of good charts, communication systems and other navigational aids must be addressed moving forward to compliment future offshore activities.[135]

ECONOMIC VIABILITY – OPPORTUNITY MASKED IN RISK AND VOLATILITY

This section examines how prepared the oil and gas industry is to develop the Arctic and whether offshore development can deliver long-term benefits to the Arctic states and indigenous peoples. Also, the section also examines the viability of new development in light of economic risks, such as market volatility, cost overruns and project delays, the lack of critical infrastructure, and the emergence of cheaper unconventional energy alternatives.

Investment risk and market volatility

Extracting and transporting oil and gas to market is an ongoing challenge for the oil and gas industry. Michael Kuzik argues "the biggest obstacle, once oil and or natural gas reserves are found, is getting the resources to market in a cost-effective manner."[136] To date, this remains a significant economic obstacle to development. Charles Emmerson estimates the commerciality of any project is based on expectation of future market prices

[133] MARPOL Annex I, reg. 21(3).
[134] Koivurova and Molenaar, 19-21.
[135] Heike Deggim, "International Requirements for Ships Operating in Polar Waters," *International Maritime Organization* (December 2009), 1-12.
[136] Michael Kuzik, "A Race to the Top: Oil & Gas Exploration in the Canadian Arctic," *Journal of Military and Strategic Studies*, 13: 3(Spring 2011): 8.

for oil and gas. For the Arctic, the price of oil would have to remain between $80-120 per barrel to provide a strong incentive for exploration and confidence that this price premium could cushion high production costs.[137] Because global oil prices are extremely volatile, influenced by demand cycles, supply disruption, and speculation, there is a level of uncertainty attached to Arctic development. As a result, Alex Williams states the oil and gas industry will be vulnerable to price swings that can cause boom-bust cycles and impact investment.[138] Lars Lindholt is more pessimistic about the amount of recoverable oil and gas as he predicts the Arctic can only marginally contribute about 8-10 percent to global production.[139] With long lead times and high development costs, optimism over Arctic oil and gas could wane if the recoverable rates are lower than anticipated.

The lack of critical infrastructure

Another complication is the absence of infrastructure, such as deep-water ports, airports, roads, icebreaker and marine vessels, and satellite communications. Alex Williams contends that the oil and gas industry cannot ignore the technical challenges that stand in way of development. Whether it is 3-D seismic surveying, trenching and laying pipe in ice covered waters, or drilling around dangerous ice flows, operations in the Arctic can be limited by harsh and unpredictable conditions.[140] Further, Peter Hough argues it would not be sensible for the oil and gas industry to expand in a region where costs of exploration, extraction and transport are much higher than the Gulf of Mexico.[141]

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[137] Charles Emmerson, et al., "Arctic Opening: Opportunity and Risk in the High North," *Chatham House* (2012) 22.
[138] Alex Williams, et al., "The Future of Arctic Enterprise: Long-term Outlook and Implications," *Smith School of Enterprise and the Environment University of Oxford* (November 2011), 14.
[139] Lars Linholt, et al., "The Arctic: No Big Bonanza for the Global Petroleum Industry," *Energy Economics*, 24 (2012): 1465-74.
[140] Alex Williams, et al., 14.
[141] Peter Hough, "Worth the Energy? The Geopolitics of Arctic Oil and Gas," *Central European Journal of International & Security Studies*, 6:1(2012): 81.

Concerns over infrastructure are not new as Øistein Harsem adds that the Arctic's largest fields were discovered thirty years ago, but due to high development costs and the unpredictable climate, few have ever reached production.[142] Other scholars disagree with this assessment, pointing to the fact that the oil and gas industry will continue to invest in the region because it is one of the last places left to develop.[143]

Cost overruns and project delays

High development costs also cause projects delays. A Bernstein Research report forecasts "development costs will be at the high side of the industry range and development times are likely to disappoint."[144] On the other hand, Jessica Tippee argues that such forecasts do not dissuade some oil and gas companies from investing in exploration and production, pointing out that capital expenditure will increase by $7 billion annually through 2017.[145] However, this does not guarantee that investment always has positive results. For example, the Shtokman project is the poster child of cost overruns. Because of harsh conditions and tax break issues, the project's cost shot up from $6 billion in 1994 to around $40 billion in 2011.[146] The reality is that the Arctic environment is unforgiving and can be financially burdensome for oil and gas companies already vested in project development. To curb operating costs in the Arctic, the Norwegian energy company, Statoil developed subsea infrastructure to replace expensive platforms and circumvent surface hazards. This technological breakthrough is widely

[142] Øistein Harsem, et al., "Factors Influencing Future Oil and Gas Prospects in the Arctic," *Energy Policy*, 39 (2011): 8037-38.
[143] Kenneth S. Yalowitz, et al., "The Arctic Climate Change and Security Policy Conference: Final Report and Findings," (paper presented at Dartmouth College's Dickey Center for International Understanding and Institute of Arctic Studies, Hanover, New Hampshire, December 1-3, 2008).
[144] Oswald Clint, "Arctic Exploration: Does any of it make sense?" (paper presented at Finding Petroleum: Exploring the Arctic Conference, Royal Geological Society, London, United Kingdom, October 11, 2011).
[145] Jessica Tippee, "Arctic E&P Activity Heats Up," *Offshore Magazine*, May 2012, http://www.offshore-mag.com/articles/print/volume-72/issue-5/international-report/arctic-e-p-activity-heats-up.html.
[146] Clint, 26.

used by the oil and gas industry as it is being utilized in other offshore regions around the world.[147]

The cheaper alternative – the emergence of unconventional oil and gas

Called a game-changer, shale oil and gas has revolutionized and reshaped not just global energy markets, but has forced the oil and gas industry to reassess where their investment dollars are spent. Thanks to new 'fracing' technology, onshore shale oil and gas has become a new arena for growth and is currently being extracted at feverish rates throughout North America. The shale boom has also directly impacted Arctic gas development, which is more expensive and takes longer to bring to market. John Deutch, states that shale gas "has economics on its side. In the United States today, oil is three times as costly as natural gas for a given amount of energy. Such a differential is a powerful incentive to develop new technology to substitute natural gas for gasoline used in the transportation sector."[148] This goes to the heart of the industry's long-term development strategy as an Ernst & Young report suggests "for the industry, it is about utilizing new technology to extract hydrocarbon resources and to lower their supply chain costs."[149] Investment decisions are made over a 20-to-30 year horizon, which means the oil and gas industry is faced with a difficult task of forecasting not only how technology will drive future energy consumption and supply, but how it will change day-to-day operations, drive cost savings and commercialize new energy sources.[150] Because Arctic development requires more technical skill and advanced technological capabilities to

[147] Susannah Locke, "Under the Sea: Why Moving Rigs to the Seafloor could make Arctic Drilling less Risky," *Popular Science*, April 2013 23-24.
[148] John Deutch, "The Good News about Gas: The Natural Gas Revolution and its Consequences," *Foreign Policy* (January/February 2011): 82-93.
[149] Ernst & Young, "Business Pulse: Exploring Dual Perspectives on the Top 10 Risks and Opportunities in 2013 and Beyond," Ernst & Young (2013) 6.
[150] *Ibid*, 6-7.

undertake operations, Woods Mackenzie warns that the capacity gap in expert and technology will likely delay production of a large portion of commercial gas until 2050."[151] Further, it shows how costly and time-consuming such operations in the Arctic will continue to be even in the presence of rapid sea-ice melt.

FOSSIL FUELS, CLIMATE CHANGE AND THE FRAGILITY OF MARINE ECOSYSTEMS

The effects of global warming and climate change cannot be ignored as the Arctic is the epicenter of an intensifying debate behind the anthropogenic impacts on the planet. Most notably, the burning of fossil fuels is the main culprit for the rapid increase of CO_2 emissions and global warming. Because new offshore development will generate more pollution in a rapidly evolving region, there are lingering questions about this will impact the livelihoods of indigenous peoples, the surrounding marine ecosystems, and of course, global efforts to curb CO_2 emissions.

The inevitable side-effect to offshore development

There are four stages of oil and gas development that impact the environment. Perhaps most impactful, is the development and production stage where the most intense and diverse environmental impacts occur.[152] Flaring and leakage, a side-affect to the drilling process, also contributes to petroleum components being released into the air and water. The construction of oil and gas infrastructure can cause noise pollution that impact migratory patterns of species.[153] In an effort to reassure policymakers, local communities and environmentalists that operational safety standards have improved, the industry has invested billions of dollars to minimize flaring, leakage, and reduce noise pollution. But

[151] Wood Mackenzie, "Arctic Role Diminished in World Oil Supply," January 1, 2011, http://www.woodmacresearch.com/cgi-bin/wmprod/portal/corp/corpPressDetail.jsp?oid=751298
[152] Stalislav Patin, *Environmental Impact of the Offshore Oil and Gas Industry* (New York: EcoMonitor Publishing, 1999), 53.
[153] Casper, 825-35.

as Nicholas Cunningham argues the "industry would claim that drilling operations a much safer and that these are isolated incidents; however, they merely demonstrate that offshore oil drilling remains an inherently risky activity."[154]

Unproven oil spill response strategies

Advanced exploration and drilling technologies have made the discovery and extraction process more efficient and safer, but the oil and gas industry's response strategies to spills have not changed. In the event of a spill, response and cleanup operations involve oil containment, skimming, release of dispersants, and in-situ burning. In the Arctic, these response techniques are unproven to work in harsh winter conditions. The Aspen Institute warns that "international interests in the Arctic appear to be fixated not on how to minimize the pervasive damage there, but how to define territory and exercise national dominion over the rich natural resources in terms of oil and gas."[155] Even with assurances from the industry, a recent Pew Institute study found that "oil spill contingency plans often underestimate the probability and consequence of catastrophic blowouts, particularly for frontier offshore drilling."[156] The Center for American Progress published recommendations highlighting the need to implement a worse-case scenario within contingency plans as a means of avoiding an *Exxon Valdez* or *Deepwater Horizon*-type disaster in the Arctic.[157] Such warnings are not unfounded especially because the Arctic has a short growing season and its ecosystem is less resilient to oil spills than warmer environments. Alexi Roginko states that the absence of a spill response strategy

[154] Nicholas Cunningham, "Offshore Oil Drilling in the Arctic," *The American Security Project* (August 2012): 10.
[155] The Aspen Institute, 6.
[156] Daniel Raychelle et al., "Oil Spill Prevention and Response in the U.S. Arctic Ocean: Unexamined Risks, Unacceptable Consequences," *Pew Environment Group* (2010), 1-2.
[157] Kiley Kroh, et al., "Putting a Freeze on Arctic Ocean Drilling: America's Inability to Respond to an Oil Spill in the Arctic," *Center for American Progress* (February 2012), 7.

has already had a profound impact on the Russian Arctic where pollution levels now exceed national levels by six times.[158]

To make matters worse, oil and gas companies already operating in the Arctic region have a long history of spills, especially along Alaska's North Slope. According to the National Resource Defense Council (NRDC) "there has been a spill of oil or associated chemicals once a day, on average, since oil and gas development began on the North Slope."[159] Further, the NRDC found that most accidents involve pipelines and the laying of these networks from the wells to shore. Perhaps most concerning in their analysis was that even after a massive disaster like the 1989 *Exxon Valdez* spill, the number of spills of crude oil and petroleum products actually increased from about 130 in 1977 to roughly 340 in 2000 in the North Slope alone. Moreover, Alaska's Department of Environmental Conservation (ADEC) released data from July 1995 through January 2011 that indicated the frequency of oil plus other hydrocarbon and other toxic spills combined was nearly double that for oil spills alone.[160] Collectively, this data illustrates a staggering reality of corporate negligence and the lack of oversight by U.S. regulators to address the threat of spills and industrial accidents even in the most fragile environments.

The true impact of climate change

The Arctic is the bellwether for climate change as the ever-increasing CO_2 emissions is markedly changing this once frozen environment. In fact, rapid ice-melt and positive feedbacks cause temperatures to increase double the rate to anywhere else on the

[158] Alexi Roginko et al., "Emerging Marine Environmental Protection Strategies for the Arctic," *Marine Policy* (July 1992): 259-63.
[159] Jeff Goodyear, et al., "Environmental Risks with Prolonged Offshore Oil and Gas Development off Alaska's North Slope," *National Resource Defense Council* (August 2012), 1-2.
[160] Jeff Goodyear et al., 3.

planet.[161] The changes to the surrounding environment pose a threat to the oil and gas industry as extreme weather events and weaker ice could interrupt operations or damage drilling infrastructure.[162] In an effort to address the impacts of climate change, the oil and gas industry is investing in new technologies, such as ice tracking radar, reinforced drilling rigs and oil tankers, and subsea systems. However, this does not address the bigger problem, as climatologists argue, where substantive research is needed to better understand the nexus between rapid ice-melt and the impacts on the region and planet. Unfortunately, Nicholas Cunningham is more pessimistic about the future of research because "the acquisition of scientific knowledge on the Arctic has been relegated to a secondary priority when oil and gas development are in question."[163]

Climate change is also has a lasting impact on the 4 million indigenous people living in the Arctic region. The frequency of extreme weather events is causing extensive coastal erosion and has even forced coastal villages to relocate due to the melting permafrost, sea-level rise, and the destabilization of infrastructure. The NRDC has warned that future offshore development must be reassessed in sensitive areas because of the toll already taken on wildlife, landforms, ecosystems, and humans. Because oil and gas projects are extensive and have a lasting impact on marine environments, the Arctic's resiliency to withstand large-scale development might very well be further weakened.[164]

[161] National Snow and Ice Data Center, "Press Release: Arctic Sea Ice Continues Decline, Reaches Second-Lowest Level," October 4, 2011, http://nsidc.org/news/press/20111004_MinimumPR.html.
[162] Harsem, et al., 8038-39.
[163] Cunningham, 10.
[164] Jeff Goodyear, et al., 13.

CONVERGENCE OF NATIONAL SECURITY INTERESTS: A PERFECT STORM OR A MIRAGE?

This last section examines the relevance of energy geopolitics to the region. As rapid ice-melt occurs, there is a convergence of competing interests between Arctic and non-Arctic states over the seabed oil and gas deposits. On one side, there are concerns among analysts about how resource competition could lead to conflict. While on the other side, other scholars contend that fears over a renewed arms race and a scramble for resources are unfounded.

A media-fuelled frenzy

When a robotic submarine planted the Russian flag in the Arctic Circle, many considered this to be a landmark event that would usher in new era of energy geopolitics in the region. Some experts believed this to be an aggressive move by the Russian government, designed to show the world that the Arctic Circle was under its control.[165] However, the media storm that ensued after these events failed to create a groundswell of reaction from the other Arctic states. Tom Casey, former State Department Deputy spokesman retorted, "I'm not sure of whether they've put a metal flag, a rubber flag, or a bed sheet on the ocean floor. Either way, it doesn't have any legal standing or effect on this claim."[166] Michael Klare argued that Russia's assertiveness provoked more alarmist sentiment and did not precipitate an arms race or major deployment of military forces. Moreover, conflict is more likely to be shaped by the outcomes of disputes over contested international boundaries and territory in the region.[167] Other experts, like Annika Rosamond view the nexus between climate change and political instability as a more

[165] Michael Klare, *The Race for What's Left: The Global Scramble for the World's Last Resources*, (New York: Metropolitan Books, 2012), 94.
[166] Gunitskiy, 266.
[167] Klare, 97-98.

critical issue, but with the inundation of media coverage highlighting "geopolitical fault lines and anticipated resource wars," alarmist fears is the real protagonist to potentially igniting future conflict.[168]

A history of cooperation and good diplomatic relations

Interstate conflict over seabed resources is unlikely to occur because the Arctic region is comprised of littoral states with functional governments, well-established democratic institutions, and strong diplomatic ties. The Arctic states, including Canada, Denmark, Russia, Norway, United States, and Finland are committed to international conventions, like UNCLOS, and bilateral negotiations to diffuse tensions. In fact, Heather Conley argues that Arctic states have a strong history of good relations that has helped resolve long-standing territorial disputes. For example, the Norwegian-Russian Delimitation Treaty signed in 2010 was a display of conflict resolution that ended a 40-year dispute through using diplomatic channels.[169] In the absence of political calamity, some scholars argue more focus should be placed on coordinate, collaboration, and interoperability. A Center for Strategic and International Studies (CSIS) report indicates the real security challenges are not terrorism or piracy rather oil-spill prevention, coordinated response to accidents and search-and-rescue capabilities.[170] This was reiterated by a United States Coast Guard (USGS) report that stressed multilayered cooperation, ranging from federal, state, tribal, local government to international

[168] Annika Rosamond, "Perspectives on Security in the Arctic Area," *Danish Institute for International Studies* (2011): 39-51.
[169] Heather Conley et. al, "A New Security Infrastructure for the Arctic: An American Perspective," *Center for Strategic & International Studies* (2012) 10-11.
[170] *Ibid,* 13.

counterparts, industry, and other stakeholders could enhance maritime safety, security and environmental responsibility.[171]

GOVERNANCE AND REGULATION OVER OFFSHORE OIL AND GAS RESOURCES

The question over governance and regulation of the Arctic seabed resources has become intertwined with energy security. In fact, energy security is an integral element to national security that Daniel Yergin argues is "once again among the top priorities in the global policy agenda" as states attempt to secure new supply through bilateral and multilateral agreements.[172] The search for new supply makes the Arctic, one of the last frontiers to be developed, a golden opportunity for the oil and gas industry. Scott Borgerson argues "no matter what one thinks should be done about global warming, the fact is, it is happening. And its effects are not all bad. In the Arctic, it is turning an impassible region into an emerging epicenter of industry and trade."[173] But, climate change has precipitated concerns about how oil and gas can be exploited in a sustainable manner in the midst of such drastic environmental change.

In fact, some experts argue that narrowly focusing on the economic benefits in the Arctic is near-sighted. The Aspen Institute contends that a sustainable framework for governance in the region must include environmental protection and regulations to accommodate for the uptick in economic activity. In particular, the adoption of a common set of offshore oil and gas standards and spill response strategies would be a positive step forward.[174] To achieve this, Arctic states, indigenous peoples, and the oil

[171] United States Coast Guard, Arctic Strategy, USGS (May 2013), 17-22.
[172] Daniel Yergin, "Ensuring Energy Security," *Foreign Affairs*, 85:2 (2006): 70.
[173] Scott Borgerson, "As the Ice Melts, The Region Heats Up," *Foreign Affairs*, July/August 2013, http://www.foreignaffairs.com/articles/139456/scott-g-borgerson/the-coming-arctic-boom.
[174] Aspen Institute, 5.

and gas industry must address current governance and regulation structures and tackle any deficiencies within these standards.

Nonetheless, there is debate as to how prepared the oil and gas industry is to undertake offshore operations. Securing America's Future Energy (SAFE) expressed confidence in the oil and gas industry, arguing that the *Deepwater Horizon* disaster largely overshadowed two decades of remarkable progress in reducing oil spills. [175] However, in remote areas, like the Arctic, where infrastructure and contingency response plans are lacking, an oil spill could be disastrous. Such fears were realized after Royal Dutch Shell's (Shell) attempt to drill off the coast of Alaska ended after two of their drilling ships were damaged due to fierce storms. [176] After a Department of Interior investigation in 2013, then Secretary Ken Salazar testified that "Shell screwed up in 2012 and we are not going to let them screw up when they try to drill in the Arctic again." Salazar also raised concerns about Shell's maritime and response operations, stating that there are "serious questions regarding its ability to operate safely and responsibly in the challenging and unpredictable conditions."[177] Further, the US Ninth Circuit Court of Appeals found both Shell and federal regulators culpable of gross negligence in the preparation of environmental impact statements and review of safety standards. This has led to further delay in drilling operations for 2014 that has angered senior U.S. legislators who argued that "we can expect Shell to continue to spell billions of dollars on this

[175] Energy Security Leadership Council, "A National Strategy for Energy Security: Harnessing American Resources and Innovation," *Securing America's Future Energy* (2013), 66-67.
[176] John M. Broder, "With two Ships Damaged, Shell Suspends Arctic Drilling, *The New York Times*, February 27, 2013, http://www.nytimes.com/2013/02/28/business/energy-environment/shell-suspends-arctic-drilling-for-2013.html
[177] "Shell Oil Unprepared for 2012 Arctic Drilling, Finds U.S. Review," *Environment News Service*, March 14, 2013, http://ens-newswire.com/2013/03/14/shell-oil-unprepared-for-2012-arctic-drilling-finds-u-s-review/

project when the rules keep changing."[178] Senator Lisa Murkowski pointed out that the failure of the Obama administration to provide regulatory and permitting certainty for oil development is the reason behind delays.[179] Shell's chief executive, Ben van Beurden voiced disappointment in the decision and stressed that further delays will impact the Alaskan economy where Shell employed 2,000 people, including Alaska's indigenous peoples for its exploration program.[180] Conversely, environmental groups praised the decision to delay exploration and drilling operations in the Arctic, citing it was a responsible decision to provide more time to reconsider whether offshore operations can move ahead in a safe and responsible manner.[181]

These events epitomize the bigger issue over governance and regulation in the region. It also raises the alarm of how, even at the national level, there are disagreements over what type of governance and regulation structure is acceptable in the Arctic region. Prolonged disagreement perpetuates the absence of standardization and allows negligence among regulators and industry to permeate. This unfortunate reality was seen in the *Deepwater Horizon* disaster where the National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling concluded that the *Macondo* blowout could have been prevented had there been sufficient oversight, adequate agency funding, and a commitment to corporate responsibility.[182] If lingering concerns surround the

[178] Nick Snow, "Shell Cancels 2014 Drilling off Alaska in Court's Decision Wake," *Oil and Gas Journal*, February 10, 2014 http://www.ogj.com/articles/2014/01/shell-cancels-2014-drilling-off-alaska-in-court-decision-s-wake.html
[179] Yereth Rosen, "Shell Calls off 2014 Oil Exploration in Alaska's Arctic Waters," *Alaska Dispatch*, January 30, 2014, http://www.alaskadispatch.com/article/20140130/shell-calls-2014-oil-exploration-alaskas-arctic-waters
[180] Rosen, 2.
[181] Snow, 2.
[182] National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, *Deep Water: The Gulf Oil Disaster and the Future of Offshore Drilling*, National Commission on the BP Deepwater Horizon Oil Spill Drilling (January 2011), 6-12.

management of offshore operations in the Gulf of Mexico then the Arctic presents an even greater challenge to large-scale development. Beyond the vast difference in climate, the web of parties involved, ranging from Arctic and non-Arctic states to indigenous peoples and industry, the debate of how to govern and regulate the region's offshore activities is complex. This requires a further examination as to what governance option might be most attractive to addressing these concerns and improving operational capacity in the Arctic region. Jorge R. Pińon, former president of Amoco Latin America argued that "you can go ahead and draft all the regulations that you wish, but if those regulations are not enforced, they are totally worthless. We need rule of law, governance and transparency."[183] Fortunately, the Arctic is comprised of states that are able and capable of enforcing such regulations, but the question that remains is how to improve existing governance and regulation mechanisms where certain risks can be curtailed.

THE ANTARCTIC TREATY – A HARD LAW APPROACH TO GOVERNANCE AND REGULATION

To begin, this paper analyzes whether a legally binding international treaty could serve as a blueprint for a more sustainable approach to offshore development. Whether this involves reducing pollution and impact on marine environment, protecting species, satisfying the interests of the indigenous peoples or addressing climate change, advocates argue that ATS provides a successful example of maritime governance and regulation. By adopting a hard law approach for the Arctic would mean offshore oil and gas activities, which do not fall under a common set of regulations and compliance, could finally be effectively enforced under the guise of a new international convention.

[183] Clifford Krauss, "Saudi America: Mirage?" *The New York Times*, April 21, 2014, http://www.nytimes.com/2014/04/22/business/energy-environment/challenges-lie-ahead-for-north-american-oil-production.html?_r=0

The rationale behind a legally-binding convention

The ATS is a legally-binding international treaty that has been considered a blueprint for future governance and regulation of the Arctic. Some scholars argue that a legally-binding treaty carries four distinct benefits. First, the establishment of an overarching legally-binding regime can promote cooperation among member states and influence the creation of regional regimes to expand its mandate. Second, a binding agreement produces better compliance than commitments not supported by the force of law.[184] Although ATS faced obstacles in the negotiation and ratification stages, incremental negotiation allowed the ATS to evolve into a comprehensive treaty. After ratification, national policymakers codified the rules and regulations into legislation where it became law and held national governments accountable to the ATS treaty. This process was tenuous and time-consuming, but the result was near unanimous international support and compliance. In contrast, there is not a common set of regulations for Arctic offshore oil and gas activities, which allows states to decide what practices are acceptable.[185] However, Oran Young contends that the goal of "devising a comprehensive governance system for the Arctic" is unattainable.[186] This is a common critique of treaties where cost, time and difficulty to resolve issues influence the success of a hard-law instrument. But, even landmark international treaties, like UNCLOS, took decades to implement for rationale reasons. To achieve international support requires a lengthy negotiation process where culture, language, history and interpretation often collide to influence ratification. If ratification occurs, it is due to cooperation and political

[184]Oran Young, "The Structure of Arctic Cooperation: Solving Problems Seizing Opportunities," *Institute of Arctic Studies*, 9 (2004): 3-22.
[185] Travis Potts, "An Arctic Scramble? Opportunities and Threats in the (Formerly) Frozen North," *International Journal Marine and Coastal Law*, 23 (2008): 151-52.
[186] *Ibid*, 8.

willingness to work past differences of opinion and collectively act on a particular policy issue. Third, a hard-law approach prevents a race to the bottom as "an agreed set of legally binding international standards…could prevent or at least slow, a race to the bottom, in which states compete in the gaining of concessions, exchanging regulatory slackness for greater royalties or up-front licensing fees, or in times of higher oil prices…"[187] Finally, hard-law advocates argue that the benefits of a binding instrument outweigh the costs to avoid future harm or conflict.[188]

Greater inclusivity and participation on complex issues

Upon ratification of the ATS in 1959, this convention gained near full support from the international community.[189] For an uninhabited frozen continent, this was considered a landmark treaty especially due to the extremely volatile political climate. Perhaps more impressive, the ATS was ratified even in the presence of unresolved territorial disputes in Antarctica. Although most of these territorial disputes remain unresolved, claimants to ATS agreed to shelve the disputes for the sake of ratification. In an effort to further limit activities in Antarctica that might create conflict, resource extraction and military activities were banned as a means of promoting a peaceful resolution to ongoing disputes.

Most important, the ATS epitomized participation and inclusiveness of all parties. During negotiations, parties to the treaty were part of an open-dialogue approach where ample time and flexibility was provided to resolve differing interests and opinions over

[187] William Dunlap, "Regional and International Cooperation in the Regulation of Energy Resources in the Arctic," in *Boundaries and Energy: Problems and Prospects*, ed. Gerald Blake et al., (Dordrecht: Kluwer Law International 1998), 301.
[188] Casper, 868.
[189] Ed Struzik, "As the Far North Melts, Calls Grow for Arctic Treaty," *Yale Environment 360*, June 14 2010, http://e360.yale.edu/feature/as_the_far_north_melts_calls_grow_for_arctic_treaty/2281/

its provisions. Of course, this did not guarantee ratification of each provision in the treaty. For instance, the Convention on the Regulation of Antarctic Mineral Resources Activities was signed by 19 states, but was not ratified. In 1988, this convention was replaced by the Madrid Protocol and further illustrates that from the agenda-setting to implementation stages, ratification often requires renegotiation or alternative solutions in order to satisfy its members. Perhaps the biggest misconception about the hard-law approach is that these treaties are inflexible and do not allow for open-dialogue. In this case, Oran Young argues it would not be an effective mechanism for governance and regulation in the Arctic because it is described as a "somewhat messy patchwork made up of disparate pieces." Young also adds that an international treaty is also not practical where existing regional regimes already serve as forums for dialogue.[190] However, Young discounts the effectiveness of participation and inclusivity at the international level. Although imperfect, the ATS was a comprehensive treaty because it allowed parties the flexibility to devise provisions that would protect the marine environment, promote joint scientific research and enforce a ban on economic and military activities.

Emphasis on environmental protection and the conservation of resources

ATS includes provisions on marine protection and natural resource conservation that might be exportable to the Arctic. The underlying principles of the ATS were centered upon the "…governance of Antarctic, protection of the environment, conservation of natural resources and scientific research." [191] In fact, the major components of the ATS are the 1959 Antarctic Treaty, the 1972 Antarctic Seals Convention, the 1980 Convention on the Conservation of Antarctic Marine Living

[190] Struzik, 2-3.
[191] Fayette, 560.

Resources (CCAMLR), the 1991 Protocol on Environmental Protection of the Antarctic Treaty (Protocol), and proposed 1988 Convention on the Regulation of Antarctic Mineral Resources Activities (CRAMRA). Together, these provisions provide a comprehensive governance system that focuses on the protection of the marine ecosystem and the regulation of natural resource extraction.[192] For the last five decades, the parties to the ATS have adhered to its mandate and as a result, the Antarctic has not been seen any economic activity other than tourism and scientific research teams.

A driving factor for such a strong mandate on environmental protection was a growing concern among parties to the ATS about the impact of development on the surrounding marine ecosystem. In an effort to minimize its footprint on the continent, the ATS included provisions to protect the environment and conserve its rich resource base. For instance, environmental assessments reports were used to measure impacts of future economic activities and if needed, special protection areas could be designated off limits to future development. In particular, the ratification of the 1991 Protocol solidified the treaty's commitment to environmental protection and scientific research. Specifically, the Protocol's objectives were "to reaffirm the status of the Antarctica as a special conservation area, and to enhance the framework for the protection of the Antarctic environment with its dependent and associated ecosystem."[193] In other words, the aim is to protect the Antarctic environment and associated ecosystems and preserves the intrinsic value of the continent as well as its status as a place of research. Within the Protocol, the Committee for Environmental Protection (CEP) was also established as an expert advisory body to provide advice and formulate recommendations to the Antarctic

[192] Casper 840.
[193] The Protocol on Environmental Protection to the Antarctic Treaty, 1991.

Treaty Consultative Meeting (ATCM) in connection with the implementation of the Protocol.[194]

Significant gaps in addressing offshore development and climate change

Unlike the Arctic, the Antarctic is part of the global commons and not subject to the exclusive jurisdictions of any state.[195] This is a glaring difference that limits the success of a new international treaty as Arctic littoral states have sovereign and jurisdictional rights in the region. Given most offshore oil and gas is located within their EEZs, it further limits the reach of international conventions to regulate offshore development and protect marine ecosystems. As a result, rapid development in some areas, like Russia and Alaska, has outpaced regulation. In a climate of rapid offshore growth where governance and regulation is lacking, the potential for a spill can happen as witnessed in the *Deepwater Horizon* accident in 2010. This example carries weight as Arctic development continues to increase in light of the divisiveness at the national-level between regulators, environmentalists, the industry and policymakers. Part of the problem lies in the fact that there is no governance or regulatory body dedicated to offshore hydrocarbon activities. Instead, current international governance and regulations are utilized even though they are seen as piecemeal and inconsistent. Another part of the problem stems from the fact that the ATS does not contain any guidelines on offshore development because no such activities are allowed. Although this represents a significant gap in governance and regulation, it is important to note that there is not a "one-size fits all" solution to offshore development.

[194] The Protocol on Environmental Protection to the Antarctic Treaty, 1991.
[195] Philippe Sands, *Principles of International Law*, (Cambridge: Cambridge University Press, 2003), 81.

Other scholars argue that reaching consensus on complex energy issues is difficult due to competing interests where parties "tend to get stuck in the agenda and negotiation stages, and never reach implementation."[196] Whether this is the result of geopolitical issues or cooperative governance, energy production is a narrative of tension between consumers and producers.[197] This tit-for-tat strategy puts pressure on the Arctic states to maintain a state-centric approach where national energy policies trump global energy governance.[198] That said, with the addition of more parties also comes more interests and interpretations that complicate consensus-building. When pursuing offshore development, Arctic states seek a regional solution rather than utilize international channels. In fact, Charles Ebinger argues a new treaty will likely inhibit economic opportunity. To shift "authority from an existing organization to a new one will disrupt policies and programs that are progressing along different tracks and at varying speeds…"[199] But, there is a call to address gaps in governance and regulation by adopting ATS principles or strengthening existing ones. These improvements might attract investment and also satisfy environmentalists who advocate for reforms to existing governance and regulation frameworks in the Arctic region.

Another significant issue is how climate change impacts offshore development. As the surrounding environment changes, there is an incentive for the oil and gas industry to expand into this previously inaccessible region. There is no question that resource accessibility benefits Arctic states and indigenous peoples since most oil and gas reserves

[196] Sovacool et al., 236-37.
[197] Kirsten Westphal, "Energy Policy between Multilateral Governance and Geopolitics: Whither Europe?" *International e Politik and Gsellschaft*, (2006) 44-63.
[198] Ernst & Young, 14.
[199] Charles K. Ebinger et al., "The Geopolitics of Arctic Melt," *The Royal Institute of International Affairs*, 85: 6(2009) 1224.

are located within sovereign waters, but it is also fair to assume that the scale of development will extend beyond the range of the current governance and regulation structures. Consequently, Sebastien Duyck contends that the increased activity without proper regulation and governance will lead to environmental and social consequences. Coupled with climate change, the Arctic states are challenged to balance the protection of marine ecosystems with economic development. On the other hand, the ATS is not faced with the same concerns. Although climate change is having an impact on the continent, the absence of economic activity has allowed the treaty to focus on a proactive and precautionary approach that favors environmental protection. That said, a legally binding treaty should not be pursued without taking into account fairness and equity. In the Arctic, an international regime for governance and regulation must address a balance of rights, interests, and obligations of the Arctic states and indigenous peoples.[200] In this case, the discussion over balance of development and environmental protection falls into the hands of these parties who have jurisdiction over parts of the region slated for future development.

The debate between regionalization and internationalization

The fate of a new international treaty might have already been sealed with the Ilulissat Declaration. In 2008, the United States, Canada, Denmark, Norway, and Russia agreed to use UNCLOS as the main instrument for resolving territorial disputes. Thomas Winkler states "the main point is that the five coastal states have sent a very clear political signal to everybody that we will manage the Arctic responsibly, that we have the

[200] Koivurova and Molenaar, 55.

international rules necessary and we will all abide by those rules."[201] On the other hand, the European Union (EU) has been critical of the Ilulissat Declaration because it excludes some outlying Arctic states, indigenous peoples and the international community. The EU and non-Arctic states want to internationalize the Arctic, noting climate change, shipping lanes, and transnational pollution impact the international community. Guo Peqing points out that "Circumpolar states have to understand that Arctic affairs are not only regional issues but also international ones."[202]

THE ARCTIC COUNCIL: A SOFT LAW APPROACH TO GOVERNANCE AND REGULATION

The second option looks at a soft law approach focused on the intergovernmental forum, known as the AC. In a rapidly changing environment, some experts argue that the AC is better suited to address environmental protection and offshore oil and gas governance and regulation. Others contend that the limited scope of the AC's operational capacity make it an ineffective option to resolving emerging risks in the region.

A suitable framework for a rapidly evolving environment

There are some advantages to the soft-law approach in the Arctic, especially when discussing flexibility and noncompliance. In retrospect, a legally binding treaty can be costly and time intensive throughout the negotiation and ratification stages as well as with the incorporation of the international treaty into national legislation. Because a soft-law instrument is not binding in nature, parties remain actively engaged on issues without committing to the principles and allow parties to be more apt to settle differences of

[201] Julian Borger, "Closed-door Arctic deal denounced as 'carve-up' *The Guardian*, May 28, 2008, http://www.guardian.co.uk/environment/2008/may/28/fossilfuels.arctic
[202] Linda Jackobson, "China Prepares for an Ice-Free Arctic," *Stockholm International Peace Research Institute*, 2010:2 (March 2010): 12.

opinion without the pressure of ratification.[203] Nonetheless, open-dialogue is cost-effective strategy that embodies flexibility in addressing and resolving such sensitive issues. In this case, the AC is representative of these characteristics as it builds on such consensual knowledge to develop strategic plans for action for member states and indigenous peoples on issues, like marine protection and offshore oil and gas regulation. That said, AC members often share similar interests, but speak different languages on how to tackle complex issues. With its non-binding structure, the AC allows time, flexibility, and a cost-effective solution to reaching a common understanding on these complex issues.

The Arctic's changing environment and economic activity are major factors driving the AC to improve its adaptive capacity.[204] For instance, the AC has four environmental protection working groups that focus on addressing climate change, marine spatial planning (MSP), species protection, and other emerging issues in the region. In addition, AC released its Arctic Climate Impact Assessment (ACIA) from 2000-2004 to help develop future scenarios for climate change. Although this assessment was not a legally binding principle, ACIA created a forum for political discussions and highlighted the importance of climate change on the region.[205] To date, the AC funded several assessments that created positive engagement and even influenced member states to examine these issues at the national level. The two critical working groups – Protection of the Arctic Marine Environment (PAME) and Emergency, Prevention, Preparedness and Response (EPPR) – developed guidelines on spill response strategies, search-and-

[203] Koivurova and Molenaar, 79.
[204] Alf Hoel, "Do We Need a New Legal Regime for the Arctic Ocean?" *The International Journal of Marine and Coastal Law*, 24 (2009): 447.
[205] *Ibid*, 446-47.

rescue operations, transfer of refined oil and oil products, and marine protection. These guidelines have even been incorporated into legislation at the national level among several Arctic states.

A history of regional cooperation and inclusiveness

Arctic states and indigenous peoples have a history of cooperation and collaboration. This also complements the AC, which was designed as a forum to promote peaceful dialogue among participants. From its creation in 1996, the AC's membership has expanded to include eight circumpolar states, six Arctic indigenous organizations, and non-Arctic states.[206] That said, the AC is not an organization capable of implementing legally binding provisions for its members rather it is serves a decision-shaping entity.[207] Some scholars contend the AC's lack of authority and enforcement powers challenge its level of effectiveness. This a valid concern because without the authority to make binding decisions, the AC is as effective as its members want it to be.[208] Nonetheless, AC strives for inclusivity and caters to a regionalized approach to address issues in contrast to matters of primary concern to individual states or non-state actors operating within the region. It also serves as an important consensus-based and project-driven forum that has built upon a history of regional cooperation and collaboration among its member states and organizations.

Ambitious agenda to regulate offshore activities and enhance environmental protection

The AC has already implemented a set of guidelines to address offshore oil and gas activities. In fact, the 'Arctic Offshore Oil and Gas Guidelines' outlined oil and gas

[206] Roy Huebert et al., "Climate Change & International Security: The Arctic as a Bellwether" *Center for Climate and Energy Solutions* (2012): 35.
[207] Kenneth S. Yalowitz, et al., 14.
[208] Young, 14.

planning, exploration, development, production and decommissioning concerns.[209] The AC also set forth provisions to develop consistent communication and translation guidelines of how oil and gas activities should be undertaken. A key aspect to these guidelines was the incorporation of environmental impact assessments for future offshore projects. Beyond placing an importance on the environmental impacts associated with offshore development, the AC stressed the importance of implementing polluter-pays and sustainable development principles that hold the oil and gas industry accountable for any accidents or spills.[210] Because no global standards or recommended practices for offshore activities exist, the AC should be given credit as it has raised awareness and addressed certain gaps by establishing a set of offshore oil and gas guidelines. Even without legal authority to make such guidelines binding in nature, the AC implemented strategic plans, and important assessment work that influences national governments, policymakers and other non-governmental organizations (NGOs).[211]

In the absence of global and regional rules to address climate change and environment protection, concerns over the Arctic's ecosystem resilience, adaption readiness, and sustainable development must be addressed in an expedited manner.[212] To begin, the AC addressed concerns over oil spill response strategies, search and rescue operations, and sustainable development options for future meetings. However, there has not been any consistency on the implementation of an integrated, cross-sectoral ecosystem-based ocean management framework. Adopting this integrated approach to development and environmental protection is a necessary strategy given the heightened

[209] Arctic Council, *Arctic Offshore Oil and Gas Guidelines*, Arctic Council (November 4, 2009), 3-14.
[210] *Ibid*, 5.
[211] Olav Stokke, "A Legal regime for the Arctic? Interplay with the Law of the Sea Convention," *Marine Policy*, 31 (2007): 402-408.
[212] Pew Institute, 1-2.

environment sensitivities throughout the region. Similar to its other successful assessments and guideline frameworks, the AC can be the impetus to promote such a framework. In fact, the AC continues to work to improve sustainable development goals and implement better practices in environmental protection and marine management.[213] The AC also developed 'Best Practices in Ecosystems Based Oceans Management (BePoMAR), a project focused on different states' approaches to management strategies, and created the 'Circumpolar Map of Resources at Risk from Oil Spills in the Arctic.'[214] Thus, the AC has become the most important organization to address an integrated, cross-sectoral ecosystems-based ocean management option.

A regional solution can be effective

The AC works with its member states' interests and serves as an important forum for the entire Arctic to express their views and concerns. It is not surprising that its members, for a variety of reasons, oppose a new system and support a broadening approach to the AC's mandate. In particular, there are limitations to the expansion of powers as member states and indigenous peoples are not be willing to cede sovereign interests for a new international convention.[215] Instead, the AC has shown its ability to compartmentalize the issue of opening up the region by effectively responding to the evolving environment and the implications to such change.

A regional response might also precipitate the increase of multilateral and bilateral agreements between AC member states. Because member states have voiced their confidence in the AC as a capable forum to resolve issues, international interference is not viewed as a viable option. Although there are a lot of obstacles to future offshore

[213] Koivurova and Molenaar, 40-41.
[214] *Ibid*, 41.
[215] Ebinger, et al., 1226-27.

development, the AC has its ear to the ground and is the intermediary to which member states and outside parties utilize to discuss what the best practices should be in the region. Also, in a region that is political stable, the AC has the full support of all Arctic states and various indigenous organizations moving forward.

Limitations in capacity can impede future governance and regulation

At the same time, there are significant gaps with the AC's scope of influence and overall capacity to govern and regulate offshore activities. The five most distinct gaps with the AC is that it cannot impose legally binding obligations, does not resemble an operational body, has limited participation, lacks funding, and does not have a full-time permanent secretariat. In a recent study that quantified overall effectiveness of the AC, Oran Young and Paula Kankaanpää found that the prevailing factors to limit its capacity were centered on the lack of reliable funding, the inability to implement recommendations into policy, and member states not placing a high priority on Arctic issues.[216] That said, AC has been tasked to address significant transformative changes that range from growing demand for new natural resources to the decline of sea ice. Young argues that the AC has been put in a challenging position, but for the most part has performed quite well given its limitations. Where it could receive a face-lift is through improved assessment on the performance of the AC as a means of making a series of adjustments in the structure and procedures to maximize effectiveness.[217] Others contend that the AC needs to expand its scope of influence by engaging the interests of regional and local constituencies along with major non-Arctic states.

[216] Paula Kankaanpää and Oran R. Young, "The Effectiveness of the Arctic Council," *Norwegian Polar Institute* (2012): 5.
[217] *Ibid*, 13.

To address capacity deficiencies, AC focused on improving cooperation with its members in areas of environmental protection and sustainable development. Although it traditionally does not have the capacity to create legally-binding regulations, the AC pushed its members to sign the Arctic Search and Rescue Agreement in 2011, its first binding treaty under AC support.[218] Even non-Arctic states, like China have expressed interest in participating in the activities of the AC so much so that they have presented a formal petition to become an official observer. To this end, the AC's limitations are evident, but its success to act as a forum for future economic development, environmental protection and cooperation should not be underestimated.

CONCLUSION

Without question, the Arctic is undergoing transformative change. In particular, climate change and global warming are opening up access to seabed resources that had been frozen in time. Coupled with the demand for new supply, the Arctic is the last frontier left to be developed. Although there are limited offshore oil and gas activities in the region, large-scale development has been inhibited by unpredictable environmental and economic conditions. Despite these risks, the Arctic's reserves, often compared to the Gulf of Mexico, make it hard for the oil and gas industry to simply ignore.

To address these risks, many advocates have called for a new international convention to regulate and enforce new offshore activities in the Arctic. But this will be challenging in an environment comprised of littoral states and indigenous peoples who share economic, environmental and strategic interests. Even so, these advocates for internationalization argue that the mere presence of complex and sensitive issues require

[218] Francesco Stipo, et al., "The Future of the Arctic: A Key to Global Sustainability," *Cadmus Journal*, 1:5 (October 2012): 43.

the international community, not regional entities, like the AC, to act swiftly and effectively. In fact, climate change, transnational pollution, new international shipping lanes, and the protection of marine ecosystems are viewed by the EU and other non-Arctic states as international issues that require collective action. With the addition of oil and gas activities, international intervention will be tested as littoral states and indigenous peoples attempt to protect their sovereign rights over seabed resources.

Looking beyond the debate over the adoption of a new convention to govern and regulate offshore activities, the risks associated with such large scale development are not unfounded. The offshore is the next arena development and the oil and gas industry reassure policymakers, environmentalists, the public, and indigenous peoples they are prepared to extract oil and gas in remote and harsh climates, like the Arctic. But, there is a growing concern that existing governance and regulation structures do not effectively address environmental and economic unpredictability. Coupled with the fact that the oil and gas industry have failed to address the absence of critical infrastructure and neglected to improve oil spill response strategies, there are red flags about the sustainability of future development. After the *Deepwater Horizon* disaster and Shell's recent failed drilling operations in Alaska, the oil and gas industry and government regulators have come under scrutiny about the ability to safely develop and manage offshore projects. On one side, the oil and gas industry has a responsibility to adopt comprehensive plans to improve oil spill response, reduce marine pollution, address infrastructure inefficiencies, and improve safety standards. While on the other, governments have an obligation to enforce existing governance and regulation regimes in marine environments.

Unfortunately, gaps in governance and regulation pose a significant threat to the surrounding marine environment and the livelihoods of millions throughout the region.

Because the Arctic's ecosystems are undergoing such unprecedented changes and are not as resilient to change as other environments around the planet, offshore oil and gas development must adhere to stricter governance and regulations. With the absence of critical infrastructure, inefficient oil spill response strategies and limited knowledge about the impacts of climate change and offshore development on the marine environment, there is an urgency to improve governance and regulation. Further, sustainability is at the heart of the debate because economic development and environmental protection are inextricably linked. To promote sustainable development, there needs to be a thoughtful approach in planning and regulation that considers the needs of future generations and examines the critical importance of ecosystem stability and vulnerability that directly impact humanity. Thus, the exploitation of oil and gas, fisheries, forests, mineral resources and increased shipping and tourism should not compromise the integrity and function of natural systems, which might be irreplaceable and are of critical importance to the health of the planet.

To tackle these concerns, there are two options that can be considered to address current gaps in governance and regulation. These two options – the adoption of a legally binding or non-legally binding instrument – has led to a debate between Arctic and non-Arctic states, indigenous peoples, and NGOs. After further examination, the adoption of a new convention for the Arctic region, similar to the ATS, will be difficult to accomplish. Rather, the support of an already existing regime is the preferred option. A soft-law approach, similar to the AC, provides flexibility for Arctic-states to work on resolving

problems without committing to legally binding obligations. To date, the AC has proven to be an effective mechanism to address climate change, offshore oil and gas activities and environmental protection. Although the AC is a policy shaping forum that depends on Arctic states and their respective national governments to implement policy, it has shown its resilience and adaptability to an evolving region. Not only is this is an important assessment of the AC's effectiveness, but also provides insight of how the Arctic states and indigenous peoples will approach future governance and regulation concerns.

The bigger question is whether a non-legally binding institution can motivate member states to enact legislation to address the impacts of climate change and economic development on the marine environment. Because of the national sensitivities involved in the marine domain, littoral states control how offshore development ought to be governed and regulated. If this is any indication of what is to come, Arctic states will not adopt more assertive attitudes to offshore development, but have confidence in existing international regimes to resolve maritime disputes and provide a baseline for environmental protection and offshore regulation. Further, the AC has provided the forum where gaps in governance and regulation can be discussed and debated among member states and observers and can bring contentious issues to the negotiating table. Dependence on a regionally-based solution that does not have legally-binding powers does make non-Arctic states and other parties question the effectiveness of this approach. However, when considering the stark differences between the regions, it makes sense to hold littoral states accountable to improve offshore oil and gas governance and regulations. The economic benefits afforded to the Arctic states and indigenous peoples

are unprecedented and to ensure future economic activities operate in a sustainable manner, there will be pressure to reform current governance and regulation standards. In other words, not only is it in their national security interests to open the Arctic up to future economic development, but it is also in their interests to safeguard and enforce a new standard of regulations that promotes a sustainable and integrated approach to economic development and environmental protection.

When discussing climate change, environmental protection, and economic development, a soft-law approach provides flexibility to negotiate a strategy of action. Moreover, the Arctic states and indigenous peoples have placed stock in addressing such issues when discussing the future of the Arctic. For the time being, the AC represents the best path forward given it is an open-forum of participation and inclusiveness where all parties can voice their opinion. It also is an outlet for non-members to provide opinions on complex issues, like offshore oil and gas governance and regulation. This also means the oil and gas industry, which shares a burden of responsibility for future development, should engage in developing and crafting a new set of guidelines that can be a blueprint for sustainable offshore development. In the end, this provides a real opportunity to showcase productive solutions to an evolving marine environment.

OIL PIRACY AND THEFT IN THE GULF OF GUINEA□

AN EMERGING THREAT TO EXISTING AND FUTURE OFFSHORE OIL AND GAS ACTIVITIES

INTRODUCTION

The Gulf of Aden and Gulf of Guinea represent the world's hotspots of maritime piracy and hijackings. In 2008, Somali pirates grabbed worldwide attention with the hijacking of the *Sirius Star*, a Saudi super tanker carrying two million barrels of oil and the dramatic hijacking of the *Maersk Alabama*, which ended after US Navy SEALs, recaptured the vessel and rescued its crew.[219] Such headline attacks alone do not capture how dangerous the Gulf of Aden has become for seaborne commerce. In total, Somali pirates have attacked more than 625 vessels, hijacked over 175 private and commercial and held over 3,000 people from more than forty countries hostage.[220] In contrast, the Gulf of Guinea is the second most dangerous maritime region in the world. The International Maritime Bureau's (IMB) Piracy Reporting Centre recorded 58 attacks, including 10 hijackings, primarily concentrated off Nigeria's coast.[221] Although piracy is not new, the Gulf of Guinea is endowed with large oil reserves. With 70 percent of Africa's total oil production concentrated in this region, maritime piracy threatens to disrupt production and impact global oil prices and all major economies.[222]

The threat to global energy security from maritime piracy has reached a boiling point in these volatile regions as international waterways of trade and commerce are in jeopardy. The Gulf of Aden has 20,000 ships pass through the Bab el-Mandeb Strait each year transporting 12 percent of the world's petroleum to European markets.[223] About half

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[219] Theo Neethling, "Piracy around Africa's West and East Coasts: A Comparative Political Perspective," *Scientia Militaria South African Journal of Military Studies*, 38:2(2010): 90-91.
[220] Atlantic Council, "Managing the Global Response to Maritime Piracy," *Atlantic Council Counter-Piracy Task Force* (2012) 2-3.
[221] Cristina Barrios, "Fighting Piracy in the Gulf of Guinea: Offshore and Onshore," *European Union Institute for Security Studies*, (May 2013): 1-4.
[222] Freedom C. Onuoha, "Oil Piracy in the Gulf of Guinea," in *Conflict Trends*, ed. Vasu Gounden, (Durban: The African Centre for the Constructive Resolution of Disputes, 2012) 28-30.
[223] Martin Murphy, "Somali Piracy: Why should we care?" *The Rusi Journal*, 156:6(December 2012): 6.

of the world's container traffic also passes through the strait. The Gulf of Guinea is also a region of international importance for seaborne trade and oil production. With an estimated 58 billion barrels of oil, the accessibility and availability of high-quality sweet-crude make it a valuable energy market.[224] Because of its strategic importance, international oil companies (IOCs) and national oil companies (NOCs) seek to securitize offshore acreage, obtain production contracts and infuse billions of investment dollars into offshore production. In fact, offshore drilling will account for 25 percent of offshore production by 2015 and will likely surpass total production from the Persian Gulf by 2025.[225] However, infrastructure and oil-laden tankers are under threat to marauding pirates and armed robbers. As maritime piracy off the Nigerian coast increases, fears that piracy could spread to surrounding states is being realized. Worse, these brazen attacks have a negative impact on global oil prices, production output, and insurance premiums.

In response, counter-piracy initiatives have been adopted by the international community and have been successful in the Gulf of Aden. However, similar counter-piracy operations have had a limited success in the Gulf of Guinea. This is in part due to the fact that the international community does not have jurisdiction to implement the same counter-piracy strategy. In particular, the Gulf of Guinea is comprised of littoral states that have control of their territorial waters and more or less have functional governments. Thus, combatting maritime piracy is seen as a national responsibility. In an effort to find context-specific solutions for combating piracy in the Gulf of Guinea, this chapter undertakes a comparative study of the two regions. It asks if self-protection

[224] Sam Raphael and Doug Stokes, "Globalizing West African oil: US 'Energy Security' and the Global Economy," *International Affairs*, 87:4 (2011): 903-06.
[225] Freedom C. Onuoha, "Piracy and Maritime Security in the Gulf of Guinea: Nigeria as a Microcosm," *Al Jazeera Centre for Studies*, (June 12, 2012): 2-5.

measures and the mobilization of international naval forces were 'good enough' short-term solutions in the Gulf of Aden and if a similar strategy could be applied to the Gulf of Guinea given its regional political considerations. Furthermore, what lessons can be learned from these and other counter-piracy operations in the Gulf of Aden?

The methodology for the thesis is centered upon a comparative analysis of maritime piracy in the Gulf of Aden and the Gulf of Guinea and is comprised of three sections. In the first section, the paper examines maritime piracy by highlighting the distinct differences in geography, motivation, tactics, and organizational structure. Further, this section examines counter-piracy initiatives undertaken by the private sector (shipping, oil and gas industry and private contractors) and regional and international powers. In the second section, this paper analyzes gaps in current counter-piracy initiatives that present challenges to effectively combatting piracy in the Gulf of Guinea. Finally, the thesis provides policy recommendations that are designed to bridge these gaps in counter-piracy initiatives while also tackling long-term strategies for the Gulf of Guinea.

MARITIME PIRACY IN THE GULF OF ADEN AND THE GULF OF GUINEA

While it is tempting to argue that maritime piracy exists in regions void of rule of law, governance and onshore and offshore security, it is important not to assume that such illicit operations only occur under these circumstances. In an effort to better comprehend maritime piracy, this section explores both regions and further examines how geography, motivation, tactical capacity and organizational structure do vary between the Gulf of Aden and the Gulf of Guinea. It also provides an in-depth analysis of the common structural conditions that continue to allow maritime piracy to flourish.

Geography – the scope of this maritime threat

Most offshore attacks originate from the Somalian coastline in close proximity to critical international waterways. With major shipping traffic passing through congested choke points, commercial freight traffic became enticing targets for unemployed and disillusioned Somali men.[226] As a result, the IMB reported from 2008-2009 half of the world's hijackings took place off the coast of Somalia, covering the area off the country's east coast in the Indian Ocean to the Gulf of Aden.[227] Even after the mobilization of international naval forces in 2008, Somali pirates extended their attack zones to target ships farther into the Red Sea and Indian Ocean.[228]

The base of operations is also quite concentrated even though Somalia has over 3,300 km of coastline, the longest stretch of any African state. Without a navy or coast guard, Somalia's vast coastline is unpoliced and allowed some coastal regions, like Puntland and central Somalia to emerge as safe havens for pirates.[229] Most safe havens are in close proximity to shipping lanes and provide a critical home base for recruitment and offer a staging ground for attacks. Maritime piracy is lucrative business not just for the pirates, but also these coastal communities. With the average ransom price for the release of a ship and crew on average of US $500,000 to US $2 million, piracy brings economic prosperity to these coastal communities.[230]

The Gulf of Guinea is also a crucial transit area for international trade; however, there are distinct differences in the location of maritime piracy. First, the Gulf of Guinea

[226] Raymond Gilpin, "Counting the Costs of Somali Piracy," *United States Institute of Peace* (June 22, 2009): 3.
[227] Neethling, 94.
[228] The World Bank, *The Pirates of Somalia: Ending the Threat, Rebuilding a State*, Washington, D.C.: World Bank (2013) 88-92.
[229] Clive H. Schofield, "Pirates Ahoy! The Modern Pirate Menace off the Horn of Africa," *Interaction*, 38:2(2010): 11-18.
[230] *Ibid*, 14.

is comprised of eleven coastal states with functional central governments with over 300 million inhabitants. In total, the coastline extends nearly 6,000km, which is roughly the size of the Gulf of Mexico and double that of the Somali coast.[231] This maritime domain is governed by littoral states that have an obligation to protect their territorial waters. Next, the Gulf of Guinea is an abundant oil region typified by its large oil producers (Nigeria and Angola), mature producers (Cameroon and Gabon and new producers (Equatorial Guinea and Chad). The oil and gas is highly coveted by Europe and the United States because of its quality and proximity to markets and refineries.[232] But, the resource wealth has been more of a curse as the "paradox of plenty" has led to long-standing conflicts between central governments and ethnic minorities over resource rights and distribution of oil revenues. In the Niger Delta (Delta), frustrated ethnic minorities and armed groups are responsible for attacks on onshore oil infrastructure and kidnapping of multinational personnel. After decades of onshore insecurity, oil theft has now bled into the maritime domain and raises concerns about the security of future offshore development projects in oil-rich areas, like Nigeria, Angola, Benin, and Togo.[233]

The base of operations for maritime piracy is concentrated off Nigerian waters and within close proximity to the oil-rich Delta region.[234] Thieves and armed groups target commercial traffic and after violence escalated in the Delta insurgency between

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[231] Raymond Gilpin, "Enhancing Maritime Security in the Gulf of Guinea," *Strategic Insights*, 6:1(January 2007): 1-2

[232] Freedom C. Onuoha, "The Geo-strategy of Oil in the Gulf of Guinea: Implications for Regional Stability," *Journal of Asian and African Studies*, 45:369(2010): 370.

[233] David Goldwyn and Stephen Morrison, "A Strategic U.S. Approach to Governance and Security in the Gulf of Guinea," *Center for Strategic and International Studies* (2005): 1-2.

[234] Michael Klare and Daniel Volman, "Africa's Oil and American National Security," *Current History*, 103:673 (May 2004): 226-31.

2006 and 2009, maritime piracy spread to Benin and Togo.[235] Similar to the Gulf of Aden, this region experiences heavy offshore traffic of tankers transporting oil, liquefied natural gas (LNG) and refined petroleum products from onshore and offshore installations. With commercial traffic and easy accessibility to petroleum, the IMB reported that Nigeria is a 'hot spot' due to its prized oil industry and well-established black market.[236] In fact, the well-establish transnational criminal networks provide a suitable environment for maritime piracy as numerous actors seek to gain some financial gain by supporting these illicit activities.

Although, maritime piracy is widely reported to revolve around Nigerian waters, there is an expansion of illicit operations into neighboring littoral states. However, there is insufficient data as to where the new piracy hotspots are and to what extent the maritime threat has infected the region. According to the IMB, the main reason for a lack of reporting is that one-third of attempted attacks are never reported because most attacks occur within territorial waters. Further, the legal definition of piracy is also inconsistent. One on hand, the United States Convention of the Law of the Sea (UNCLOS) defines such attacks within jurisdiction waters not as acts of piracy but armed robbery; however, the International Maritime Organization (IMO), the agency within the UN responsible for all aspects of maritime safety and security, provides several definitions of armed robbery and piracy.[237] Nevertheless, the scope of attacks and the base of operations are expanding as a recent IMB report indicated that from the period of 2003-2012, Ghana,

[235] International Crisis Group, "The Gulf of Guinea: The New Danger Zone," *Africa Report* 195 (December 12, 2012): 1-12.
[236] Scott Baldauf, "Next Pirate Hot Spot: The Gulf of Guinea," *The Christian Science Monitor*, February 28, 2012, http://www.csmonitor.com/World/Africa/2012/0228/Next-pirate-hot-spot-the-Gulf-of-Guinea
[237] Chris Trelawny, "Piracy in West Africa: A Symptom of Wider Problems," *New African* (2013) 16-21.

Cote d'Ivoire, and Benin have seen an increase in piracy attacks.[238] With inaccurate reporting on attempted attacks and attacks, the knowledge of how pervasive maritime piracy has become in the region is blurred and incomplete. That said, maritime piracy is rapidly evolving in the Gulf of Guinea as its base of operations now extends into neighboring states.

Motivating factors

A contributing factor behind the upsurge in piracy in the Gulf of Aden was the failure of governance and state collapse in 1991.[239] Following the ousting of President Siad Barre, the country fell into a virtual anarchy that opened the door for illicit activities, including piracy. Other experts contend that piracy arose as a form of protection against toxic dumping and illegal fishing from foreign vessels. Toxic dumping and overfishing did have a devastating impact on the livelihoods of the Somali population. Not only could fisherman no longer fish and sell their catch to purchase food for their families, but they could not find other employment to make up for their lost income.[240] Therefore, in the absence of a functional government, dismayed Somali fishermen took matters into their own hands to protect its offshore fishing areas.[241] What initially began as a campaign to protect their fishing grounds and maritime domain from illegal activity soon provided a rationale to use piracy as an alternative to recoup lost income.[242]

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[238] International Maritime Bureau, *Piracy and Armed Robbery against Ships: 2003-2012*, IMB Annual Reports (2012).
[239] Freedom C. Onuoha, "Sea Piracy and Maritime Security in the Horn of Africa: The Somali Coast and Gulf of Aden in Perspective," *Institute for Security Studies*, 18:3(2007): 37.
[240] Johnathan R. Belhoff, "How Piracy is Affecting Economic Development in Puntland, Somalia," *Journal of Strategic Study*, 6:1(Spring 2013): 47-48.
[241] Shelley Whitman and Carla Suarez, "Dalhousie Marine Project: The Root Causes and True Costs of Marine Piracy," *Dalhousie University – Marine Affairs Program Technical Report #1* (2012) 31-32.
[242] *Ibid*, 31.

Thus, the economic incentive became the motivating factor. At the onset, most attacks were conducted by fishermen tired of foreign fishing fleets dumping toxic waste and illegally fishing in Somali waters.[243] These fishermen chose to rob and attack foreign vessels to make up for lost income and protect its economic exclusive zones (EEZ).[244] However, such attacks did not stop illegal fishing and did not provide significant ransom rewards for hijacked crews and fishing vessels. With such extreme onshore economic and social hardships in Somalia, it did not take long before pirates shifted towards a more indiscriminate targeting campaign that included all commercial vessels.[245] The psyche among pirates and those joining the ranks shifted towards a profit-driven mentality. It was more lucrative and less dangerous to attack large, slower and unarmed commercial vessels than the risk of being killed pursuing armed fishing vessels.[246] A change in the pirates' motivation also meant a change in target zones to accommodate profit demand. The Gulf of Aden was a perfect option because of the high concentration of commercial freight and guaranteed bounty. Not only was hunting easy, but shipping companies were willing to pay ransom to retrieve their hijacked vessels and crew. In fact, ransom ranged between tens of thousands of US dollars to an average of half a million to $3.5 million in 2008.[247]

In the Gulf of Guinea, the motivating factors were driven political and social grievances. Like the Gulf of Aden, the socio-economic conditions, such as poverty, high unemployment, and lack of economic opportunity on land were present; however, the

[243] Joana Ama Osei-Tutu, "Root Causes of the Somali Piracy," *Kofi Annan International Peacekeeping Training Center* (2011) 10.
[244] Neethling, 95.
[245] Santiago I. Baniela, "Piracy at Sea: Somalia an Area of Great Concern," *The Journal of Navigation*, 63 (2010): 195-98.
[246] Patrick Lennox, "Contemporary Piracy off the Horn of Africa," *Canadian Defence & Foreign Affairs Institute* (December 2008): 9-10.
[247] Ama Osei-Tutu, 13.

link between oil development and its impact on the marginalized ethnic groups in the Delta profoundly influenced oil theft and piracy. Because Nigeria is the linchpin for the region as Africa's most populous and largest oil producing country, security experts argue that Nigeria is the microcosm for regional maritime security.[248] In fact, maritime security is vital to exploit maritime resources, secure livelihoods and promote sustainable development; however, if neglected it leads to acute security challenges. As seen in the Delta, food insecurity and environmental degradation influenced illicit activity in retribution to neglect by the Nigerian central government.[249]

Oil theft has its roots with Nigeria's most marginalized ethnic groups. For a country of 150 million people, the oil-rich Delta is home to 30 million ethnically diverse peoples of which 30 percent remain unemployed. Less than one-percent of Nigeria's oil revenues, which account for 95 percent of its foreign exchange earnings, ever reach the Delta communities. Coupled with the fact that 60 percent of the people in the Delta region depend on the natural environment to sustain themselves, substantial oil pollution has also degraded farmland and fishing grounds. In fact, the United States Development Program (UNDP) reported there have been more than 6,800 oil spills recorded.[250] Agricultural land, fishing grounds, and drinking water remain contaminated, which have left the people of the Delta without a social safety net and income. With deepening poverty and no hope of employment, frustrations have erupted into violence over the lack of control of its natural resources and extreme environmental degradation.[251]

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[248] Patrick Patterson, "Maritime Security in the Gulf of Guinea," *Joint Force Quarterly*, 45:2(2007): 29-32.
[249] Chatham House, "Maritime Security in the Gulf of Guinea," (paper presented at the Royal Institute of International Relations in London, United Kingdom, December 6, 2012.
[250] Amnesty International, *Petroleum, Pollution and Poverty in the Niger Delta* (London: Amnesty Publications, 2009), 1-8.
[251] *Ibid*, 3.

These social and political grievances branded an ideology of injustice and exploitation into the psyche of the Delta inhabitants. The psychological impact is cross-generational and even provided armed militia groups, like MEND, with the legitimacy and a base of operations to attack onshore oil infrastructure and vessels off the Nigerian coast.[252] In 2008 alone, over 150,000 barrels per day (bpd) were stolen as a result of oil bunkering (tapping a pipeline or ship to steal oil) and piracy. Although a small percentage compared to Nigeria's daily production, it forced oil companies to reassess onshore operations in the pursuit of 'safer' offshore options.[253]

Most concerning is how the economic incentive is rapidly becoming the motivating factor behind piracy. Although some claim to be fighting for social and political freedom, the link between political activism and oil theft is blurred.[254] In fact, oil theft is influenced by a toxic mix of organized crime, rising small arms proliferation and the illegal trade of refined petroleum products.[255] With the political pretense lost in the Delta, there is no need for oil thieves to limit their target selection. As a result, there has been a spike in offshore attacks on product tankers or chemical tankers off the coast of Togo, Benin and Ghana. These attacks are a carbon copy of the Nigerian model that is centered upon social and political grievances and greed.[256]

Tactical capacity and business models behind operations

In the Gulf of Aden, piracy tactics shifted from uncoordinated, small attacks towards large-scale integrated operations. A typical attack group is now comprised of

[252] Martin N. Murphy, "Africa's Leaking Wound," *U.S. Naval Institute Proceedings*, 3:139 (March 2013): 36-41.
[253] Stuart E. Johnson, et al., "Promoting International Energy Security: The Gulf of Guinea," RAND Corporation *(*2012) 19-23.
[254] United Nations Office on Drugs and Crime, *Transnational Organized Crime in West Africa: A Threat Assessment*, UNDOC (February 2013), 46-51.
[255] International Crisis Group, 6-7.
[256] United Nations Office on Drugs and Crime, 46-47.

about 10 armed pirates in three skiffs, which are under the command of a chief.[257] These pirates are well-armed with weaponry, like assault rifles, machine guns, anti-ship ordinance and rocket propelled grenades (RPGs). These weapons are purchased illegally from Somalia, Ethiopia, and Sudan where munitions are plentiful and cheap. At the moment, Somali pirates do not have access to Global Positioning Systems (GPS), night vision goggles or vessel identification systems, which might explain why over 90 percent of their attacks occur during the day. But, Somali pirates have implemented a more complex attack strategy where they employ the use of *mother ships*, which are larger vessels used as a base for smaller skiffs, to provide extended range for operations and also avoid detection from patrolling naval vessels.[258] Such coordination and integration illustrates the adaptive capacity of Somali pirates and heightened opportunism that took the international community by complete surprise.

Target selection has also evolved over the past decade. Once the profit motive was introduced, Somali pirates expanded their target selection. With the hijacking of two high profile vessels – a Saudi oil tanker and a Ukrainian vessel transporting Russian-made tanks, the Somali pirates' showed a willingness to take more risk in targeting bigger vessels. In order to carry out such attacks requires a vast network of spies in foreign ports to alert pirates of targets, improved communications and detection capabilities, and rapid response of multiple attack groups even in the presence of international naval forces.[259]

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[257] Lennox, 9.
[258] Schofield, 15-16.
[259] John Ivancovich, et al. "Options and Opportunities for Whole-of Government Contributions in the Campaign against International Piracy," *Center for Naval Analyses* (March 2012): 6-7.

The end goal for the Somali pirates is to collect a ransom for the vessel and crew. Unlike other parts of the world, Somali pirates rarely show a willingness to harm their hostages during raids, since a ransom payment is the objective. Although ransom is a concept as old as piracy itself, the overall success of Somali operations cannot be overlooked. It is estimated that the annual ransom paid to Somali pirate networks in 2008 (peak year) ranged from $50 million to $130 million.[260] Although ransom payments dropped in recent years due to the international response, Somali piracy has provided unprecedented wealth to those with few opportunities. [261]

While it might seem like this business model is simple, there are actually several moving parts that offer a complex network of operations. First, the Gulf of Aden pirates emphasize the importance of leadership structures, duties and tasks for all actors, and the creation a revenue-collection system. In this system, everyone is given a task and duty and it is expected that each individual perform their assigned tasks effectively if this model is to function seamlessly. Further, the business model has seven critical phases: reconnaissance and information gathering on targets, coordinated pursuit, boarding and takeover, steaming to safe area, negotiations, ransom payment, and disembarkation.[262] Similar to a corporate model, the sustainability of operations will depend on financiers, effective leadership, government support, recruitment and a profitable end-goal.

In contrast, Gulf of Guinea attacks are also well-coordinated, but pirates narrowly focus on targeting the oil industry rather than indiscriminate targeting. Further, pirates are also more violent than their counterparts, sometimes killing crewmembers or oil personnel during an attack. These attacks are described as "robbery at sea" where the

[260] Gilpin, "Counting the Costs of Somali Piracy," 9.
[261] Whitman and Suarez, 43-44.
[262] Gilpin, "Counting the Costs of Somali Piracy," 8-10.

modus operandi is to "smash and grab" at night by striking ships at anchor or oil platforms.[263] Some analysts define piracy and armed robbery in three categories: low-grade theft of stores, crew's possessions and money; theft of oil and hydrocarbons during ship-to-ship transfers; and attacks on other ships for food, fuel and other material.[264] Most significant is oil theft because of its value, availability and accessibility. The end goal for these oil gangs is to steal oil, either from tankers or pipelines, for the sole purpose of selling it to local or international black markets.[265]

Tactics used are an extension of onshore criminal activity. For decades, the Delta served as a base of operations for illegal bunkering, a popular practice among criminal gangs to steal oil through pipelines.[266] Although considered different illegal activities, oil bunkering is linked to piracy in the targeting of crude carriers anchored at port. The frequency of attacks on shipping has steadily increased as the IMB reported 32 incidents of armed attacks and hijackings off the coast of Nigeria and Togo within the first six months of 2012 alone. This is attributed to an interest in the offshore oil cargoes amidst the abundance of oil transiting the Gulf of Guinea. These oil gangs recognize that oil-laden vessels are more lucrative targets and provide a financial incentive once its cargo is siphoned off and brought to shore. With extensive onshore networks including illicit refineries, pirates can find buyers and sellers immediately that often range from corrupt government officials to former oil and gas employees.[267]

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[263] Ivancovich, et al., 6-7.
[264] Trelawny, 18.
[265] Johnson, et al., 21.
[266] Francois Vrëy, "Maritime Aspects of Illegal Oil-bunkering in the Niger Delta," *Australian Journal of Maritime and Ocean Affairs*, 4:4(2012):109-15
[267] Christina Katsouris and Aaron Sayne, "Nigeria's Criminal Crude: International Options to Combat the Export of Stolen Oil, *Chatham House* (September 2013): 2-9.

Oil piracy is well-organized and is transnational in nature. To sustain operations, oil piracy involves eight-stages: target selection, planning, deployment, attack, trans-shipment, transportation, storage and disposal. Because operations are sophisticated and include attacks on vessels and infrastructure across national borders, it is common for oil gangs to recruit people of different nationalities. This allows these gangs to overcome language barriers and geographical unfamiliarity, but also provides a wider scope of operations in neighboring coastal waters and harbors.[268] In addition, these pirates attempt to influence decisions about land-based matters, often in a violent manner in order to protract their interests offshore and achieve their ultimate goal of selling stolen oil and for profit.[269]

Organizational structure

To understand who is involved in piracy operations in the Gulf of Aden, it is important to examine the hierarchy of command and control. The Somali piracy network is complex and involves actors on land to ensure operational capacity is sustainable. Many people are involved – from the dealers who supply the pirates with the fuel to the financiers that provide logistical support beyond Somalia's borders.[270] More specifically, a piracy hierarchy starts with the tribal or clan leaders that have significant influence over coastal regions and piracy operations. Equally important are the financiers that provide the capital needed to purchase skiffs, weapons, fuel, and solicit new recruits. Whether it be local businessmen, foreign investors or even expatriates, these investment dollars are critical to operational capacity. In exchange for 'seed money' pirate gangs give half of

[268] Freedom C. Onuoha, "Oil Piracy in the Gulf of Guinea," 32-33.
[269] Neethling, 99-104.
[270] James J. Carafano, et al., "Maritime Security: Fighting Piracy in the Gulf of Aden and Beyond, *Heritage Foundation* (June 24, 2009): 9-10.

the proceeds from an attack to financiers.[271] Next, the "high-rollers" are the leaders behind the piracy networks and have command over the attack groups – security squads, *mothership* crews, attack squads and negotiator teams. These bosses are also in charge of recruitment. In most cases, young men from clans and sub-clans with a long lineage of piracy are hand-picked to ensure the most experienced individuals are recruited.[272] This is a crucial aspect to the longevity of operations because of the high attrition rate. In fact, most pirates retire after their first successful hijacking since their share of the ransom can bring instant wealth.

The pirate hierarchy is a symbiotic relationship between foot soldiers, local businessmen, clan and tribal leaders, financiers, coastal communities, and terrorist groups who all benefit from supporting the network. In the absence of a centralized government, illicit networks can flourish and expand. In fact, the warming relationship between the terrorist organization *al-Shabaab* and Somali pirate networks is quite concerning. Following an alliance after years of fighting, it was reported that *al-Shabaab* trained pirates and allow pirates to use *al-Shabaab*-controlled ports in exchange for a percentage of ransom payments. [273]

If the Somali piracy organizational structure is hierarchical, then piracy in Gulf of Guinea can be described as a more cellular-focused system. Based on Nigeria's oil theft and oil piracy, these operations are not run by one person, family or ethnic group as management tends to be more cooperative than based on command-and-control. Also, structures vary from network to network. For instance, membership depends on the size and location of its operations, its needs and broader political entanglements. However,

[271] Whitman and Suarez, 33-36.
[272] Chalk, 91.
[273] The World Bank, 74.

there are roles still required to be filled for these operations.[274] An operation requires "high level opportunists" (government officials, security personnel or local godfathers) to collect profits from theft by virtue of their standing. Next, "facilitators" (lawyers, accountants and corrupt bank managers) provide cash for operations and help launder the profits. Those involved in the "operations" (local youth, former IOC employees, armed criminal group, militias or even local elites) are in charge of installing illegal taps, loading oil, and gathering intelligence on oil, ships and state security service movements. To safeguard the transit of the stolen oil, "brokers" sell stolen oil to local and foreign buyers, which require support from local middleman, politicians, private commodities traders, security contractors (local armed militia) and access to smaller ships and commercial-grade tankers.[275] Although oil theft is an entrepreneurial and opportunistic business, it is not easy to gain access. To join a small or large-scale operation requires an ambitious or well-placed individual that can either start a protection racket or offer services to an existing network.

Information on these oil theft networks is elusive, but one certainty is that these networks are well-established and profitable because of widespread corruption. Already a significant issue in Nigeria and the region, oil theft and piracy flourish because of the financial payoff.[276] In fact, the success of piracy and oil theft depends on the support of government officials, military commanders, riverine communities, militia and criminal groups, unemployed youth, foreigners, financiers, buyers and oil companies.[277] Thus,

[274] Katsouris and Sayne, 6-7.
[275] *Ibid*, 6.
[276] Nnamdi K. Obasi, "Organized Crime and Illicit Bunkering: Only Nigeria's Problem?" in *Fuelling the World – Failing the Region? Oil Governance in Africa's Gulf of Guinea*, ed. Michael Roll and Sebastian Sperling, (Abuja: Fredrich-Ebert-Stiftung, 2011), 60-62.
[277] *Ibid*, 62-63.

efforts to dislodge and dismantle such complex and well-entrenched operations will require sustained pressure, time and patience.

EXISTING ANTI-PIRACY OPERATIONS

While it is critical to illustrate how maritime piracy is markedly different in each region, an exanimation of anti-piracy operations is also pertinent to the discussion. It is important to analyze the scope, dimensions and success of such initiatives. This section explores how industry, governments and the international community have responded to the piracy threat and how effective the response has been in each region.

The private-sector's response to piracy threats

In the Gulf of Aden, commercial shipping has been most impacted by piracy. According to international shipping organizations, insurance rates for ships rose to $20,000 per voyage in 2008, almost a forty-fold increase because of hijackings.[278] Further, the cost of taking alternate routes can add 3,500 miles to the journey and is more expensive for shipping companies especially as global oil prices steadily increase. Deterrence options are even expensive. For example, long range acoustical devices cost up to $30,000 each and permanent onboard security guards are prohibitively expensive.[279] However, commercial shipping companies have had to implement changes simply because there is no choice. In particular, the shipping industry has instituted self-protection measures, known as Best Management Practices for Protection against Somalia Based Piracy (BMP4s). These BMP4s include: 24-hour watch, physical barriers like netting and electrical razor wire, high-pressure water hoses and foam, evasive

[278] Robert R. Frump, "Danger at Sea: Piracy Threat Likely to Keep Growing Despite Greater International Response," *Shipping Digest* (January 12, 2009)
[279] John Knott, "Somalia Clan Rivalry, Military Conflict and the Financial and Human Costs of Piracy," *Mondaq,* March 17 2009, http://www.mondaq.com/article.asp?articleid=76272

maneuvering tactics, the addition of safe-rooms where the crew can maintain control of the vessel, and sonic weapons.[280] As a non-military option, BMP4s have been quite successful despite the fact that they are not mandatory and are expensive. Smaller to medium-sized shipping companies often forgo these options and transit high-risk waters unprotected. Ironically, two-thirds of the vessels targeted by pirates in the region are the same ships without protective measures.[281]

The IMB also recommend shipping companies adopt operational and communications security (OPSEC) to minimize ship-to-shore communications about cargo, routes and on-board security. Because Somali pirates use spies and intelligence gathers, it is imperative for transiting vessels to exercise "radio-silence" to avoid detection.[282] This also can be achieved by redirecting vessels to sail farther away from the Somali coastline, more than 600 nautical miles offshore to keep out of very high frequency (VHF) radio range from land.[283] However, drastic maneuvers near the Horn of Africa where some waterways are constricted on the approach to the Bab al-Mandab strait make it impossible to avoid the Somali coastline.

Perhaps the most expensive option and also the center of international debate is the use of PMSCs onboard ships. Although self-help industry measures are effective in warding off attacks in the Gulf of Aden, they do not guarantee security in this vast maritime domain. Even with a large international contingent of naval vessels in the region, it is difficult to protect every inch and respond to every attack. Therefore, commercial shipping companies that are willing to pay have turned to PSMCs to protect

[280] Atlantic Council, 6-7.
[281] *Ibid*, 2.
[282] Lennox, 14.
[283] Schofield, 17.

their vessels and crews. Often called the "100 percent solution" because there has not been a single successful attack on a ship utilizing PSMCs, it has been an effective option since its introduction in 2011.[284] However, there are not a common set of regulations over the use of PMSCs in the maritime domain. Without a similar international code of conduct that applies to land-based private security companies, interpretation of its powers and legal responsibilities in the open seas is still under debate and scrutiny.

In contrast, the Gulf of Guinea involves more than just commercial shipping companies, but also the oil and gas industry. Commercial vessels transiting and operating and offshore oil and gas infrastructure are highly susceptible to attack. Furthermore, because littoral states have jurisdiction and are responsible for policing their maritime domain, security limitations are put on the oil and gas industry. As a result, IOCs operating in the Gulf of Guinea, like ExxonMobil, Shell and Chevron have implemented "voluntary principles" for maritime security of personnel and infrastructure. This includes enhanced surveillance for offshore platforms, pipelines and vessels and coordinated intelligence-gathering with national army and police agencies.[285] Also, to monitor international financial networks that profit from oil theft and piracy, Shell started lacing its crude oil with unique synthetic tracers to identify stolen oil at the point of purchase when it re-enters a legitimate market.[286] This strategy follows the 2000 Kimberley Process where governments, industry and civil society signed an initiative to

[284] Atlantic Council, 6.
[285] Onuoha, "Oil Piracy in the Gulf of Guinea,"34.
[286] Chatham House, "Maritime Security in the Gulf of Guinea," 14.

stop the 'conflict diamonds' trade to ensure purchases were not financing violence by rebel movements.[287]

The close relationship between IOCs and NOCs and oil-producing states provides extra security benefits. For instance, oil companies use state law enforcement and have access to the national army and police if personnel, facilities and infrastructure are attacked. In an effort to further bolster protection, oil companies hire private military companies (PMCs) to prevent sabotage and attack.[288] PMCs are different than PMSCs in that they are security outfits recruited and trained by national governments to assist the oil industry. They are also more expensive and uphold the interests of the state.

As for commercial shipping, it is difficult to ensure safe transit and operation in the Gulf of Guinea because of limited regional and international capabilities. Similar to Somalia, shipping companies implemented BMPs, such as anti-boarding mechanisms, on-deck lighting and lookout towers. However, counter-piracy mechanisms are not mandatory under IMO guidelines, which leave vessels highly vulnerable when anchored in ports. Because this is within territorial waters, the use PMSCs have not been given the authority to operate and international naval forces are also restricted in their interdiction capacities. As a result, shipping companies depend on regional naval and coast guard forces to protect vessels. Unfortunately, these forces are ill-equipped and ill-trained to conduct counter-piracy operations.[289] To improve regional naval and coast guard capabilities, international navies have sponsored joint training operations with these

[287] Kimberley Process Certification Scheme, May 2000, http://www.kimberleyprocess.com/en/kpcs-core-document
[288] Jodi Rosenstein, "Oil Corruption and Conflict in West Africa: The Failure of Governance and Corporate Social Responsibility," *Kofi Annan Peacekeeping Training Institute* (2005): 36-37.
[289] Chatham House, "Maritime Security in the Gulf of Guinea," 23.

littoral states and also provide logistical support, material and training in counter-piracy operations.[290]

International and regional responses – a perspective of flexibility and capability

Because the Gulf of Aden intersects international waterways and Somalia does not have a functional government, the international community took unprecedented action to combat piracy. Considered a landmark international resolution due to its unanimous support, the UN Security Council (UNSC) approved the Resolution 1851 in 2008. The move authorized states with navies deployed in the Gulf of Aden to take action against pirates in Somali territorial waters and on land.[291] Since authorization, there have been three naval task forces created. Most notably, the Combined Task Force (CTF-151) was established with the sole mission to conduct anti-piracy operations in the Gulf of Aden and off the Somali coast. CTF-151 established a Maritime Security Patrol Area (MSPA), a corridor in the Gulf of Aden that provides safe passage for commercial traffic and acts as a deterrent for pirates.[292] In 2009, the North Atlantic Treaty Organization (NATO) deployed maritime forces under "*Operation Allied Protector*" to conduct anti-piracy operations and assist regional states in developing maritime surveillance and interdiction initiatives in their territory waters.[293] The European Union (EU) also entered the anti-piracy campaign by creating a combined naval force (EUNAVFOR). In 2008, EUNAVFOR conducted anti-piracy operations, including the protection of World Food Program (WFP) vessels off the Somali coast.[294] Apart from CTF-151, NATO, and EUNAVFOR, other countries have sent naval vessels to protect and escort shipping,

[290] Trelawny, 19-20.
[291] Christopher Alessi and Stephanie Hanson, "Combatting Maritime Piracy," *Council on Foreign Relations*, March 23, 2012, http://www.cfr.org/piracy/combatting-maritime-piracy/p18376
[292] Baniela, 199-200.
[293] Chalk, 98.
[294] *Ibid,* 97.

including India, China, Russia, Saudi Arabia, South Korea and Japan. Collectively, this represented an unprecedented mobilization of international naval forces to combat maritime piracy in the Gulf of Aden.

To foster a more regionally-inclusive environment for anti-piracy, the Contact Group on Piracy off the Coast of Somalia (CGPCS) and the Djibouti Code of Conduct (Code of Conduct) were established. The CGPCS was tasked with addressing military and operational coordination, capacity building, judicial issues, shipping self-awareness and information related piracy. Within the CGPCS and its working groups, focus was placed on developing a BMP guidance document to provide advice for masters operating vessels in the Gulf of Aden.[295] This led to the creation of BMPs, which are supported by the shipping industry. On the other hand, the Code of Conduct was initiated by the IMO in an effort to focus on the repression of piracy and armed robbery against ships in the western Indian Ocean and the Gulf of Aden while providing a forum for regional dialogue. This high-profile meeting was attended by regional governments where nine East African states signed the accord and signified a starting point for anti-piracy cooperation and coordination.[296] In fact, three regional facilities in Yemen, Kenya and Tanzania were established to serve as anti-piracy centers to carry out the directive in the Code of Conduct – to suppress piracy through cooperation by means of information exchange, joint patrolling and capacity building among navies of coastal states.[297]

Although there is a growing international involvement to counter-piracy initiatives in the Gulf of Guinea, a strategy of response is primarily expected to come

[295] The United Nations, "Contact Group on Piracy off the Coast of Somalia," January 14, 2009.
[296] Baniela, 200-201.
[297] Onuoha, "Sea Piracy and Maritime Security in the Horn of Africa: The Somali Coast and Gulf of Aden in Perspective," 40-42.

from the regional states. In 2007, the establishment of a new US Africa Command (AFRICOM) was launched to oversee US forces on the continent and resolve armed conflict through state-building. Its largest program, the Africa Partnership Station (APS), sponsors military and nonmilitary programs designed to increase the capacity of African navies.[298] The US Coast Guard also administers the African Maritime Law Enforcement Partnership (AMLEP) out of APS to assist West African states to develop capabilities to patrol waters and act when a maritime crime, like piracy, is committed. Although these are highly successful initiatives, the United States and international community do not have the same flexibility to operate in the Gulf of Guinea. Thus, emphasis is placed on assisting the region to improve maritime security and legal structures. At the regional level, conferences on maritime security cooperation have provided a platform for dialogue between African Union (AU), Gulf of Guinea Commission (GCC), Economic Community of West African States (ECOWAS), the Maritime Organization of West and Central Africa (MOWCA), EU, United States and other partner states. While it is an important first step, the willingness between the Gulf of Guinea states to work together has been uneven, slow and piecemeal.[299]

At the national and bilateral level, there have been more successful counter-piracy efforts. Nigeria transformed its Joint Takes Force *Operation Restore Hope*, which was initially established to combat militancy in the Delta, but now has expanded into maritime security, known as *Operation Pulo Shield*. In 2012, *Operation Pulo Shield* targeted pipeline vandalism, crude oil theft, illegal oil refining and forms of robbery and

[298] Atlantic Council, 5.
[299] International Crisis Group 19-21.

piracy.[300] At the bilateral level, Nigeria and Benin established a joint maritime patrol to improve surveillance and target piracy. It represented the first type of bilateral cooperation of its kind in the region and has set the stage for a future joint patrol operation between other states.[301]

The international community has also taken some steps to address the growing maritime insecurity in the Gulf of Guinea through the passage of UN resolutions. In 2012, UNSC adopted two major resolutions, 2018 and 2039, which call on a greater regional response to piracy. There has been criticism that these two resolutions on maritime security are more aligned with military action opposed to a soft intervention where focus was placed on treating piracy purely as a security problem.[302] This is evident in how traditional donors, like the United States, France and the United Kingdom choose to assist local powers to combat piracy. Specifically, support and aid comes in the form of capacity building for naval forces, including training, equipment and boats to boost the region's maritime domain awareness and improve overall operational capacity to deter attacks and respond rapidly.[303]

GAPS IN THE COUNTER-PIRACY STRATEGIES FOR THE GULF OF GUINEA

By analyzing the current counter-piracy operations currently in play, it is just as critical to identify the current gaps in counter-piracy operations. Since the Gulf of Guinea is one of the largest offshore oil arenas in the world, further examination of the counter-piracy deficiencies is pertinent to the discussion of how maritime piracy could impact

[300] Onuoha, "Piracy and Maritime Security in the Gulf of Guinea: Nigeria as a Microcosm," 10.
[301] Onuoha, "Piracy and Maritime Security in the Gulf of Guinea: Nigeria as a Microcosm," 10-11.
[302] International Crisis Group, 23.
[303] Charles Ukeje and Wullson Mvomo Ela, "African Approaches to Maritime Security – The Gulf of Guinea," *Friedrich Ebert Stiftung* (December 2013), 25.

future offshore development and to what extent strategies for the Gulf of Aden could translate in West Africa.

Absence of maritime domain awareness (MDA)

MDA represents one of the most notable weaknesses in the region. This broad term refers to the situational awareness of anything in a state's waters or territorial or EEZ that could affect the state's security, safety, economics, or environment.[304] In the Gulf of Guinea, trafficking in oil, petroleum products, arms, drugs, people and illegal fishing has flourished with the existence of transnational criminal networks. This is partly due to the negligence of national governments, who carry a narrowly-focused land-centric approach to security. As a consequence, there is a lack of basic surveillance systems, materiel and trained personnel to assist in enforcing and policing their territorial waters. According to the International Institute for Strategic Studies, patrol boats are deficient in the region, with most listed assets categorized as "unseaworthy" in Angola, Benin, Congo and Nigeria.[305] The lack of capacity and capability is also a rooted in the lack of political will by West African leaders who fail to invest in measures and structures for maritime security. This stems from the poor maritime culture in many African cultures, but also mistrust in their neighbors, prohibitive costs, the lack of support from the general public, concern about the repercussions of apprehending and prosecuting pirates, and the belief that piracy does not threaten their own national interests.[306]

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[304] Patterson, 31.
[305] International Institute for Strategic Studies, *The Military Balance* (London: Oxford University Press, 2006).
[306] Ola Sa'ad Ibrahim, "To Patrol is to Control: Ensuring Situational Awareness in Africa's Maritime Exclusive Economic Zones," *African Security Review – Institute for Security Studies*, 18:3 (2007): 126-30.

The absence of MDA at the national level has created an obstacle to effective regional cooperation in the governance of offshore areas. For instance, countries that lack vessels, aircraft, communication systems, personnel or an appropriate legal infrastructure might not be able to play a constructive role in combatting piracy.[307] This is concerning because the international community and oil and gas industry depend on Gulf of Guinea states to address maritime threats. Collective action can hasten the region's ability to overcome inefficiencies of current counter-piracy operations. Such inefficiencies, like inadequate early warning systems and intelligence-sharing capabilities, deficient response capabilities, and the inability to sustain patrol operations, littoral states must be addressed to drastically improve region-wide MDA capacity.[308]

Inadequate law enforcement and judicial ineffectiveness

Although most Gulf of Guinea states are signatories to UNCLOS and other relevant international conventions, few have taken appropriate steps to institutionalize these protocols at the domestic level. Similar to maritime domain awareness, the major challenge here is also an absence of capability. However, the culprit for an inadequate judicial system is directly linked to official corruption at the highest levels of government, which allow oil theft and piracy to flourish without consequence. In fact, pirates and criminals that are convicted on charges receive only minimal penalties and are often released.[309] It is the corrupting effect of oil wealth that has had a direct impact on a state's ability to prevent oil theft and piracy. There are few places in the world where thousands of tons of stolen fuel can be offloaded and sold on the black market, but the Gulf of

[307] Paul Musili Wambua, "Enhancing Regional Maritime Cooperation in Africa: The Planned End State, *"Institute for Security Studies*, 18:3 (2007): 46-47.
[308] Gilpin, "Enhancing Maritime Security in the Gulf of Guinea,"5.
[309] Ukeje and Ela, 19.

Guinea represents an opportunity for criminals, government officials, and industry and military personnel to profit from illicit operations.[310] As a consequence, official corruption continues to erode governance and the rule of law. As long as corrupt elites, government officials and military officers dictate the course of action in the investigation and prosecution of arrested oil criminals, there can be little positive traction in the dismantling of these criminal networks.

Gulf of Guinea states have also failed to update legal frameworks and often times do not have the judicial capacity to prosecute pirate suspects.[311] A functional legal system enforces the necessary provisions, enacts legislation, devotes adequate financial and human resources to maritime security and strengthens institutional-capacity and relevant enforcement mechanisms. It also requires sustained political will and ample resources to achieve such reform; however, there is a capacity issue in the region. This is linked not just to corruption, but also the lack of independence of the judiciary, which is unable to enforce compliance or impose sanctions on those that violate rule of law.[312] Further, poor implementation of legal provisions at the national level also impacts the likelihood of the creation of an integrated regional framework to tackle maritime security challenges.[313] With poorly codified regulations and sanctions against piracy, there is a need to consolidate separate and shared maritime security strategies into a streamlined framework that can strengthen regional capacity and effectively engage maritime piracy.

[310] United Nations Office on Drugs and Crime, 51.
[311] Ivancovich, et al., 8.
[312] Gilpin, "Enhancing Maritime Security in the Gulf of Guinea,"5.
[313] Ukeje and Ela, 19.

Aging port infrastructure and inadequate security

Since most oil piracy occurs within 12 nautical miles of the coastline, port infrastructure and security represents a critical area of concern for industry and the international community. Commercial ships are most at risk when anchored or drifting off a port due to insufficient protection at ports to guarantee safe transit or transfer of cargo. [314] These concerns are supported by the fact that ports and surveillance infrastructure needs to be repaired, upgraded or replaced. In addition to poor harbor maintenance and inadequate law enforcement, bureaucratic red tape and corruption are significant factors behind inefficient and unsecured ports and waterways.[315] The failure to address port security is partly responsible for the upsurge in piracy that has led to an increase in insurance premiums for shipping companies operating in the region. This also impacts states that depend on maritime trade for much-needed revenues. For example, after a wave of attacks in 2011, maritime insurance adjustors placed Benin's waters in the same category as Nigeria's, increasing costs of shipping to the country. As a result, there was a 70 percent decrease in maritime traffic to Cotonou, Benin's major port and prime revenue source.[316]

The burden of responsibility rests upon Gulf of Guinea states to implement standards to ensure the safety and security of commercial vessels. However, a recent IMO report indicated that Gulf of Guinea states have yet to fully comply with these standards for port safety and security outlined in the International Ship and Port Security

[314] Interim Guidelines for Owners, Operators and Masters for Protection against Piracy in the Gulf of Guinea region, http://www.londonpandi.com/_common/updateble/downloads/documents/2012-12-20_rt_agreed_gog_anti-piracy_guidance%282%29.pdf
[315] Michael L. Baker, "Swapping Pirates for Commerce: An African Maritime Growth Initiative," *Foreign Affairs*, (October 4, 2010): 1-3.
[316] The World Bank, *Diagnostic Trade Integrated Study: Benin*, Washington, D.C.: World Bank, 2005.

(ISPS) code.[317] As a result, some foreign governments have intervened as it was recently reported that US authorities issued a warning that shipping lines doing business in the United States might be banned from entering Nigerian ports.[318] Nonetheless, this is an issue facing the continent as no African port is on the list of the top 70 most productive in the world. In fact, many African ports, including those in the Gulf of Guinea, cannot handle ships of median size due to infrastructure limitations. To reduce their losses, shipping companies send smaller, older and cheaper ships to Africa; however, these vessels are prime targets for pirates. Either way, an increase of attacks will impact the Gulf of Guinea's ability to export petroleum products and other goods efficiently to global markets.[319]

Gross underreporting of attacks and attempting attacks

A key challenge is the gross underreporting of incidents in the Gulf of Guinea. The IMB estimates that only one-third of attempted attacks are reported to its Piracy Reporting Centre.[320] For instance, fishing vessels hardly ever send back reports, although they are often attacked. The lack of reporting, even for vessels not transporting petroleum products, perpetuates the current state of affairs and masks the true extent of the piracy problem. Part of the issue lies in the mistrust in local authorities and the belief that investigations can be time-consuming. On the other hand, the IMO has a limited role in the region as it does not have operational capacity to enforce recommended guidelines.[321] In the end, oil theft and piracy has an enormous cost on oil-producing states where

[317] Gilpin, "Enhancing Maritime Security in the Gulf of Guinea,"6.
[318] "NIMASA forecloses closure of non-ISPS compliant terminals," *National Mirror*, (June 17, 2013), http://nationalmirroronline.net/new/nimasa-forecloses-closure-of-non-isps-compliant-terminals/
[319] Baker, 2.
[320] Barrios, 2-3.
[321] Adjoa Anyimadu, "Maritime Security in the Gulf of Guinea: Lessons Learned from the Indian Ocean," *Chatham House* (July 2013): 10.

billions in potential revenue is lost each year to these criminal gangs. To improve reporting and its accuracy, the IMO must ramp up its presence in the region and work to build closer partnerships with central governments and regional organizations.

POLICY RECOMMENDATIONS FOR COMBATING PIRACY IN GULF OF GUINEA

After identifying the gaps in counter-piracy initiatives, the thesis provides some policy recommendations that could alleviate certain deficiencies and improve the region's maritime security framework. Some of these policy recommendations are short-term solutions while others are focused on long-term problems, such as social and political conditions and maritime security capabilities. Collectively, these policy recommendations highlight a need to harden and protect oil and gas infrastructure and commercial vessels, improve MDA deficiencies of littoral states, combat corruption, strengthen national, bilateral, regional and international partnerships, and expand sustainable development initiatives. In contrast to the Gulf of Aden, this counter-piracy strategy is much more extensive that includes a wider array of options.

Implementation of a short and long-term option to improve regional MDA capacity

A short-term solution to MDA deficiencies rests with the introduction of PSMCs to the Gulf of Guinea. The resounding success of PSMCs in the Gulf of Aden represented a key factor in a rapid decline in successful attacks. Although, PSMCs are limited to intelligence gathering and advisory roles in the Gulf of Guinea because of legal issues, PSMCs have a proven track record and are a critical offensive solution to deterring pirate attacks.[322] In particular, there are three reasons why PMSCs should be used in the Gulf of

[322] James Brown, "Pirates and Privateers: Managing the Indian Ocean's Private Security Boom," *Lowy Institute for International Policy* (September 2012): 8-12

Guinea – the increase in insurance premiums, international and regional naval capacities, and offshore oil expansion.

Piracy has resulted in a steady increase of insurance premiums for commercial shipping companies that transit 'war-risk zones.'[323] Similar to what occurred in the Gulf of Aden where premiums increased per ship, per voyage, to $150,000, the Gulf of Guinea is also witnessing a spike in insurance premiums. This has an adverse impact on local economies that are dependent on maritime trade for revenues, but also private industry. With increased insurance premiums, maritime traffic is steadily decreasing because of the additional costs associated with doing business in the region. To curb costs, insurance companies offered lower premiums, a 40 percent reduction, to shipping companies that hired PMSCs.[324] This financial incentive made PSMCs a popular option with the shipping industry as it curtailed insurance premiums and safeguarded its cargo and crews. A similar strategy could be adopted for the Gulf of Guinea where insurance companies provide the same financial incentivizing program for private sectors operating in the region. Not only does this provide a battle-tested security option to prevent attacks and protect infrastructure, but it will boost confidence with the private sector and bolster investment.

PSMCs also provide an immediate improvement to maritime enforcement and patrol in the absence of international naval forces. Because international naval task forces are strictly limited due to jurisdictional issues and rising costs with maintaining a task force, PSMCs represent a cost-effective alternative often overlooked in the current

[323] "Navy chief wants ships to hit back at pirates," *The Sydney Morning Herald*, September 9, 2008, http://www.smh.com.au/news/world/navy-chief-wants-ships-to-hit-back-at-pirates/2008/10/09/1223145542078.html
[324] Atlantic Council, 7.

debate.[325] In fact, a four-man team stationed on a commercial vessel transiting from Asia to Europe costs only $50,000, which is much cheaper than paying higher insurance premiums or relying on naval vessels.[326] Beyond the cost effectiveness of PSMCs, contractors are well-trained in a wide-array of counter-piracy services. PSMCs are experts in hardening of vessels, counter-piracy training, preparation of onboard panic rooms, intelligence-sharing and piracy reporting. In an armed capacity, PSMCs can be utilized onboard vessels or as an armed convoy escort, both well-equipped to respond to attacks.[327] Provided that most attacks occur within sovereign waters of littoral states, PSMCs could provide much-needed rapid reaction response where international naval vessels are not legally able to operate.[328] Further, with over 6,000km coastline to monitor, the small contingent of naval forces is not capable of responding to attacks on offshore oil and gas infrastructure and commercial vessels. Such limitations prove how critical PSMCs can be to improving the region's maritime security and combatting the piracy threat. However, until PMSCs are legally permitted to operate in Gulf of Guinea waters, capacity will likely be limited to advisory and intelligence support.

Finally, PSMCs can provide immediate protection to new offshore development. Since oil is one of the most valuable commodities sold on local black markets, pirates have stepped up attacks on oil tankers and offshore oil and gas platforms. In Nigeria alone, it has been estimated as many as 400,000 barrels of oil were being stolen each day,

[325] Chalk, 100.
[326] Anyimadu, 10.
[327] Brown, 7.
[328] Thierry Vircoulon and Mark Schneider, "West Africa: Where Navies are not Enough – Fighting Piracy in the Gulf of Guinea," *International Crisis Group*, August 15, 2013, http://www.crisisgroup.org/en/regions/africa/west-africa/op-eds/schneider-vircoulon-west-africa-where-navies-are-not-enough-fighting-piracy-in-the-gulf-of-guinea.aspx

costing the country up to $1 billion per month in lost revenues.[329] More concerning, maritime piracy is expanding into deeper waters. The 2005 attack on Shell's deepwater Bonga floating production storage offloading (FPSO) vessel was a stark reminder that targets located hundreds of miles away off the Nigerian coast are not insulated from attack.[330] In response, PSMCs can assist the private sector by providing high-tech surveillance camera systems, covert tracking devices and satellite communications and also deploying armed personnel and escort vessels as deterrence options. Such strategies provide valuable information-sharing on potential targets for crewmembers and industry personnel and can improve early-response measures.

Beside this short-term strategy, it is also necessary to address long-term MDA issues. The international community must put stock into the development of an integrated regional coast guard force and the implementation of a regional maritime security framework.[331] Both options represent a long-term strategy to address material deficiencies and the absence of a coherent regional maritime security strategy. Besides Nigeria and Angola, no other Gulf of Guinea state has a navy or coast-guard capable of addressing maritime piracy.[332] Thus, the international community must work with regional organizations, like MOWCA, ECOWAS, and GCC to extend assistance in planning support, asset donations and training on counter-piracy operations. Specifically, AFRICOM and the US Navy need to expand maritime security training programs throughout the region. Currently, there are training programs that teach coast guard

[329] Chatham House, "Maritime Security in the Gulf of Guinea," 12.
[330] Neil Ford, "In Deep Water – Nigeria's Battle to Secure its Oil Infrastructure," *Jane's Intelligence Review* (July 17, 2008): 1-4.
[331] "EU to boost anti-piracy efforts in West Africa," *EU Business*, August 28, 2013, http://www.eubusiness.com/news-eu/nigeria-piracy-oil.qbf
[332] Ukeje and Ela, 10.

operations, but is narrowly focused on patrolling deep water areas and national defense. Although important, greater focus needs to be placed on the capacity to detect and capture pirates in territorial waters.

The creation of an integrated coast guard network is a regional solution to improving upon policing and monitoring of regional waters. To date, the IMO has already started working with MOWCA to promote the concept of an integrated coast guard network. If it can be put into action, it could provide an effective collective response to piracy and oil theft. Specifically, it promotes a multi-agency approach to maritime law enforcement including maritime safety, security, countering trafficking and border control. This concept was well received by 15 of the 20 coastal states, who signed a memorandum of understanding (MoU) in 2008, which outlines a strategy for enhancing maritime security and could become a blueprint for wider engagement on regional maritime security.[333] Another complimentary, but critical surveillance option to support an integrated coast guard force is Regional Maritime Awareness Capability (RMAC). By using an array of coastal radar systems, RMAC allows littoral states to detect and track vessels out to 25 nautical miles in all weather conditions. Provided naval and coast guard capabilities improve, RMAC can enhance response times to attempted attacks in regional waters.[334]

Improve capacity-building and implement anti-corruption measures

Gulf of Guinea states cannot effectively address maritime piracy without adopting anti-corruption measures to improve law enforcement and judicial effectiveness. With widespread corruption and the existence of transnational criminal networks, international

[333] Trelawny, 21.
[334] Patterson, 31.

donor states will be required to jumpstart capacity building.[335] In particular, international donors will have to allocate resources towards improving governance, promoting democracy-building and addressing low levels of economic development. Resources must be applied to addressing root causes of piracy, like unemployment, unequitable distribution of oil revenues, and environmental degradation, and overall resource mismanagement.[336] In an effort to fast-track these capacity-building initiatives, Gulf of Guinea states must be allowed to participate in high-level diplomatic discussions with international donor states, like France, the United Kingdom, China and the United States.[337]

Improving economic and political transparency is another critical component to curtailing rampant corruption. This includes striving to dismantle local and international black markets, track illicit flows of stolen oil, and reprimand pirates and armed robbers to eliminate the profit motivation. One initiative that all Gulf of Guinea states should ratify is the Extractive Industries Transparency Imitative (EITI). This initiative was a launching point for governments, private sector, civil society groups, investors, and international organizations to improve transparency and accountability within the extractives sector.[338] Further, EITI has strengthened engagement of civil society and helped monitor and evaluate the payment and revenue processes. At the moment, only a few Gulf of Guinea states have signed on to EITI even though most IOCs and many NOCs voiced their commitment to provide full disclosure of their assets, investments and payments in

[335] International Crisis Group, 28.
[336] Barrios, 3.
[337] Goldwyn and Morrison, 9.
[338] Fes Abuja, "Overview of Existing Regional Initiatives in Oil and Gas Sector in the Gulf of Guinea" in *Fuelling the World – Failing the Region? Oil Governance in Africa's Gulf of Guinea*, eds. Michael Roll and Sebastian Sperling, (Abuja: Fredrich-Ebert-Stiftung, 2011), 121-31.

regions, like the Gulf of Guinea. Although Gulf of Guinea states are not obligated to join EITI, it serves as an important step to addressing political corruption and aligning the extractive industry to comply with a new set of standards of financial disclosure.

Nevertheless, transparency reform is a multi-level, multi-state approach that depends on intelligence-sharing, cooperation, and substantial military aid. Areas of high priority should include: analysis on volumes of oil stolen, movements of stolen oil, the oil theft money trail and security risks associated with oil theft.[339] In addition, substantial military aid will be required to purchase new surveillance ships, planes, and logistical equipment to track and interdict ships, illegal refineries and the individuals involved. It has been estimated to sufficiently build-up such capacity will cost over $100 million per committed Gulf of Guinea state.[340] To enhance regional law enforcement, there must be sustained cooperation and collaboration between the military, the judiciary, policymakers, and other domestic agencies to help combat corruption. Collaboration will prevent one entity from having full control over resources to deal with maritime insecurity. In the end, law enforcement must be able to identify and pursue illicit financiers of oil theft and piracy. This is of particularly importance to the Gulf of Guinea where transnational criminal networks remain largely unchecked and continue to expand activities and membership.[341]

BMP guidelines must become mandatory in order to address port insecurity

Based on the success of BMPs in the Gulf of Aden, employing similar self-protection measures for commercial shipping companies and offshore oil and gas infrastructure would be a critical step towards deterring attacks in highly vulnerable port

[339] Katsouris and Sayne, 26-42.
[340] Goldwyn and Morrison, 15.
[341] Anyimadu, 14.

areas. With most Gulf of Guinea ports in dire need of new infrastructure and security enhancements, upgrades are prohibitively expensive and will not happen without assistance from international donors. In the interim, BMPs provide an effective defensive strategy for vessels and offshore infrastructure to enhance early-response mechanisms and employ deterrent options through the use of physical barriers.[342] Also, shipping companies need to improve communication with naval and port authorities to ensure that the Automated Identification System (AIS) remains on at all times. The AIS system, similar to a transponder for an airline, can help the private sector and IMO to accurately track a ship's passage and report any security incidents or sightings of suspicious craft.[343]

A more pressing reason for making BMP guidelines mandatory is the impact it has had on repelling attacks in the Gulf of Aden. In fact, two-thirds of targeted vessels in the Gulf of Aden were those without any of these self-protection measures. In other words, failing to adhere to these BMP guidelines leaves those vessels at risk to attack. To prevent this, the international community and shipping industry need to develop a trust fund and training program and also provide smaller firms and vessels with the financial flexibility and capacity to implement BMPs. In the event of noncompliance, those shipping companies should be levied substantial fines.[344]

Enhance piracy reporting through the establishment of a regional anti-piracy center

Maritime piracy represents a regional issue where Gulf of Guinea states must collectively act to address the threat. One effective method to ferment regional cooperation can come through the establishment of a regional center for combatting piracy. For example, in the Gulf of Aden there are three such centers that provide an

[342] Anyimadu, 8-9.
[343] International Crisis Group, 26.
[344] Atlantic Council, 9.

opportunity for East African states to meet to discuss progress on existing counter-piracy initiatives and also enhance cooperation on new methods of approach to suppress piracy and armed robbery of ships.[345] Currently, no regional anti-piracy center exists in the Gulf of Guinea and this remains a focal point in ongoing discussions over maritime security. Besides the lack of personnel, training and resources, there is an insufficient use of communication networks between Gulf of Guinea states. This adversely impacts response times to oil theft and piracy and even provides oil gangs with renewed confidence to carry out attacks without the fear of reprisal.

The establishment of a regional anti-piracy center can provide a forum of cooperation between four main types of actors – navy and coast guard, police, judiciary and private industry. Piracy is a local and regional problem that requires global solutions and one lesson learned from the Gulf of Aden was although naval forces achieved great success, it was incredibly difficult to collect evidence and share intelligence and information.[346] Similarly, the Gulf of Guinea is also faced with issues of coordination between actors at the national and regional level. Therefore an important first step should include local engagement of institutions and actors on issues of communication and coordination. This will require drastic restructuring of existing institutions in Gulf of Guinea states as domestic agencies have overlapping responsibilities and are unprepared to address the piracy threat. The IMO continues to push the idea of joined-up maritime thinking where each state establishes a national maritime security commission. Not only will it streamline operational capacity between national agencies, but it will reinforce

[345] Onuoha, "Sea Piracy and Maritime Security in the Horn of Africa: The Somali Coast and Gulf of Aden in Perspective," 41
[346] Chatham House, "Maritime Security in the Gulf of Guinea," 19-20.

collective action.[347] In the end, an anti-piracy center provides a much-needed shift away from land-based security towards an integrated and collaborative approach towards maritime security for the entire region.

Strengthen partnerships and tackle the root causes of piracy

For these policy recommendations to put into action there must be improved engagement and support from the international community to help develop domestic good practices. Some scholars argue that the international community has a moral responsibility to combat corruption and maritime piracy because it has the funds and experience required.[348] Therefore, the role of the international community needs to focus its support on advising, training and equipping local security forces and promoting regional and international coordination. On one end, it involves strengthening the laws and legal systems of Gulf of Guinea states, training their law-enforcement authorities in the conduct of maritime law-enforcement operations such as ship boarding and searches, and working with the AU, MOWCA and ECOWAS to promote African leadership and regional cooperation in the area of maritime safety and security. On the other end, the private-sector needs to be engaged as a legitimate stakeholder. Not only does the oil and gas industry have a history of conducting operations in the region, but they also are better organized and have the resources to respond to some of the challenges in the region, like oil theft and maritime piracy.[349] Nevertheless, it is in the interests of the oil and gas industry to forge new partnerships with Gulf of Guinea states in order to minimize disruptions to production output and help rebuild investor confidence. One way to strengthen partnerships can come through working with local governments to promote

[347] Chatham House, "Maritime Security in the Gulf of Guinea," 24.
[348] *Ibid,* 30.
[349] *Ibid*, 34.

sustainable economic development to rebuild public support and help provide employment alternatives to oil theft and maritime piracy.[350]

With 60 years of operating in Nigeria, Shell has attempted to adapt to rapidly changing political and economic conditions. Although Shell continues to operate in the Delta and offshore, it has suffered considerable losses to production over the decades due to oil theft and sabotage. To address production losses, Shell has expanded investment in community development, access to energy, environmental protection and education. Although these are important initiatives to alleviate high unemployment, illiteracy, and poverty, Shell does not have the budget or expertise to headline massive sustainable development projects. Despite these constraints, Shell maintains their commitment to major projects to boost Nigeria's supply of gas and power and provide secondary education opportunities for thousands of Nigerians.[351] Corporate social responsibility (CSR) is becoming an area of growth within the oil and gas industry, especially since new supply coming online is also located in more volatile regions of the world. In fact, the Gulf of Guinea represents not only a region of volatility, but a true test for the oil and gas industry. If substantial offshore oil and gas is to be extracted, companies like Shell, Chevron, Total, and ExxonMobil will have to increase investment dollars and efforts to expand development programs. Such efforts can help boost local employment and social services that have otherwise been deprived by central governments. Although this is not a quick-fix, the oil and gas industry must be a valuable contributor and actively engaged in community development to help stem maritime piracy.

[350] Johnson, et al., 47-48
[351] Royal Dutch Shell, "Sustainability Report 2013," *Royal Dutch Shell plc* (2013), 22-24.

CONCLUSION

Maritime piracy has reemerged as legitimate threat to global seaborne trade and future offshore development. In particular, the Gulf of Guinea has seen a rapid increase in maritime piracy often influenced by social and political grievances. As one of the most critically important oil producing regions, the oil and gas industry has expressed concerns about security and safety of its infrastructure and employees. On the other end, oil exports are the main source of revenue for many Gulf of Guinea states; however, prevailing structural conditions, like weak governance, widespread corruption, ineffective law-enforcement, high unemployment, and the inequitable distribution of wealth provides a suitable environment for maritime piracy that could destabilize the region. Collectively, the threat of maritime piracy could adversely impact regional stability, economic growth, and future offshore development. To address the growing threat, it is pertinent to examine other regions, like the Gulf of Aden, that can provide valuable insights on why this threat is so pervasive, what the root causes are, and what counter-piracy strategies are effective. It is purpose of the thesis to provide a comparative analysis of the Gulf of Aden and Gulf of Guinea. Since contemporary piracy is rare, this approach is pertinent and timely.

In the Gulf of Aden, the collapse of the Somali central government in 1991 provided the impetus for unemployed Somali fisherman to find alternative methods to recoup lost income. Maritime piracy became the most lucrative option and without any form of central government or law enforcement, the Gulf of Aden and the Somali coast quickly became the most dangerous maritime region where hundreds of commercial vessels and their crews have been hijacked for ransom. Not only did piracy impact the global economy, but it also highlighted how vulnerable seaborne trade was to attack. In

an effort to dismantle these piracy networks, the international community mobilized several naval task forces to patrol and interdict Somali pirates. It also forced the shipping industry to harden vessels and employ armed contractors to deter and protect its cargo, vessels and crew. Although these counter-piracy strategies have helped minimize the success of an attack, the question is whether such strategies can also work in the Gulf of Guinea.

There is no question that there are geopolitical differences in each region that influence why young men join these illicit networks, what targets are selected, the type of tactics are used, and what the end goal is. Despite this, both piracy networks are multilayered and complex and require a wide-array of actors to support, finance, and organize future operations. Coupled with transnational criminal networks to the mix, maritime piracy is now integrated into other illicit activities, like arms smuggling and drug trafficking. This makes it difficult to track financiers and dismantle these interconnected transnational criminal networks. Without effective law-enforcement, however, these networks will only expand without fear of reprisal

When examining counter-piracy operations, there here are two significant obstacles to combatting piracy in the Gulf of Guinea. It is a regional domain and does not intersect sea lines of communication (SLOCs), which are primary maritime routes between ports, used for trade, logistics and naval forces. Because international intervention is limited due to jurisdictional issues, the burden of responsibility rests on littoral states. Unfortunately, widespread corruption, ineffective law-enforcement, and limited naval and coast guard capabilities to patrol territorial waters inhibit their ability to counter maritime piracy throughout the region. With these glaring deficiencies, further

examination of gaps in counter-piracy operations is required to address these shortcomings. It is evident that the lack of capacity between the littoral states does stem from the lack of political will to combat piracy. This is influenced by several factors, including prohibitive costs of building naval and coast guard capabilities, misconception that some states are insulated from piracy, and a long-standing focus on land security rather than maritime security. Coupled with political and social conditions, piracy represents an outlet for the most marginalized to put their grievances into action. Without measures to enforce and monitor territorial waters, maritime piracy is now occurring attacks farther offshore and across national boundaries.

To bridge the region's maritime security inefficiencies, the international community and the oil and gas industry need to assume lead roles in providing assistance, training and material to the littoral states as well as introduce counter-piracy strategies that can immediately address this threat. This should involve not just short-term strategies, like the use of PSMCs and BMPs to protect and harden vulnerable commercial vessels and offshore infrastructure, but also long-term strategies. The more long-term engagements will likely include the development of an integrated naval and coast guard network where littoral states will be responsible with patrolling regional waters. Further, improving intelligence and surveillance-sharing capabilities is another necessary step to improve early warning capabilities to effectively respond to threats. Such long-term strategies can succeed only if a cooperative and collaborative approach is supported among the littoral states and domestic agencies. These options address the glaring MDA inefficiencies in the region and with international assistance, an integrated maritime security force could become a reality in the future.

Building stronger partnerships with Gulf of Guinea states and regional organizations is also imperative. Cooperation presents the best long-term strategy to countering piracy, but will hinge on the commitment of political leadership among littoral states and the recognition that maritime piracy is a security threat. Equally important, the oil and gas industry must be included in future partnerships given that they have significant interests in the region. Their involvement in counter-piracy operations is critical because of their economic importance to the region and expertise in addressing oil theft. Nonetheless, there are a plethora of regional and international organizations that can serve as a platform to addressing maritime insecurity as well as discussing the next steps for implementing an integrated maritime security framework. Whether this involves the IMO, IMB, APS, GGC, MOWCA, AU or AFRICOM, these organizations and others can be utilized to improve maritime security and address transnational crime. Because oil piracy is similar to other type of profitable organized crime, effort needs to be made to prosecute those involved and dismantle the networks. Currently, the lucrativeness of maritime piracy in the Gulf of Guinea continues to embolden its actors and encourages new entrants into the business. This is an influencing factor that continues to make piracy enticing and only threatens offshore development if partnerships are not strengthened or sustained.

It boils down to commitment at the national, bilateral, regional and international level to deal with maritime piracy. At the national and regional level, Gulf of Guinea states must adopt new resource management practices to leverage their oil affluence effectively to deal with economic issues – such as widespread poverty, unemployment and marginalization. These states also need to invest resources in their maritime security

agencies in intelligence gathering and sharing. This includes working together with relevant state agencies in gathering evidence to aid prosecution. Further, Gulf of Guinea states need to demonstrate a will and commitment to enhancing the judicial process where pirates and armed robbers are punished as well as groups or organizations financing and facilitating illicit oil sales. At the international level, there needs to be sustained efforts to build up maritime security forces and also develop a regional security mechanism that can be ratified by all Gulf of Guinea states. Also, the international community must assist in overseeing the creation of legal instruments that fight illicit oil trade and arms smuggling and shipping lines involved in illicit oil transactions.

In the end, the Gulf of Guinea presents a myriad of challenges to combatting piracy. Because international intervention is not possible or widely supported, the Gulf of Guinea must find alternative strategies to address this maritime threat. The combination of short and long-term solutions as mentioned represents the most effective option. In order to provide reassurances to the private sector, the adoption of BMPs as well as the use of PSMCs can offer immediate protection. It also will help bolster confidence with the private sector that vessels, infrastructure and personnel are secure from attack. The success of these counter-piracy strategies in the Gulf of Aden should not be ignored and do offer an effective short-term solution to piracy. When looking at the long-term outlook, maritime insecurity must be tackled primarily by the Gulf of Guinea states. With assistance from the international donors, these littoral states should be capable of developing MDA capabilities, including a new regionally integrated naval and coast guard force to monitor and interdict pirates. Also, the adoption of anti-corruption measures, legal reforms, resource management provisions, and sustainable development

projects can provide viable economic alternatives to would-be pirates. That said, the success of these counter-piracy strategies will depend on the political willingness of leadership among the littoral states and their commitment to combating this threat and transnational crime in the region. Failing to do so will carry significant ramifications not just for global oil markets and economies, but could further destabilize an already politically volatile region.

PORTFOLIO CONCLUSION

The central goal of the thesis is to provide a snapshot of evolving global energy market and emerging trends driving offshore oil and gas exploration and production. Although the shale oil and gas revolution continues to dominant headlines and global energy security discussions, the offshore represents a longer term solution to growing supply constraints. Given the size of the recoverable reserves and emergence of advanced drilling and seismic mapping technologies, IOCs and NOCs can exploit previously difficult-to-reach seabed oil and gas deposits. With the expansion into deep and ultra-deep waters, resource competition is also intensifying because of the strategic importance and the need for more supply.

Looking at the bigger picture, NOCs control roughly 75 percent of proven crude reserves with the remainder held by IOCs.[352] Given that most of the NOC – controlled oil is located in the politically volatile Persian Gulf, IOCs have an interest to expand into offshore regions to bolster production and its declining RRR stockpile. Coupled with higher production costs and fewer big discoveries, IOCs have little option but to explore oil and gas deposits in more volatile regions. Beyond the political risks, there is an incentive to develop the offshore, which it is estimated to contain over 200 billion barrels or more of recoverable reserves.[353] Further, IOCs are capable to undertake more challenging offshore drilling operations because of their decades of experience and ability to undertake such capital-intensive operations. It also allows these IOCs the ability to lower operating cost per barrel, and produce profitability in very high costs areas. Unfortunately, such offshore discoveries in the SCS, the Arctic and the Gulf of Guinea

[352] Lou Gagliardi, "Why oil and gas drilling is going deeper and further offshore," *The Christian Science Monitor*, July 2, 2013, http://www.csmonitor.com/Environment/Energy-Voices/2013/0702/Why-oil-and-gas-drilling-is-going-deeper-and-further-offshore
[353] *Ibid*.

epitomize emerging risks associated with such development. Not only are these regions located in more remote areas, but conditions for drilling are more difficult and production costs continue to increase as offshore project present more significant challenges. IOCs understand what is at stake and are budgeting more dollars to better understanding the risks associated with such capital-intensive projects.

Nonetheless, offshore production remains a key component to energy security for many countries. Amy Jaffe argues the stakes could not be higher especially since deepwater activity accounts for a majority of new conventional oil production. The IEA projects deepwater production will increase to 9 million b/d by 2035 and will account for over 50 percent of total world offshore oil production.[354] That said, there are emerging political, legal, economic and environmental risks that might inhibit future activities. Beside traditional political and legal risks, like regional and social turmoil and sovereignty disputes there are other risks that also need to be considered. For instance, climate change, regulatory issues, emergency response preparedness, and security threats also pose a challenge to future activities. To this end, it is critical to adopt risk mitigation strategies that address these risks and promote a safer and more sustainable offshore strategy. Mathew Gordon argues that after the *Macondo* disaster, "there has been an increased focus on the mitigation of risk. The industry has reviewed operational practices from top to bottom. Everyone from the operators to offshore specialists has been affected by the major accident."[355]

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[354] Amy Jaffe and Alexander MacDonald, "The Risk and Regulation of Deepwater Offshore Drilling: American and Canadian Perspective," *Woodrow Wilson International Center for Scholars*, 14 (October 2011): 4.
[355] Matthew Gordon, "Offshore Energy: Mitigating Risk," *PennEnergy*, June 2013, http://www.pennenergy.com/index/blogs/technology-talks/2013/06/offshore-energy-miti.html

CHAPTER SUMMARIES

The first chapter examines the SCS and the opportunity to develop its extensive seabed oil and gas reserves in the presence of intractable sovereignty and jurisdictional disputes. To date, the claimant states involved in disputes have been unwilling to cede control over geographical features and are even more assertive due to the discovery of hydrocarbons. With the Asia-Pacific region is expected to pace global energy demand, the SCS has emerged as a hotspot for tension and confrontation. In order to diffuse tensions and extract seabed resources, the chapter presents a mitigating strategy that shelves disputes and jointly develops resources. The JDA instrument has been successfully implement in other disputed maritime regions, but not in the SCS. For this mechanism to succeed, claimant states and their political leadership have to support the concept.

However, the JDA is faced with numerous barriers to implementation and none other is more influential than the current political climate. In fact, the JDA cannot overcome claimant assertive behaviors as a zero-sum approach over the discovery of hydrocarbons is the *status quo*. Coupled with resource scarcity fears and resource competition, the SCS epitomizes the growing political risks associated with several import-dependent states seeking to gain leverage over other claimants to control seabed oil and gas deposits. Perhaps the most critical factor influencing policymakers of the claimant states is the reemergence of nationalism. The rise of nationalism is in part driven by these long-standing disputes in the region, but is also fueled by public opinion and resource competition. The thought of appeasing disputes to support a joint development solution is fiercely opposed at home as protests, demonstrations and political pressure

from party hardliners are hard to ignore. With such a negative opinion of resource sharing, political leaders have attempt to table the JDA option out of fear of reprisal from constituents and political parties. In the interim, unilateral attempts to explore oil and gas deposits in the SCS have taken place. China, Indonesia, Vietnam and the Philippines all want to expand their offshore operations often without much consideration to international maritime law. This only escalates current tensions.

Nonetheless, these claimant states and others ultimately decide the fate of how resources will be extracted and managed. Although the current political climate does not provide the ideal environment for JDA implementation, there have been attempts in the ECS and Southeast Asia to utilize these provisional instruments as a means to sidestep ongoing maritime disputes for the sake of joint oil and gas production. A regional solution is the preferred path for the claimant states, but if they are unwilling to shelve disputes in order to collectively develop this valuable offshore region, JDAs will not be a viable option in the near future.

The second chapter explores the opening up of the Arctic to large-scale development. For decades, exploration and production has taken place, but until recently was largely restricted to onshore and near-onshore operations.[356] Today, expansion is driven by the immense potential – over 90 billion barrels of undiscovered technically recoverable oil and 44 billion barrels of natural gas liquids.[357] But, the Arctic is an extreme climate with unpredictable weather, freezing temperatures, prolonged darkness and dangerous ice flows. It also is undergoing significant ecological change from climate change and global warming. Because of its remote location and sensitive environment,

[356] Andrew Rees and David Sharp, "Drilling in Extreme Environments: Challenges and Implications for the Energy Insurance Industry," *Lloyds* (2011), 20.
[357] U.S. Geological Survey 2008.

operation costs are prohibitive and result in project delays. And this raises significant concerns about the preparedness of the oil and gas industry to operate further offshore and gaps in current governance and regulation standards. Thus, to ensure risk does not outweigh reward, the chapter identifies two governance options, a hard-law and soft-law option that can tackle the environmental and economic risks, including climate change, environmental protection, spill response preparedness, and the sustainability and safety of offshore activities.

The adoption of a new international convention for offshore activities, similar to the ATS structure, is unlikely to gain support from the Arctic states and the indigenous organizations who want to avoid internationalization. Therefore, a non-legally framework aligned with the AC is a more feasible option. The AC has been inclusive to Arctic states, indigenous peoples, and non-Arctic states and has already implemented offshore oil and gas guidelines, expanded climate change research, funded environmental impact assessment studies, and researched an integrated ecosystems management strategy. Although the AC is not a policy-making organization, its adaptability to an evolving region makes it a viable solution to oversee large-scale development. The AC also provides a platform for dialogue between the Arctic's most important parties as well as non-Arctic member states and organizations. The concept of inclusiveness should not be underestimated especially given what is at stake for the region in light of future development. The AC continues to evolve and is a vital intergovernmental forum for tackling issues that offers a solution to future offshore governance and regulation concerns.

The final chapter explores maritime piracy in the Gulf of Guinea and how this threat jeopardizes future offshore development in this oil-rich region. With most future development expected to come from offshore fields, a common misconception is these activities are far from onshore political instability and are insulated such turmoil.[358] However, oil theft and piracy is a maritime security challenge that could destabilize the entire region. In fact, the Atlantic Council Counter-Piracy Task Force stated pirate attacks have "become more frequent, more violent, and are occurring farther out from shore."[359] This is in part due to the fact that the region is a perfect incubator of piracy, providing both resources and a base for operations. Unlike Somali pirates, who focus on the ransom of captured crew members, pirates in the Gulf of Guinea make their income from oil theft. Whether hijacking a tanker or siphoning the oil to resell it on the local black market, pirates primarily target this lucrative commodity. Given there is a steady supply of tankers and an increasing number of offshore platforms, oil provides a constant flow of income for these pirates and armed robbers. Further, the prevalence of illicit networks means it is not difficult to establish and maintain onshore bases where they plan and launch operations further offshore.[360] Some other political factors, like poverty, corruption and the inability to monitor and protect territorial waters, has provide the rationale for the most marginalized and even high-ranking officials to join into these illicit activities. Because Gulf of Guinea states lack maritime capabilities, piracy cannot be deterred as they are ill-equipped and ill-trained in counter-piracy tactics. Without

[358] Damian Ondo Mańe, "Emergence of the Gulf of Guinea in the Global Economy: Prospects and Challenges," *International Monetary Fund Working Paper* (December 2005), 5-6.
[359] "Piracy peril for West Africa's oil boom," *United Press International*, March 7, 2012, http://www.upi.com/Business_News/Energy-Resources/2012/03/07/Piracy-peril-for-West-Africas-oil-boom/UPI-66381331151027/
[360] Rick Nelson and Aaron Ware, "An Emerging Threat? Piracy in the Gulf of Guinea, *Center for International Strategic Studies,* August 8, 2012, http://csis.org/publication/emerging-threat-piracy-gulf-guinea

inadequate coast guard or naval capabilities and a deficient law enforcement system, tankers and offshore oil and gas infrastructure remain vulnerable to attack.

To better understand piracy and the strategies to combat the threat, the chapter compares maritime piracy with that of the Gulf of Aden where piracy has also succeeded to disrupt international seaborne trade. In this analysis, the chapter examines the counter-piracy operations under the coordination of the international community and the effectiveness of such operations. Beyond the similarities, the Gulf of Guinea and its regional political situation present a different challenge to combatting piracy. Most notably, an international mobilization of naval forces is not feasible because of jurisdictional issues. Rather, the private sector and littoral states must address the current gaps in counter-piracy operations by adopting several strategies. The private sector can utilize PSMCs and implement BMPs, both strategies adopted in the Gulf of Aden, to provide short-term solutions to maritime piracy. On the other hand, littoral states must improve MDA capabilities and capacities if they are to adequately protect territorial waters. Further, efforts to curb corruption and expand upon economic opportunities among the region's most marginalized people are critical to remove the financial motive behind piracy and oil theft.

The adoption of an integrated regional maritime security framework is also a critical step forward to combat piracy in the Gulf of Guinea. To succeed, cooperation between littoral states, its agencies and organizations has to be sustained and expanded as it serves as an effective tool to collectively act through improving regional maritime security. In addition, fostering new and existing partnerships with international donors and former colonial powers is important to show political willingness to tackle maritime

piracy, but will also help attract new investment from the private sector and military aid in the form of material and training for counter-piracy operations. To date, the United States has supplied over $35 million to train and equip local forces to combat piracy while the United Nations has called for a regional summit to coordinate a comprehensive counter-piracy strategy for the Gulf of Guinea.[361] In the end, it is difficult to ignore the limited capacity of the littoral states, which are dependent on international donors to provide logistical, material and intelligence support for decades to come. Counter-piracy initiatives and the security of offshore development rests on regional powers and the international community working together. Whether this is through the promotion of sustainable onshore development, economic diversification, better resource management or the improvement of the region's overall capacity and capability to protect its maritime domain, these issues must be addressed if future offshore oil and gas development is to reach its true potential.

AREAS FOR FURTHER RESEARCH

Within each chapter, there are issue areas that could be further researched to strengthen the risk analysis and explain the ever-changing contours in energy geopolitics. Considering the fact that energy geopolitics is rapidly evolving, it is important to highlight certain issue areas that are pertinent to the discussion of the thesis. Without question, there are implications associated with offshore development and the thesis touches on political, legal, economic, environmental and security risks in each chapter. That said, each region is different and there is not a one-size fits all solution to such risks; however, more research will help identify a wide array of strategies that can be implemented to mitigate potential risk. It is in the best interests of the international

[361] Nelson and Ware.

community to further study offshore energy geopolitics and its impact on global energy security, especially if hydrocarbons remain the dominant fuel source for generations to come.[362]

Climate change and its impact on offshore development

Climate change presents a growing challenge to existing and future offshore activities. When Hurricane Katrina blew through the Gulf of Mexico, over 482 production platforms and 79 drilling rigs were evacuated and 1.4 million b/d of oil and 8.3 billion cubic feet per day (bcfd) of natural gas production was shut in. Further, the cumulative production lost totaled 6.1 million bbl of oil and 34.2 bcf of natural gas.[363] This prompted then President George W. Bush to release oil reserves from the Strategic Petroleum Reserve (SPR) to compensate for the loss of domestic production and mitigate global oil price shocks. This example illustrates how extreme weather events can cause severe supply disruptions and also impact global energy markets. Coupled with global warming, these extreme weather events, like hurricanes and other intense storms systems are intensifying and becoming even more unpredictable. Moreover, the vulnerability of energy infrastructure is of growing concern especially as more projects are moving further offshore into more remote and harsher climates, like the Arctic. With the energy industry rapidly becoming more integrated and interconnected to physical and communication infrastructure, the impacts of climate change must be thoroughly

[362] Robert W. Kolb, "Geopolitical Threats to World Energy Markets," *The Journal of Social, Political and Economic Studies*, 36: 2 (Summer 2011): 155-56.
[363] Nina Rach, "Industry assesses Hurricane Katrina's Impact," *Oil and Gas Journal*, September 5, 2005, http://www.ogj.com/articles/print/volume-103/issue-33/general-interest/industry-assesses-hurricane-katrinarsquos-impact.html

researched and assessed to better understand the risks and the consequences that supply disruption might have on global energy markets.[364]

Further research should focus on what the oil and gas industry is doing to address climate change as part of their day-to-day operations and future projects. This should include any climate research projects that tackle the sensitivity of marine environments and the impacts of climate change and development. There also should be a focus on adaption strategies to ensure the safety and stability of its offshore infrastructure can withstand extreme weather events and a rapidly changing marine environment. Advanced technologies have helped harden infrastructure and improve the integrity and operability of offshore platforms and drilling rigs, but government regulators also must be actively engaged in updating regulatory and compliance standards and developing new adaption and resilience strategies. This has been a problem in the United States where regulators have had difficulty keeping up with offshore drilling that is rapidly becoming more technologically advanced and complex.[365] Beyond critical infrastructure, more research is needed as to what the oil and gas industry is doing to address greenhouse gas (GHG) emissions, gas flaring, and CO_2 capture and storage. These issues are relevant in helping reduce the carbon footprint and impacts on marine ecosystems that provide sustenance for millions of people.[366]

Resource nationalism and its potential link to SCS disputes

One of the biggest concerns about resource nationalism is that energy scarcity could lead governments to use military force to securitize access to supplies. Some

[364] World Economic Forum, "The New Energy Security Paradigm," *WEF* (Spring 2006), 22-23.
[365] Jaffe and MacDonald, 5.
[366] IPIECA, "The Oil and Gas Industry and Climate Change," International Petroleum Industry Environmental Conservation Association (2007), 5-7.

scholars argue that the risk of conflict escalates when the economic value of the reserves (similar to the SCS) is viewed favorably by claimant states.[367] Although it is not possible to "lock up" supplies in a truly global resource market, it is the mere attempt to do so by claimant states that is exacerbating tensions.[368] It is also argued that the expanded role of NOCs is influencing an already toxic competitive atmosphere in the region. Mikkal Herberg argues that growing resource competition among the claimant states to promote their own NOCs and gain control over oil and gas supplies perversely undermines each government's confidence in fair access to future supplies and thereby reinforces a spiral of strategic distrust.[369] Nevertheless, more research could ascertain how credible these issues are and if resource nationalism is driving competition and intensifying disputes between claimant states. In particular, China is the most power of the claimant states with the largest offshore holdings. To better understand China's regional maritime strategy and energy security agenda, an in-depth analysis of its policies could provide a clearer picture of their future offshore development plans and commitments to resource-sharing and resolving sovereignty and disputes. It is also important to analyze what role ASEAN has had in joint development discussions and if the DoC, signed by all claimant states, has been a productive agreement for expanding dialogue on JDA implementation in the region.[370]

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[367] Hughes, 11.
[368] Mikkal E. Herberg, "Asia's Rising Energy and Resource Nationalism: Conclusions and Implications for the United States" in *Asia's Rising Energy and Resource Nationalism: Implications for the United States, China, and the Asia Pacific Region*, ed. Mikkal Herberg (Seattle: National Bureau of Asian Research, 2011) 69.
[369] Herberg, 69.
[370] Leonardo Bernard, "Prospect for Joint Development in the South China Sea," *Center for Strategic and International Studies* (June 2013): 2-8.

The resource curse and its relationship to state insecurity

When addressing security threats to offshore development in the Gulf of Guinea, an examination of the 'resource curse' and how it relates to state insecurity is pertinent to the discussion of maritime piracy. The 'resource curse' is attributed to socio-economic and political problems, including the lack of economic diversification, civil conflict, widespread corruption, and authoritarian regimes. This phenomenon threatens production and exportation of oil and is a pressing concern for states dependent on external sources of energy.[371] Because the Gulf of Guinea is a hotspot for political insecurity, the 'resource curse' is a causal factor that to some extent precipitated armed conflict in the Delta and influenced oil theft and piracy. In fact, Nigeria, Angola and Equatorial Guinea have witnessed violence and unrest, which is driven by grievances over revenue-sharing, corruption, and pollution.[372] In particular, widespread official corruption is endemic among most resource-rich states in the Gulf of Guinea. Rather than invest resource revenues into infrastructure and education, crooked politicians, often in collusion with industry, siphon proceeds from the continent's mineral and petroleum wealth into their own pockets. This only solidifies social and political grievances among the poor and marginalized and promotes a violent reaction.[373] Further research into how this issue interplays with piracy and other criminal networks is a critical element to ongoing maritime security challenges in the region. Moreover, understanding how the 'resource curse' impacts the political climate is a critical step to fixing long-standing structural

[371] Claire Woodside, "West Africa: America's Foreign Policy Post 9/11 and the 'Resource Curse,' A Head on Collusion," *Journal of Military and Strategic Studies*, 9:4 (Summer 2007): 1-2.
[372] Commission on Energy and Geopolitics, "Oil Security 2025 – U.S. National Security Policy in an Era of Domestic Oil Abundance," *P.X. Kelly Center for Energy Security* (2013), 43.
[373] Terra Lawson-Remer, "Beating the Resource Curse in Africa: A Global Effort," *Center on Foreign Relations*, August 2012, http://www.cfr.org/africa-sub-saharan/beating-resource-curse-africa-global-effort/p28780

conditions that inhibit production potential and exacerbate onshore and offshore insecurities.

The emergence of Boko Haram and its impact on offshore activities

Not discussed in the thesis is the threat of terrorism to offshore activities. In particular, the Gulf of Guinea is the only region in the portfolio where terrorism is of legitimate concern. The emergence of Boko Haram in Nigeria has raised concerns with the international community about state stability and regional security implications. Boko Haram has carried out attacks on Nigeria's police, military, rival clerics, politicians, schools, public institutions, and civilians with increasing regularity since 2009. Some experts point out the group represents an armed revolt against government corruption, abusive security forces, and regional economic disparity in an already impoverished country.[374] This is strikingly similar to the violent conflict in the Delta and epitomizes the spike in domestic violence and political upheaval against the central government. Although there is not a direct link to Boko Haram and piracy, the group is expanding operations into the southern Christian-dominated regions of Nigeria.[375] Nevertheless, Boko Haram presents an emerging challenge to Nigerian state security that might have wider implications to regional security if military and police forces are unable to contain this emerging threat. Since Nigeria is a critical oil producing state and has experienced an increase in oil theft and piracy attacks, Boko Haram could link into these illicit networks to purchase weaponry and offer support. Similar to other organizations like MEND, Boko Haram could also widen its target selection to include oil infrastructure in order to

[374] Mohammed Aly Sergie, "Boko Haram," *Council on Foreign Relations*, February 26, 2014, http://www.cfr.org/nigeria/boko-haram/p25739
[375] *Ibid.*

finance the organization and further weaken the central government's control over the country.

Improve industry-wide contingency plans and oil spill preparedness

According to Amy Jaffe, "history teaches us that change after a spill is inevitable and can be long-lasting. Previous major oil spills have resulted in substantial policy changes. The 1989 *Exxon Valdez* spill led to a mandate that all oil tankers built for use in U.S. ports must have full double hulls."[376] Twenty years earlier, the Santa Barbara oil spill galvanized the environmental movement, and drilling is still banned off California coasts. However, accidents can still happen and after the *Deepwater Horizon* disaster in 2010, there are concerns about how prepared the oil and gas industry is to effectively respond to a "worst case scenario." As offshore projects expand into more challenging marine environments, there is a demand to study regulatory frameworks in order to identify gaps in existing safety and risk standards. States that adopt this approach will likely implement stronger safety and environmental laws to promote safer drilling. However, there has no consistency on regulation and safety standards. To date, the oil and gas industry has attempted to improve their contingency plans, but such improvements have been sufficient to address the challenges in an evolving marine environment. Thus, further research needs to be placed on best practices and the exchange of information between the industry and governments to encourage the implementation of new standards. Also, an in-depth analysis of the oil and gas industry's views and strategies of oil spill preparedness could shed light on the future outlook of emergency response. In the event a spill occurs, it is critical to focus on the plans and processes in place to ensure effective response. Conducting thorough investigations of

[376] Jaffe and MacDonald, 3.

significant incidents is another way to understand the causes and highlight lessons learned to prevent future incidents.

Oil spills are more important than ever before because future development is expected to occur in more remote offshore areas. Thus, a concerted effort between regulatory authorities and the oil and shipping industries must work to develop better preventative measures to minimize the risk of an accident and in the case of an accident, help reduce the amount of oil spilt. This needs to include further examination of the absence of critical infrastructure in onshore regions, the effectiveness of clean up and rehabilitation technologies, the geographical differences of maritime regions, and environmental impacts associated with oil spills.[377] This discussion is most pertinent with the passing of the twenty-fifth anniversary of the *Exxon Valdez* disaster. Minimizing accidents is critical to the sustainability of future offshore development and the protection of marine ecosystems. As seen in a recent federal report on the *Exxon Valdez*, sea otters recovered to their pre-spill numbers in the most affected areas, but many serious impacts from the 1989 spill still linger even a quarter century later. In fact, small amounts of oil are still visible on beaches in the Gulf of Alaska.[378] Although accidents happen, the ramifications to a spill are long-lasting and can reinforce negative perceptions of the oil and gas industry.

Corporate social responsibility

The oil and gas industry also continues to expand its investment into corporate social responsibility (CSR) initiatives. Such initiatives are focused on environmental and

[377] IPIECA, "Oil Spill Preparedness and Response: Report Series Summary," International Petroleum Industry Environmental Conservation Association (2008), 3-5.
[378] James Gerken, "Remembering the Exxon Valdez Oil Spill, 25 Years Later," *The Huffington Post*, March 24, 2014, http://www.huffingtonpost.com/2014/03/24/exxon-valdez-oil-spill-photos_n_5020845.html#slide=3543810

social issues, such as spill prevention, environmental protection, pollution reduction, community engagement and sustainable development programs. To date, the shift is driven by the growth in corporate codes of conduct and social reporting. In fact, the oil and gas industry has embraced major international CSR initiatives such as Kofi Annan's Global Compact and the Global Reporting Initiative. Further, Shell and British Petroleum (BP) are significant players in renewable energy, and shown a commitment to combating carbon dioxide emissions to minimize their contribution to global warming.[379] Finally, the oil and gas industry have initiated, funded and implemented significant community development schemes. According to one estimate, global spending by oil, gas and mining companies on community development programs in 2001 was over US$500 million. Many oil and gas companies have built schools and hospitals, launched micro-credit schemes for local people and assisted in the creation and funding of youth employment programs in developing countries.[380] They even participate in partnerships with established development agencies such as the US Agency for International Development (USAID) and UNDP, while using NGOs to implement development projects.

However, these CSR initiatives and the overall effectiveness have been highly questioned. In fact, some argue that CSR programs are a way for the oil and gas industry to promote a safer work environment and manage negative perceptions among communities. On the other hand, NGOs contend these programs are typical strategies adopted by the oil and gas industry, whose efforts to behave responsibly is primarily

[379] Jedrzej George Frynas, "The False Development Promise of Corporate Social Responsibility: Evidence from Multinational Oil Companies," *International Affairs*, 81, 3 (2005): 581-82.
[380] *Ibid*, 582.

window-dressing or "greenwashing."[381] Nonetheless, CSR programs do provide an important option to mitigate conflict and widening violence by tackling economic disparity among the unemployed and poor and ensuring that oil pollution does not have a long-lasting impact on the surrounding environment. Also, through the support of sustainable development initiatives, the oil and gas industry can rebuild its reputation in certain regions, like the Gulf of Guinea, and gain public support among riverine communities where armed robbers and pirates carry out their operations. Moreover, more research is required on CSR effectiveness as well as an in-depth analysis of any shortcomings to these strategies.

CONCLUSION

The thesis highlights a pertinent study of three maritime regions slated for future offshore development. However, political, legal, economic and environmental risks must be assessed to weigh the threats to future development. In the SCS, a pervasive negative climate makes the joint development option untenable in the presence of a zero-sum approach. In the Arctic, large-scale offshore development must align with efforts to improve safety and regulation standards to enhance operational sustainability to cope with climate change, environmental sensitivity and rising production costs. Finally, oil theft and piracy represent a real security threat in the Gulf of Guinea that is driven by political and social factors. The international community and the littoral states must collaborate to adopt a wide-array of counter-piracy initiatives to help dismantle illicit operations and transnational criminal networks as well as protect existing and future offshore investments. Together, the thesis highlights how offshore energy geopolitics

[381] David B. Spence, "Corporate Social Responsibility in the Oil and Gas Industry: The Importance of Reputational Risk," *Chicago-Kent Law Review*, 86: 1 (2011): 76.

continues to evolve as it includes new threats to exploration and production. In the end, it is in the best interests of the private sector, policymakers, security experts, and NGOs to minimize risks with resoluteness as they carry significant implications to global energy security in the near future.

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CURRICULUM VITAE

Erik Fagley has eight years of public policy and federal government experience in Washington, D.C. To begin, Mr. Fagley worked at a prominent lobbying firm within their government affairs division and researched pertinent energy policy issues for clients and senior partners. Since then, Mr. Fagley has worked as an operations specialist at the U.S. Department of Justice, Office of Immigration Litigation. During this time, Mr. Fagley enrolled in Johns Hopkins University's Global Security Studies master's program where he studied energy security, risk analysis, energy management, energy geopolitics, climate change policy, and international energy policy. In addition, Mr. Fagley completed two energy-related research internships at the National Bureau of Asian Research (NBR) and the Pacific Northwest National Laboratory (PNNL) where he published two reports on energy security issues. Currently, Mr. Fagley is transitioning out of federal service and into the private sector with an interest in the oil and gas industry or a multinational corporation with energy operations. Mr. Fagley also received a B.A. in International Development Studies and History from the University of Kings College in Halifax, Nova Scotia.