COUNTERING MARITIME TERRORISM IN THE CARIBBEAN SEA
AND THE ATLANTIC OCEAN: IMPLICATIONS OF POSSIBLE
MARITIME TERRORISM IN THE CARIBBEAN

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ABSTRACT

COUNTERING MARITIME TERRORISM IN THE CARIBBEAN SEA AND THE ATLANTIC OCEAN: IMPLICATIONS OF POSSIBLE MARITIME TERRORISM IN THE CARIBBEAN, by Lt Col Colin L. Mitchell, 86 pages.

The United States of America (USA) is a major trade partner for Trinidad and Tobago and many ships transport dangerous cargoes like liquefied natural gas (LNG) from the port of Point Fortin to mainly USA Eastern seaboard ports. Despite the potential danger these cargoes posed, they were not viewed as a particular threat to the USA. The terrorist attacks of 11 September 2001, where aircraft were used as weapons of mass destruction changed the situation. Since the 11 September attacks, the USA has taken measures that would make it very difficult for terrorists to initiate similar attacks. A determined terrorist would now be required to become even more imaginative and look further afield to find opportunities to strike. It may be necessary therefore for terrorists to look to the sea for such opportunities. A possibility exists whereby terrorists capture an inbound loaded LNG tanker and seek to create a huge conflagration to claim a number of casualties and cause serious infrastructural damage. The question arises therefore: Given the potentially dangerous cargoes that sail the sea from Trinidad and Tobago to ports in the USA, what measures could be adopted to increase maritime security in order to deter potential terrorists from following this course of action?

ACKNOWLEDGMENTS

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ACRONYMS

ASSeT	Accompanying Sea Security Teams
CARICOM	Caribbean Community and Common Market Treaty
CARIFTA	Caribbean Free Trade Association
GDP	Gross Domestic Product
IED	Improvised Explosive Device
ISPS	International Ship and Port Security
JFK	John F. Kennedy
LNG	Liquefied Natural Gas
MARSOC	Marine Amphibious Special Operations Component
MEND	Movement for the Emancipation of the Niger Delta
MERP	Maritime Emergency Response Plan
NSMS	National Strategy for Maritime Security
OECS	Organization of Eastern Caribbean States
PFSMU	Port Facility Security/Marine Unit
RSS	Regional Security System
TTCG	Trinidad and Tobago Coast Guard
TTDF	Trinidad and Tobago Defense Force
TTP	Tactics, Techniques, and Procedures
US	United States
USA	United States of America
USCG	US Coast Guard
WMD	Weapons of Mass Destruction

TABLES

CHAPTER 1

INTRODUCTION

The threat of terrorism has become even more significant worldwide since the

attacks took place in the USA on 11 September 2001. This phenomenon has become a

major concern for nations around the world because of the frequency of terrorist attacks in

the international arena. Bard O'Neill, *Insurgency and Terrorism*, defines terrorism as "the

threat or use of physical coercion, primarily against noncombatants, especially civilians, to

create fear in order to achieve various political objectives."[1] The terrorists' intent is usually

to cause governments and other established authorities to submit to their particular

demands.

The world's list of terrorists or the actions of those already established seems to be

growing rather than shrinking and terrorist activities are becoming more dangerous and

ruthless, thereby leaving more casualties in their wake.[2] Additionally, almost all

established terrorist organizations now seem to have transnational links and associates, and

there is greater cooperation among these groups. These linkages are widening because of

the intervention of newer states and groups that support a widening array of terrorist

activities.[3] Following the 11 September 2001 attacks, President George W. Bush declared

that like Iran; Sudan, Libya, and Syria are states that sponsor terrorism.[4] As countries take

measures to counter known terrorist activities, the terrorists, in turn, develop new strategies

to outmaneuver the security forces opposed to their grim task. Al Qaeda is a clear example.

In the last ten years, this terrorist organization has geographically extended its reach to

include targets in Africa, Europe, and America. Al Qaeda terrorists also varied their target selection to include buildings, ships, aircraft, and train stations.[5]

Given the diversity of terrorist activities, it is therefore possible for a terrorist group to hijack a marine tanker loaded with hazardous materials, such as liquefied natural gas (LNG) or nuclear waste, in order to carry out devastating attacks against coastal population centers and infrastructure. Their aim could be to repeat a terrorist act similar to the surprise attacks that occurred in the USA on 11 September 2001.

Although this mode of attack has not yet been used by terrorists, it is not without precedent. The British used the obsolete destroyer, HMS Campbeltown, loaded with explosives to attack the heavily defended dry dock of St. Nazaire in occupied France during World War II. They rammed the dock and then detonated the charges onboard. This demonstrates the feasibility and effects of such an "improvised weapon of mass destruction (WMD)."[6] In the current international security environment, it is conceivable for terrorists to seize a tanker and use their sailing skills to steer the ship to port. Without drawing the attention of the authorities, the tanker makes port and the attack unfolds. The vessel is either run aground, collided with another vessel, or the terrorists detonate it in a suicide pact. This action spills the contents into the port or, in the case of LNG, releases them into the atmosphere as a vapor. The contents ignite in a huge conflagration, causing a number of casualties and untold damage to other vessels in the harbor and the city's infrastructure. In this context, the purpose of this study is to examine measures that could be adopted to prevent or reduce the possibility of terrorists capturing a ship and using it as a WMD in a major port city in the USA or elsewhere. This thesis will investigate these likely scenarios and suggest ways to prevent their occurrence.

This thesis will seek to answer the question: how best to protect LNG tankers and other maritime vessels carrying potentially dangerous or hazardous cargoes from Trinidad and Tobago ports, en route to the USA. To answer this question, the research will examine security measures to deter potential terrorists from seizing vessels in order to create possible WMDs against the USA. Specifically, the study will look at the methods pirates and terrorists adopt to attack and capture ships. Further, the research will examine the protective measures used in Trinidad and Tobago to protect shipping, the roles of the Trinidad and Tobago Defense Force in supporting these measures, and security measures that are used by other countries to protect their ports and shipping. Finally, the thesis will look at measures that Trinidad and Tobago can implement in order to improve its maritime security.

The British Caribbean Islands and CARICOM

Christopher Columbus first stumbled upon the Caribbean Islands in 1492 during his search for a westward passage to China. At the time, no Europeans knew that there was a "new world" between Europe and the Asian continent. Columbus was so convinced that he was in Asia that he called the people of the islands Indians and eventually the chain of islands became known as the West Indies. A number of these islands were inhabited by a tribe of people called the Caribs, and so the West Indian Islands also became the Caribbean Islands or simply the Caribbean. From that period onward, the European nations plundered and exploited this new world for its resources. They also established permanent settlements and fought numerous battles amongst themselves to maintain the right of conquest. Eventually, by the 20th century, the British became the dominant power in the Caribbean,

having captured the majority of the islands. The French, Dutch, and United States also gained possession of Caribbean islands; the latter having gained its possessions from Spain after defeating that nation in the Spanish American War at the turn of the century.

In 1958, the British-controlled islands created the West Indian Federation, which was a political union formed to gain independence from Britain in a similar manner to the Canadian and Australian Confederation. This Federation broke up in 1962, after which the islands individually sought independence from Britain. They did, however, establish a treaty called the Caribbean Free Trade Association (CARIFTA) in order to maintain a continued economic linkage among the English speaking Caribbean islands. In 1973, the Caribbean Community and Common Market Treaty (CARICOM) replaced CARIFTA and has since been expanded to include mainland countries like Belize and non-English speaking countries like Haiti.

The Caribbean island chain stretches for 2,500 miles in a convex arch from the Bahamas past the south east point of Florida and downward to the island of Trinidad, only seven miles off Venezuela's east coast. The islands encircle the Caribbean Sea, the body of water between them and the American continent. This vast maritime area has always attracted piracy and other illegal activities. During the sixteenth to nineteenth centuries, the "golden age" of piracy in the Caribbean flourished because of the amount of wealth the region generated and also because these bootleggers were able to get away with their nefarious activity. Piracy in the Caribbean only declined when the European powers and the Americans made a concerted effort to remove this scourge by increasing their naval presence in the region and attacking the pirate bases.

Global decision makers also recognize the geostrategic significance of the Caribbean basin. The Caribbean basin holds some of the key shipping routes and approaches to the continental United States (US) from the Atlantic Ocean; namely the Windward Passage and the Panama Canal. The US occupation of the Dominican Republic in the first quarter of the Twentieth Century and its preoccupation with Soviet influences in Cuba further emphasizes the importance of this region. Additionally, the transshipment of nuclear waste through the Caribbean has been a flashpoint for debate between environmental groups, Caribbean states, and shippers.

<u>Terrorist Activity</u>

In the twentieth century, as air travel became increasingly popular, terrorists began hijacking airplanes to alarm the world and pronounce their particular cause international publicity. The modus operandi for hijackings involved the terrorists seizing control of the aircraft, usually while in flight, and using the passengers as bargaining chips to negotiate for a particular settlement or agreement. In many past instances, the agreement was for the release or exchange of imprisoned comrades.[7] An example of this situation occurred in 1970 when Palestinian gunmen hijacked three airplanes with a combined total of 400 passengers and forced them to fly to the Jordanian desert. The hijackers blew up the aircraft after releasing most of the hostages and then negotiated for twenty-four days before they agreed to free the remaining hostages in exchange for the release of seven Palestinian prisoners.[8] In recent times, aircraft hijackings are not as frequent as before, primarily because nations are now less inclined to accede to hijackers' demands. In most countries, airport security is greatly improved and security forces are more likely to take retaliatory action as occurred in 1977 in Mogadishu, Somalia. Palestinian terrorists

hijacked a Lufthansa aircraft, and killed the pilot. After a five-day standoff, German commandos stormed the hijacked aircraft, killing three hijackers and freeing eighty-six passengers.[9]

Some terrorists attempt to blow up aircraft in order to highlight their plight. The Lockerbie, Scotland, incident that occurred on 21 December 1988, is an example of this situation. In the Lockerbie incident, a suitcase containing an improvised explosive device (IED) was placed in the forward hold of Pan American Flight 103. The IED was in a Toshiba radio within the suitcase and had a time charge that exploded over the Scottish town of Lockerbie. The aircraft was travelling from London, England to New York, USA, when the explosion occurred. All 259 passengers and crew on board were killed along with 11 residents of Lockerbie.[10] In 2001, Mohmed Al Megrahi, a former Libyan intelligence officer was found guilty and sentenced to life in prison. In 2003, Libya accepted responsibility for the attacks and agreed to pay $2.94 billion in compensation towards the victims' families.

The Al Qaeda terrorist network took this one step further and used aircrafts as missiles to destroy key infrastructure and create massive destruction and loss of life. Their actions in the USA on 11 September 2001, started with the hijacking of four airplanes, two from American Airlines and two from United Airlines. American Airlines Flight 11 was traveling from Boston to Los Angeles and American Airlines Flight 77 was flying from Washington, DC, to Los Angeles. United Airlines Flight 175 was flying from Boston to Los Angeles and United Airlines Flight 93 from New Jersey to San Francisco. The nineteen hijackers in the four airplanes were armed with knives, box cutter knives, and cans of mace or pepper spray to overpower the crew and seize control of the planes. Each

group of hijackers included a qualified pilot who steered the plane into the assigned target. In New York City, American Airlines Flight 11 and United Airlines Flight 175 respectively, crashed into the north and south tower of the World Trade Center. American Airlines Flight 77 crashed into the Pentagon in Washington, DC. The fourth aircraft was allegedly heading for the US Capitol building in Washington, DC; however, the passengers of that flight fought the hijackers in an attempt to retake the aircraft so it did not get to its intended target. Unfortunately, it crashed in a field in Pennsylvania. All the airplanes used in the attacks were in relatively early stages of their flights, and each had a fuel capacity of approximately 24,000 gallons. This meant that when they made impact with the different buildings, their fuel capacity was at optimum levels and this large volume of fuel added to the disaster. The end result was the implosion and ultimate collapse of the two World Trade Center towers and substantial damage to the Pentagon. The death toll from the combined incidents was 2,973 innocent persons killed along with the 19 hijackers.[11] There are also twenty-four persons listed as missing and who are now presumed to be dead. This action unfortunately heralded a new and highly dangerous terrorist activity that may very likely be attempted by other organizations in the future, even as security forces around the world take measures to minimize its reoccurrence.

Many modern terrorists have shown that they have little regard for human life, including their own, and are likely to exploit vulnerabilities to facilitate their own agenda. The hijacking of the Achille Lauro in October 1985, and the use of a motor launch loaded with explosives to ram and detonate the hull of the USS Cole, whilst in the Yemeni port of Aden are poignant reminders of the terrorist threat from the sea.

Piracy and Terrorism

Terrorist organizations have displayed a willingness and intent to seek innovative ways to create mayhem and instill fear in the world of their perceived enemies. Ships present a much larger target than aircraft and are potentially easier targets even when on the move. Once an aircraft has taken to the air, it cannot be boarded unless it lands; however, a ship at sea can be made to stop and can be boarded at any point along its journey, as pirates have done for as long as man has sailed the waters of the globe. More specifically, these methods were skillfully and efficiently employed by the countless pirates and privateers whose legendary exploits plagued the Caribbean Sea from the sixteenth to the nineteenth centuries. Although piracy in the Caribbean region is now greatly reduced, it has never totally disappeared. Today, piracy in the Caribbean is typically restricted to attacks on small private sea craft that are used for fishing or drug trafficking. However, this could easily change and piracy can once again become prevalent in the region, in part due to the inability of CARICOM countries to adequately patrol their territorial waters. The costs to maintain the required quantity and quality of vessels and crews at the expected level is more than these states can manage as they can only afford to allocate a minute portion of their annual Gross Domestic Product (GDP) to military expenditure.

Belize and Guyana are the only member states whose annual military expenditure exceeds one percent of GDP, most likely because these two countries have ongoing border disputes with their neighbors, Guatemala and Venezuela respectively. The remainder of the English Caribbean has experienced very little upheaval and regime changes usually happen peacefully; thus these nations have had little inducement to increase their military

expenditure. Furthermore, the economies of these island states are relatively small and other state sectors like healthcare and education compete for scarce state resources. Consequently, in the absence of a traditional external threat, military expenditure is sacrificed for other pressing development needs. Since the British granted independence to the islands, there have been a few noteworthy upheavals. The only incident in the English Caribbean that required American intervention was the Grenada crisis in 1983. At that time, President Ronald Reagan ordered the invasion of the island, ostensibly to protect American students who were attending an American off-shore university established there. Trinidad and Tobago, in July 1990, had its Parliament House invaded and its elected leaders held hostage by Islamic fundamentalists who attempted to stage a coup d etat. The nation's Defense Force restored the elected government within seven days as the terrorists were defeated and brought to trial. They were tried for treason and the matter went as far as the British Privy Council, the nation's highest appellate court. The Privy Council released them on legal technicalities and today they are all free men, but are still viewed with suspicion within the country. In 2006, the religious leader, Imam Yassin Abu Bakr, was again before the court of Trinidad and Tobago charged with sedition, based on matters unrelated to the earlier coup attempt. At the time of writing, his case is still pending before the court.

Haiti is the only CARICOM member state that has a history of numerous bloody political upheavals. Since Haiti gained its independence from France in 1804, the US has had to intervene in Haiti on numerous occasions. The last US intervention in Haiti was in February 2004, when President Jean Bertrand Aristide had to be escorted out the country amid a threatened coup by opponents to his rule.[12] In mid-2004, a UN peace keeping force

arrived in Haiti and these forces are still there. The current UN mandate is to assist those who are working to maintain a safe and secure environment for the people to try to rescue their impoverished country. Haiti became a member of CARICOM in July 2002, and hopes that membership in this organization will help the nation to overcome some of its problems through the assistance and mentorship to the Haitian people provided by member states. The challenge with Haiti is multifaceted since the country is the poorest in the western hemisphere. The CARICOM states are themselves not wealthy and some need support from their neighbors and other benefactors. In fact, poverty eradication is a major challenge for the region since poverty and underdevelopment often lead to other human security threats; this is often the underlying reason for high crime rates in the region. A high crime rate can serve as a magnet to attract external criminal activities whose sophistication could easily overwhelm the regional security agencies and, in turn, lay the foundations for possible terrorist infiltration and subversion.

The table 1 provides a breakdown of military forces in the CARICOM states and includes their strengths, maritime vessels, and the percentage of annual GDP expended on their maintenance. Dominica's military force was disbanded in 1981 after threats to subvert democracy in that country. Grenada and Haiti both had their militaries disbanded in 1983 and 1994 respectively following US intervention in their countries. In July 1981, the Organization of Eastern Caribbean States (OECS) was formed by the island nations of Antigua and Barbuda, Dominica, St. Lucia and St. Vincent, and the Grenadines. The OECS stated purpose was economic harmonization and integration, human and legal rights protection, and assistance in times of natural disasters. Out of concern following the Grenada coup of 1979 and Dominica's problem in 1981, the OECS nations created the

Regional Security System (RSS) in October 1982. The RSS mandate included rendering assistance in national emergencies, smuggling prevention, search and rescue, maritime policing and assistance in time of threats to national security. In 2006, the CARICOM Security Assistance Treaty and its subsequent protocol establishing the Caribbean Operations Planning and Coordination Staff (COPACS) laid the foundation for the coordination and execution of security preparations for the Cricket World Cup competition. Some regional heads were so impressed with the subsequent operations that many have expressed an interest in making this a permanent entity to coordinate regional security.

Piracy is a major threat to shipping and is prevalent around the Horn of Africa and throughout Southeast Asia. The cost of pirate attacks is estimated at $16 billion annually.[13] Sadly, within the last decade, terrorists as well as maritime bandits have increased their involvement in these activities. These new perpetrators are not motivated by greed or personal gain, but rather by desires to create economic havoc, to make political statements, and to instill fear within the region of Southeast Asia.[14] However, many groups use the proceeds of piracy to fund their terrorist activities onshore thus using piracy as an enabler for their terrorist activities.[15] Often, however, the distinction between piracy and terrorism can become blurred as in the case of the Free Aceh Movement, an internationally recognized terrorist group with well publicized political goals. In January 2004, the group hijacked an Indonesian-flagged vessel, M/V Cherry 201 and that attack was recorded as a pirate attack.[16]

Table 1.   Military Forces of the Caribbean Community States

Country	Maritime Strength	Maritime Vessels	Air Assets	Military Exp as a % of GDP	Remarks
Antigua and Barbuda	350	Small coastal patrol vessels	None	0.5	Member of OECS/RSS.
Bahamas	250	Small coastal patrol vessels	None	0.6	
Barbados	800	Small coastal patrol vessels	Light observation and utility aircraft	0.5	RSS aircraft are managed by Barbados, a RSS member
Belize	900	Small coastal patrol vessels	Light observation and utility aircraft	1.8	
Dominica	None	None	None	N/A	Member of OECS/RSS
Guyana	2000	Small coastal patrol vessels	None	1.9	
Grenada	None	None	None	N/A	Member of OECS/RSS
Haiti	None	None	None	N/A	UN Peacekeepers in country
Jamaica	3000	Small coastal patrol vessels	Light observation and utility aircraft	0.6	
Montserrat	None	None	None	N/A	UK territory
St Kitts and Nevis	150	None	None	N/A	Member of OECS/RSS
St Lucia	None	None	None	N/A	Member of OECS/RSS
St Vincent	None	None	None	N/A	Member of OECS/RSS
Suriname	1500	Small coastal patrol vessels	Light observation and utility aircraft	0.6	
Trinidad and Tobago	3000	Small coastal patrol vessels	Light observation and utility aircraft	0.4	

Source: Major J. Ogilvie, Jamaica Defense Force, compiled this table in 2007. He developed it using information from a variety of sources, including *The CIA World Fact Book, Jane's Sentinel Security Assessments*, and interviews with officers of Caribbean militaries.

In the Caribbean region, according to the International Maritime Organization, maritime crime has steadily increased since 1984.[17] In the intervening years, maritime

attacks have become increasingly efficient. The perpetrators have honed their skills and have taken up more sophisticated weapons. All of the pieces now appear to be in place: nautical skills, personnel, weaponry firepower, motivation, connections, tactical flair, command and control acumen, and strategic outlook to design a maritime terrorist operation on an unsuspecting target.[18] That target could be a densely-populated Eastern Seaboard port or a Gulf Coast port-located refinery; the attack weapon could be a fully loaded petrochemical tanker.

<u>Dangerous Cargo</u>

Ships have been used to transport bulk cargo since the days of antiquity. As the quality of ships improved, so did the sophistication of the cargo. Modern ships can transport any type and quantity of cargo. Tankers carry oil in both its crude and various refined states including LNG. LNG is defined as natural gas that has been liquefied by reducing its temperature to -260 degrees Fahrenheit (-161 degrees Celsius). In this state, its volume is reduced to 1/600 of its gaseous form; therefore, vast quantities can be transported in specially designed tankers. The liquid will revert to its natural gaseous state once the temperature is increased and can be made to flow through pipelines to homes directly in order to provide heat or forwarded to generating plants that use the fuel to generate electricity. Natural gas is composed of at least 90 percent methane, which is a highly combustible gas.

The Republic of Trinidad and Tobago is a major supplier of LNG to the eastern seaboard of the United States. It accounts for approximately 70 percent of USA imports of LNG. Each month a number of these tankers depart Trinidad and Tobago to transport this cargo to ports located mainly on the USA eastern seaboard, including the ports of

Massachusetts, Louisiana, and Georgia. Today, nearly a quarter of US energy comes from natural gas, and within the next twenty years, as the public demands cleaner burning fuels, this figure could increase to as much as one-third of American energy consumption.[19] Since most of this fuel must be transported by ship, increased demand will necessitate either more tankers heading to the current ports that process natural gas or more ports with natural gas terminals. Either way, there will be increased opportunities for potential terrorists to foment disaster.

In addition to its role as a major LNG exporter, Trinidad and Tobago is also now the world's largest exporter of ammonia and methanol. Approximately twenty tankers of ammonia and twenty-four tankers of methanol depart monthly for various locations around the world. Together these dangerous cargoes may prove to be an attractive target and have the potential to draw unwanted attention to Trinidad and Tobago, whereby terrorists might see the opportunity for committing acts of aggression against the country itself or its major trade partner, the US.

<u>Assumptions</u>

In order to conduct this study, certain assumptions are required. First, the list of terrorists and organizations is growing and the terrorists are becoming more dangerous and ruthless. The case of four Caribbean nationals who were arrested in June 2007, for allegedly plotting to bomb New York's John F. Kennedy (JFK) Airport lends credence to this. Three of the alleged terrorists were arrested in Trinidad and Tobago and the authorities suspect that they were there trying to establish links with the Jamaat al Muslimeem, a local radical Islamic group with ties to Libya and Sudan. Second, it is assumed that splinter groups may spring up in the Caribbean as terrorism spreads over the

globe. Third, the inadequately monitored coastlines and sovereign air, land and maritime spaces of Caribbean states will facilitate unwanted terrorist infiltration and ultimately the launching of terrorist acts. Finally, the thesis will focus on Trinidad and Tobago's specific situation and examine how this nation's maritime security can improve, whether at its ports or in its extended maritime domain.

<center>Research Outline</center>

The introduction to this thesis sought to establish the possibility that terrorists may seek to exploit the vulnerability of shipping in this strategically important Caribbean region by seizing a tanker loaded with flammable cargo like crude oil or one of its refined derivatives and infiltrating a US port in order to cause destruction to life and property.

Chapter 2 will be the literature review. There are no incidents involving terrorists using ships as a weapon similar to what was done with aircraft on 11 September; however, there is extensive literature on maritime piracy. The review will look at the methods that pirates use in order to capture ships and the methods countries and their authorities adopt to counter piracy. Accidents involving LNG tankers will be reviewed to determine the dangers that they pose to people and infrastructure. Other available documentation from the USA and other maritime nations will be examined to help understand how ships and cargoes are tracked and how dangerous cargoes are handled, particularly while in port. Additionally, the review will look at what other countries are doing with regards to the handling of ships and dangerous cargoes.

Chapter 3 will discuss the research methodology. A comparative study will be conducted to identify measures that might be appropriate to defeat likely terrorist attacks

using maritime vessels with dangerous cargoes. This chapter will provide the overarching framework for completing the research.

Chapter 4 will examine the vulnerable points involved in the shipping of dangerous cargo and its vulnerabilities at the port of embarkation, while sailing and at the port of disembarkation. This chapter will highlight the vulnerabilities and deficiencies of the process, provide an analysis of each, and propose some measures to defeat or neutralize the threats.

Chapter 5 will conclude the study and propose countermeasures to neutralize the vulnerabilities identified. Where appropriate, it is intended that the proposed countermeasures will inform the relevant authorities in Trinidad and Tobago as the global war on terror is being fought.

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[1]Bard E. O' Neill, *Insurgency and Terrorism*, 2nd ed. (Washington, DC: Potomac Books Inc., 2005), 33.

[2]Brian Jenkins, "The Future Course of International Terrorism," in *Contemporary Trends in World Terrorism*, ed. Anat Kurz (New York: Praeger Publishers, 1987), 154.

[3]Samuel T Francis, "Terrorism in the United States: Background and Prospects," in *Combating the Terrorist, Democratic Responses to Political Violence*, ed. H. H. Tucker (New York: Facts on File, 1988), 33.

[4]Bob Woodward, *Bush at War* (New York: Simon and Schuster, 2002), 131.

[5]Ibid., 34.

[6]William H. McRaven*, Case Studies In Special Operations Warfare: Theory and Practice* (New York: Presidio Press, 1996), 128-159.

[7]BBC News, World, History of Airline Hijackings, 3 October, 2001, http:/news.bbc.co.uk/1/hi/world/south_asia/1578183.stm (accessed 14 November 2007).

[8]Ibid., 2.

[9]Time.com, "Terrorism," http://www.time.com/time/magazine/article/0,9171,962311,00.html (accessed 1 October 2007).

[10]Amy Zalman, PhD, Pan Am Flight 103 Bombing--1988 Lockerbie Bombing Led to Libyan Convictions, http://terrorism.about.com/od/originshistory/p/PanAm Bombing.htm (accessed 14 November 2007).

[11]Thomas H. Kean and Lee H. Hamilton, *The 9/11 Commission Report: Final Report of the National Commission on Terrorists Attacks on the United States* (New York: W. W. Norton and Company, 2004), 311.

[12]Fox news.com: U.S. Marines Arrive in Haiti after Aristide Flees, Archives 29 February, 2004.http://www.foxnews.com/story/02933,314661,00.html (accessed 31 August 2007).

[13]Stephanie Mann, "Maritime Piracy Increasing Dramatically," *VOA News* (8 July 2001): 2.

[14]Jim Gray, Mark Monday, and Gary Stubblefield, *Maritime Terror Protecting Yourself, Your Vessel, and Your Crew Against Piracy* (Boulder, CO: Sycamore Island Books, 1999), 1.

[15]Rupert Herbert-Burns and Lauren Zucher, "Drawing the Line Between Piracy and Maritime Terrorism," *Jane's Intelligence Review* 16, no. 9 (1 September 2004): 1.

[16]Ibid.

[17]Mike Bruynell, International Maritime Organization, Annual Report on Piracy and Armed Robbery Against Ships, 2006, http://www.geocities.com/cdelegas/PIRACY WEBSITE_legal.html (accessed 14 November 2007).

[18]Herbert-Burns and Zucher, 1.

[19]Eben Kaplan, Q&A: Liquefied Natural Gas: A Potential Terrorist Target?, *The New York Times*, 11 February 2006, http://www.nytimes.com/cfr/international/slot2_ 021106.html?pagewanted=print (accessed 14 November 2007).

CHAPTER 2

LITERATURE REVIEW

Introduction

The author divided the literature review into several areas. The author examined the reasons why the USA became a terrorist target. Next, the author reviewed academic and professional publications on piracy and terrorism including the areas where both are predominant, the tactics pirates and terrorists adopt, and other publications and studies that relate to the research questions. Finally, the review looked at LNG potential use as a terrorist weapon.

The US has become a major target of Islamic terrorists. In 1979, when the Ayatollah Ruholla Khomeini returned from exile after the people of Iran deposed the Shah, he declared that the United States is the Great Satan. In the first half of the twentieth century, however, the USA enjoyed favorable rapport with the Middle East countries despite its support of the partition of Palestine in 1947 and its recognition of Israel the following year. Stephen Simon offers an explanation for the continued US support at that time. In the book, *In the Same Light as Slavery, Building a Global Antiterrorist Consensus*, he discusses Muslim perceptions of America and outlines the source of hostilities.[1] Simon contends that the main issue concerning US-Muslim relations is centered on the existence of the state of Israel. The USA voted for the establishment of Israel; however, the Truman Administration maintained a self imposed distance from the fledgling state, in part because of a desire to avoid outraging Israel's regional neighbors, and also because of Israel's then socialist government which had strong connections to the Eastern Bloc.[2] Additionally, in 1957 the USA supported Egypt against Britain, France, and Israel when Egypt sought to

nationalize the Suez Canal. These actions endeared the USA in the Middle East. The USA, however, quickly began to lose popular support in the region because the Soviet Union began making strong overtures in the region. Their approach was through weapons sales to some Arab states, while promoting anti-American propaganda in the regional press by linking the USA with other NATO allies that were experiencing strong anti-colonial sentiments from their regional holdings at that time.[3] Naturally, the USA frowned on the Soviet's actions. Then, from the 1960s and beyond, the USA support of the state of Israel, especially in both the 1967 and 1973 Wars served to seal the perception that the USA was about serving Jewish interests and this seemed to prove that the Soviet propaganda was indeed true.

Shibley Telhami, in his national bestseller, *The Stakes, America in the Middle East*, observes that "there is a pervasive resentment of the United States in Arab and Muslim countries, and this resentment is mostly related to American foreign policy [regarding Israel]."[4] As the US support for Israel continued, and as Israel, with American support, defeated the Arab States in several military operations, the Arab States began to seek ways to make the US pay for this perceived affront against Islam. On 17 September 1973, the Organization of Petroleum Exporting Countries (OPEC) announced an oil embargo against the West, more specifically, against the USA. This action had some damaging effect on the USA national economy; however, the nation was able to survive the resulting recession and continued to support Israel. On 4 November 1979, following the overthrow of the Shah of Iran and Ayatollah Khomeini's declaration that the US was "the Great Satan," Iranian university students invaded the US Embassy in Teheran and took over sixty-two Americans captive. The Iranians later released ten captives, who were either female or

African American, and held the remaining fifty-two. There was one American attempt to rescue the hostages but this ended in disaster. On 20 January 1981, the hostages were eventually released after being held for 444 days.[5]

Rupert Herbert-Burns and Lauren Zucher writing for *Jane's Intelligence Review* examined the difference between piracy and maritime terrorism. They posited that while piracy is driven by financial gain, terrorism is politically motivated. They further explained that in the maritime domain, the distinction between piracy and terrorism is not very distinguishable because the execution and end results can be almost identical. This is because some terrorist groups engage in pirate activity. The Free Aceh Movement of Indonesia is a case in point. This insurgent group that is based in Aceh on the northern tip of Sumatra is seeking independence from Indonesia and funds its campaign from the proceeds of piracy.[6]

Sam Bateman observed in his article, "Assessing the Threat of Maritime Terrorism: Issues for the Asia-Pacific Region" that "maritime targets may be less attractive than land or air targets." He also noted that "ships at sea are difficult targets and an attack on port infrastructure may have less impact than an attack on a major building or a facility like a mass transportation system." He explained that unless a ship itself was used as a bomb or as a means of introducing a WMD, a maritime terrorist attack may not cause a large loss of life.[7] He further states that ships that are most vulnerable to terrorist attack are those that transport hazardous or dangerous cargoes that could be turned into a bomb, passenger ferries, cruise liners, and naval vessels. Smaller vessels that transport liquid petroleum gas (LPG) and chemical tankers are more vulnerable to terrorist attack than the larger tankers

and LNG carriers because they are generally slower and have smaller crews and lower freeboards.

The researcher conducted telephone interviews with Lieutenant Commander Michael Braithwaite, the commanding officer of the Port Facility Security Marine Unit (PFSMU) of Trinidad and Tobago, and Major Sarwan Boodran, Corporate Security Manager at the Point Fortin LNG port facility in Trinidad. These gentlemen provided detailed information on the security infrastructure in Trinidad and Tobago and the LNG port respectively. Lieutenant Commander Braithwaite described the formation of the PFSMU and outlined the responsibilities that the government assigned to the unit. He also explained how the unit functioned and he gave some insight into its future plans. Major Boodram described in detail, the security apparatus at the Point Fortin port.

Eben Kaplan, writing for the *Council on Foreign Relations*, investigated the potential use of LNG as a terrorist target. He found that when LNG is in its liquid state, it is not explosive; however, if it is spilled, it quickly reverts to its natural gaseous state. Then, its volume expands and forms a highly combustible vapor cloud that can be very dangerous if ignited. Kaplan went on to highlight the details of a study conducted by James Fay, Professor Emeritus at the Massachusetts Institute of Technology (MIT).[8] Professor Fay described a likely scenario in which a LNG tanker develops a hole from which the liquid leaks. This liquid is ignited and leaks faster than it can burn off resulting in an expanding "pool fire." The Sandia National Laboratory, a division of the Department of Energy, tested this potential situation in 2004. The results indicated that such a fire would be hot enough to melt steel at distances of 1,200 feet, and exposed skin would receive second-degree burns at a distance of one mile from the flame.[9] The study found that such a

fire would be impossible to extinguish and would burn as long as there was fuel present. Furthermore, although it was found that the approximate time for this fire would be between five to eight minutes, the intense heat could generate a number of secondary fires and according to the initial location, these could cause more damage than the initial blaze. The only notable LNG accident in the US occurred in 1944 in Cleveland, Ohio, when a full storage tank ruptured and the escaping liquid evaporated and ignited. The conflagration scorched 30 acres of land, killing 128 people and injuring 225.

Kaplan next quoted Rob Knake, Senior Associate at Good Harbor Consulting, LLC, a homeland-security private consulting firm. As Knake pointed out, LNG is a significant potential terrorist weapon because of its raw explosive power. He also advises that LNG ships and terminals are more appealing terrorist targets than pipelines because they are more likely to result in massive initial explosions, and secondary fires that are extremely difficult--if not impossible to contain. Pipeline fires and explosions, on the other hand, can be quickly contained by cutting off the flow. Additionally, LNG ships or terminal fires could also cause serious disruption to the US gas supply.[10] However, as Knake noted, an attack on an LNG terminal might not be very damaging since these facilities are usually equipped for emergency fire detection and possess mechanisms that can potentially minimize the impact of such a fire caused either accidentally or deliberately by terrorists. The Good Harbor Consulting report also highlighted that the most attractive target for terrorists would be a loaded LNG tanker. The firm estimated that a successful attack on a 1,000-foot tanker in a port located close to a population center like Boston could cause as many as 8,000 deaths and 20,000 injuries.[11]

The Sandia National Laboratories assessment identified four potential ways and potential outcomes in which terrorists may attack LNG tankers. The four methods were ramming; triggered explosion; external attack, and hijacking. Terrorists may attempt to drive another vessel like a small boat into a LNG tanker or else cause the tanker to veer into the path of a stationary object. The intent would be to cause a breech in the vessel's hull in order to cause spillage of the LNG. Sandia estimated that the likelihood of this occurring was low unless the tanker was rammed at a very high speed or the object doing the strike is very sharp. A triggered explosion attack requires explosives, such as mines or shaped charges, be placed against the hull or in the path of the tanker and detonated at the appropriate time. This, however, requires very powerful explosives in order to breech the double walls of an LNG tanker. Terrorists armed with rocket-propelled grenades or other missile type weapons may attempt to assault a tanker by attacking it from several small boats. Other attack methods include detonating small boats filled with explosives, similar to the USS Cole attack, and air attacks from aircraft, similar to the 11 September 2001 attacks. These attacks could be programmed to occur at a time and place where they can be most destructive, like upon arrival at port when the vessel is fully loaded with LNG. Another very likely scenario is terrorists hijacking a LNG tanker and sailing it into a port or a major population area and detonating the cargo. This must be done without alerting the security forces, thus maintaining the element of surprise.

Summary

This chapter has reviewed the available literature on matters relating to piracy and maritime terrorism. Piracy is much more prevalent than maritime terrorism; however the tactics that both practitioners used are very similar. The literature revealed that some

terrorists use piracy as a means of funding their program. This chapter also examined

measures that Trinidad and Tobago adopted to protect its maritime resources and also

looked specifically at the Defense Force to determine what is its role is regarding maritime

security. The author looked at Singapore and the US in order to determine the best practice

methods that both nations have adopted. This should enable the author to do a comparative

study in order to determine what gaps exist, if any, between what is used internationally

and what currently exists in Trinidad and Tobago. In this way, recommendations may be

made to improve maritime security in Trinidad and Tobago and even CARICOM.

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[1] Joseph McMillan, *In The Same Light As Slavery, Building A Global Antiterrorist Consensus* (Washington, DC: Strategic Studies Institute Press, 2004), 35.

[2] Ibid., 37.

[3] Ibid., 38.

[4] Shibley Telhami, *The Stakes, America in the Middle East* (Boulder, CO: Westview Press, 2002), 65.

[5] Bernard Lewis. *The Crisis of Islam, Holy War and Unholy Terror* (New York: Modern Library 2003), 83.

[6] Herbert-Burns and Zucher, 2.

[7] Sam Bateman, "Assessing the Threat of Maritime Terrorism: Issues for the Asia-Pacific Region," *Security Challenges* 2, no. 3 (October 2006): 82.

[8] Eben Kaplan, Liquefied Natural Gas: A Potential Terrorist Target? *Council on Foreign Relations* (27 February 2006): 2, http://www.cfr.org/publication/9810/ (accessed 14 November 2007).

[9] Ibid.

[10] Kaplan. Liquefied Natural Gas, 3.

[11] Ibid.

CHAPTER 3

RESEARCH METHODOLOGY

Introduction

This chapter will examine and compare and contrast methods the international maritime shipping countries use to ensure security against maritime attacks. These methods will then be assessed for applicability by Trinidad and Tobago.

Objective and Motivation for the Research

The purpose of the research is to answer the question of how best to protect LNG tankers and other maritime vessels carrying potentially dangerous or hazardous cargoes from Trinidad and Tobago ports en route to the US. Trinidad and Tobago's economy is heavily dependant on the petrochemical industry. LNG sale to the USA contributes significantly to revenue inflows. The sea routes are therefore a key link in guaranteeing access to this market. Any disruption along these routes that affects tanker movement from Trinidad and Tobago will have a negative impact on the national economy. It is therefore vital that the sea route from Trinidad and Tobago to the USA remains safe and secure.

This research will analyze the security systems adopted by countries that engage in huge volumes of international shipping. As states upgrade their security with sophisticated apparatus to provide protection against terror threats, terrorists are inclined to become even more creative by developing unique strategies to achieve their destructive goals. Terrorists now need to think outside the proverbial box. State leaders therefore need to team with their security personnel to strategize plans in anticipation of a terrorist attack as well as structure defensive mechanisms that will deter any potential disruptive action. This

research therefore seeks to address one potential threat area that may be used in the future, and try to identify ways to eliminate, or at least reduce, the likelihood of it happening. Trinidad and Tobago must take the necessary actions to remain a safe and reliable LNG supplier thereby assuring its major customer, the USA that it can be relied upon to deliver quality goods without disruption.

The Research Steps

Having determined the research questions, data was collected on piracy, maritime terrorism, and maritime security in order to properly assess the risks and methods associated with this threat to maritime and coastal security. In 1958, the United Nations Convention on the Law of the Sea (UNCLOS) defined piracy as "illegal acts committed on the high seas for private ends by the crew or passengers of one ship against the crew, passengers, or property onboard another ship."[1] Gal Luft and Anne Korin in their paper titled "Terrorism goes to Sea," written for the Institute for the Analysis of Global Security in November/December 2004, pointed out that the number of pirates' attacks worldwide had tripled in the decade 1994 to 2004. Additionally, they suggested that terrorist groups were increasingly using piracy as a tactic to either raise funds or as a means to affect the world's economy, especially the energy markets. This is cause for concern especially when most of the world's oil and gas travels aboard ocean vessels through the world's most pirate infested waters. There are several areas around the world where conditions enabled pirates to thrive. Among these are the Straits of Hormuz, which is 1.5 miles wide at its narrowest point. Another such region is the Bosporus, which links the Black Sea to the Mediterranean and is less than one mile wide in some areas. Indeed, almost any area that ships are required to traverse close to land may be a danger spot. The Strait of Malacca in

Southeast Asia, a 500-mile area between Indonesia and Malaysia, has the reputation as the most dangerous stretch of water in the world. In 2003, 42 percent of pirate attacks took place there. The Free Aceh Movement, one of the pirate groups operating in this area, actually operates in military style uniforms and uses piracy as a source of funding to support its struggle for independence from Indonesia. These pirates average $100,000 in ransom per ship and use the funds to purchase weapons in order to sustain their war of liberation.[2]

With regard to maritime terrorism, there is little publication on the tactics, techniques, and procedures (TTPs) primarily because to date, there have been relatively few recorded incidents. The author therefore had to look for events and actions that pirates committed that probably matched the likely actions of potential maritime terrorists. Piracy and terrorism differ. Piracy is conducted for private ends while terrorism has political motives.[3] There have been a few confirmed acts of maritime terrorism, and these attacks have been mainly against passenger ships and ferries. One of the worst such terrorist attacks occurred near Manila, Philippines, in February 2004 when the passenger liner, Superferry 14 was sunk and 116 souls were lost.[4] Other terrorist attacks include the Palestinian Liberation Front attack on the passenger ship, Achille Lauro, in 1985, the Abu Nidal Organization's attack on the Greek Liner, City of Poros, in 1988, Al Qaeda attacks on the USS Cole in Aden in 2000, and the French tanker, Limburg, off Yemen, in 2004.

The Achille Lauro was a passenger ship traveling from Alexandria to Port Said in the Middle East when four members of the Palestinian Liberation Front (PLF) took control of the liner. The attack took place off Egypt's coast and the crew was directed to sail to the Syrian port of Tartus. The hijackers also demanded the release of fifty of their Palestinian

comrades; then held in Israeli prisons. The Syrian authorities refused the ship docking

permission, and the hijackers shot an American Jewish passenger, Leon Klinghoffer, and

threw his body overboard before sailing from Tartus. The ship returned to Port Said,

Egypt, where it was released after two days of negotiations. The hijackers had negotiated

their safe passage to Tunisia but their aircraft was intercepted by US Navy fighters and

forced to land in Italy. The fifty Palestinians were not released and remained incarcerated

in Israel.

On 11 July 1988, three Palestinian gunmen attacked their fellow passengers on

board the City of Poros, a Greek passenger ship. The ship was traveling from the Island of

Aegina to the Athenian port of Porto Faliron. Investigators surmised that this attack was a

fall-back action because the likely main effort failed to materialize. Earlier that same day, a

car loaded with explosives blew up on the dock while waiting to board the City of Poros.

Fortunately, the ship was at sea and only the occupants of the car were killed. Later that

night, at approximately 8:30 p.m., the three gunmen opened fire using automatic weapons

and grenades and killed nine tourists. They then fled the ship via a speedboat and

disappeared. The Libyan sponsored Abu Nidal Organization claimed responsibility for the

action. Greek authorities believe that the purpose of the attack was to force the Greek

government to free an ALO member, Muhammad Rashid, who was wanted in the USA

and was fighting extradition attempts. The Greek government later released and

transported him to Libya.

On 12 October 2000, The USS Cole, a US Navy Destroyer, was docked at the

Yemeni port of Aden. While the vessel was refueling, a small craft loaded with explosives

slammed into the port side of the destroyer. The resulting explosion blew a 35 by 36 foot

hole in the ship's side. The blast struck in the region of the ship's galley; just at the time the crew was lining up for lunch. In that attack, seventeen sailors died and thirty-nine were injured. Evidence indicates that the two suicide bombers, Ibrahim al Thawr and Hassan al Khamri, carried out the attack under the direct supervision of Osama bin Laden and his al Qaeda organization.[5] On 6 October 2002, the French oil tanker, Limburg, was traveling from Iran to Malaysia, loaded with 379,000 barrels of oil when it was attacked off the coast of Yemen. A small craft loaded with explosives rammed the side of the tanker, killed one crew member and caused the spillage of over 50,000 barrels of crude oil along a 45 mile stretch of coastline. Al Qaeda was again the main suspect in this incident, based on the similarity to the USS Cole attack.

The passenger liner, Superferry 14, was sunk on 27 February 2004, with 900 passengers and crew on board while sailing from Manila. Approximately 90 minutes into the journey, a blast ripped through the ship killing 63 persons, with another 53 reported missing and presumed dead. Investigations revealed that a television; packed with eight pounds of explosives had been placed aboard the ship and later detonated causing the death and mayhem. The Abu Sayyaf guerilla group claimed responsibility for the attack. A very likely reason for this attack was because the ship's owners did not pay the protection money that Abu Sayyaf had demanded.

Data was also collected from a variety of sources. The principal source was from publications from experts who specialized in the related topics. Additionally, material was sourced from the Internet and consisted of reports, articles, and research papers. Another direct source was from telephone interviews with knowledgeable persons from Trinidad and Tobago. The data collected provides the researcher with the means to analyze the

problem and from the analysis, formulate strategies to counter the threat. To keep the data

collection process relevant and accurate, the researcher dissected the questions into their

component parts. The respective parts are as follows:

     1. Who are the likely threats?

     2. Where can they strike?

     3. How vulnerable are the ships?

     4. What security measures exist at home port and sea route?

     5. How can security be implemented or improved?

     6. What countermeasures can ships and crews adopt in the event of an attack?

     The researcher will look at the individual questions and determine the best

approach to derive the appropriate answer. To determine who the likely threats are and

where they can strike, the researcher examined publications from experts whose specialty

is the TTPs that pirates and maritime terrorists employ. There have been many terrorist

attacks on US personnel, property, and possessions outside the continental USA within

recent times. One of the more devastating instances occurred on 7 August 1998, when

perpetrators conducted nearly simultaneously attacks on the US Embassies in Nairobi,

Kenya, and Dar es Salaam, Tanzania. The attackers detonated vehicles loaded with

explosives that severely destroyed both chanceries. In all, 220 persons died including 12

American and 40 Kenyan and Tanzanian US government employees. There were also over

4,000 injured persons from both bombings.[6] It was later discovered that Osama Bin Laden

and al Qaeda were responsible for these acts. Interviewed later about the death of the

Africans, Bin Laden answered "When it becomes apparent that it would be impossible to

repel these Americans without assaulting them, even if this involved the killing of

Muslims, this is permissible under Islam." He was also asked if he masterminded the bombings and his response was "The World Islamic Front for jihad against Jews and Crusaders had issued a fatwa . . . if the instigation for jihad against Jews and Americans to liberate the holy places is considered a crime, then let history be a witness that I am a criminal."[7]

As recently as June 2007, four Muslim potential terrorists were arrested on charges of conspiring to attack New York City's JFK Airport by planting explosives to blow up the airport's major jet-fuel supply tanks and pipeline. The Justice Department has in its possession numerous recorded conversations between the defendants. In one of these conversations, an alleged defendant stated that "the attack would result in the destruction of the whole of Kennedy Airport (JFK) that only a few people would survive the attack, and that because of the location of the targeted fuel pipelines, part of Queens would explode."[8] In a later recorded conversation with his co-conspirators, the same defendant compared the plot to attack JFK airport to the attacks on the World Trade Center on 11 September and he stated that "even the Twin Towers can't touch it . . . this can destroy the economy of America for some time."[9]

The American authorities discovered the plot before the perpetrators could put their plan into action. According to details from the Justice Department, the plot tapped into an international network of Muslim extremists from the United States, Guyana, and Trinidad and Tobago and intended to utilize the extremists' expertise and contacts to develop and plan the plot. Three of the suspects were arrested in Trinidad and Tobago and one in the USA. The suspects are all former nationals of the Caribbean; three are from Guyana and

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include a former member of the Guyanese Parliament, and the fourth is from Trinidad and Tobago.[10] If convicted, the defendants face a maximum sentence of life imprisonment.

With regard to ships' vulnerabilities, the researcher looked at the pirates and terrorists TTPs as well as after action reports on vessels that were victims of these attacks and publications from researchers and security personnel whose specialty is ship security. The method used by pirates to attack ships mirrors the technique called swarming. Swarming, according to John Arquilla and David Ronfeldt of the Naval Postgraduate School, is described as "a deliberately structured coordinated strategic way to strike from all directions, by means of a sustainable pulsing of force and/or fire, close-in as well as from stand-off positions."[11] This seems to describe the way that modern pirates attack ships using a multitude of small fast boats to attack the ships from different directions. The ship's crew cannot focus on a specific vessel. While the crew is occupied with one set of attackers, another set will seek to board the ship undetected. To date, this method has proven to be very effective and ship captains need to develop a suitable counter-attack.

In 2004, Singapore's Deputy Prime Minister, Tony Tan, warned that "piracy is entering a new phase; recent attacks have been conducted with almost military precision. The perpetrators are well trained, have well thought out plans."[12] In its 2003 report, the International Maritime Bureau indicated that there were 445 ship attacks of which 19 were actually hijacked and 311 were boarded. In these incidents, 92 sailors were killed or reported missing and 359 were assaulted and taken hostage. The International Maritime Bureau report for 2005 indicated that pirates took 440 seamen for ransom, 12 of whom remained missing. Most of these attacks for ransom took place off the coast of Somalia, Nigeria, and Indonesia.

Next, the researcher looked at security for home ports and sea routes. The Trinidad and Tobago government mandated the Defense Force (TTDF) to be the responsible agent for the surveillance and monitoring of shipping. The TTDF in turn created a new unit within the Coast Guard (TTCG) called the Port Facility Security/Marine Unit (PFSMU) and mandated it to ensure that all the nation's ports maintain the International Ship and Port Security (ISPS) standards. The unit is commanded by a Coast Guard officer in the rank of Commander and he is referred to as the Designated Authority. This information was supplied by Lieutenant Commander Michael Braithwaite, the current Designated Authority, during a telephone interview in October 2007. Braithwaite stated that the unit also had responsibility for manning the newly installed radar system. He confirmed that the radar system is manned on a twenty-four hour basis and it is able to identify different sizes of vessels by utilizing different types of icons to represent the vessels' sizes. He also said that the radar can provide a digital display of the full course, the speed, and the position of any vessel within its range. The system was especially able to identify all sizes of vessels that operate within the seven mile stretch of water called the Gulf of Paria, which separates Venezuela from Trinidad and Tobago. This is vital to the country's security since this is the route through which most illegal activities take place, namely drugs, guns, and human trafficking.

The researcher studied the measures some nations successfully adopted to boost security and defeat or restrict piracy and maritime terrorism. Singapore was selected as a model because its geographical location and general history matched many Caribbean nations. Additionally, this nation is very dependent on shipping and has adopted additional security measures that exceed the ISPS requirements. Singapore is situated south west of

Malaysia and possesses one of the busiest ports in the world. It is estimated that at any given time, as many as 1,000 ships may be in its ports and it is estimated that more than 12,000 tankers and 3,000 chemical tankers use its ports annually.

The research also looked at USA's security measures because of that country's proximity to the Caribbean and also because of the likelihood that Trinidad and Tobago's and CARICOM's maritime security measures would need to be synchronized with that of the USA's maritime forces. In December 2004, President George W. Bush commissioned the Department of Homeland Security and the Office of the Secretary of Defense to develop a policy document to define the ends, ways, and means to accomplish national protection from terrorism in the maritime domain. This policy document, the *National Strategy for Maritime Security* (NSMS) was published in September 2005. The goal of this policy is to better synchronize the US government maritime security programs and initiatives in order to achieve a comprehensive national effort. The policy covers the use of appropriate federal, state, local, and private sector entities. The document identified four strategic objectives of the US: prevent terrorist attacks and criminal or hostile acts; protect maritime-related population centers and critical infrastructures; minimize damage and expedite recovery; and safeguard the ocean and its resources.

In this regard, the Departments also developed eight documents that contain supporting implementation plans. These plans are designed to address the specific threats and challenges of the maritime environment.[13] They are; the National Plan to Achieve Domain awareness; the Global Maritime Intelligence Integration Plan; the Interim Maritime Operational Threat Response Plan; the International Outreach and Coordination

Strategy; the Maritime Infrastructure Recovery Plan; the Maritime Transportation System

Security Plan; the Maritime Commerce Security Plan; and the Domestic Outreach Plan.

The plans were designed to mutually link and reinforce each other and will be

updated as required. Together, the NSMS and the eight plans present a comprehensive

national effort for promoting global economic stability, while preventing hostile and illegal

acts within the maritime domain. The government expects that by adhering to these plans

and using all the elements of national power, (for instance, the navy,) the US will provide

the means to achieve success against maritime terrorists.

The researcher next analyzed the data compiled and answered the following

questions related to how could security be implemented or improved, and what

countermeasures could ships and crews adopt in the event of an attack.

There are relatively few instances of maritime terrorism; however, since the TTPs

are similar to piracy, there was enough information to make relevant assumptions that

piracy could increase in the Caribbean region and with the correct stimulus, maritime

terrorism could take root in the region. The data collection process outlines how to collect

appropriate data. Through this process, the researcher is able to compile a relevant list of

documentation from which to draw upon.

<u>Analysis of the Data</u>

The analysis of the data begins with a comparison of the motives and modus

operandi used by pirates and terrorists to attack ships in the Middle East and Far East

regions. These regions were selected because annually, the highest percentage of the

world's pirate and maritime terrorist attacks occur there. The research will seek to

determine the reasons for this phenomenon. The researcher will compare these situations to

the Caribbean region in order to determine whether there are similarities and whether these conditions can be transposed or replicated within the Caribbean. Next, the researcher will look at what security measures for port and ships are practiced internationally and conduct a comparative review with the situation in Trinidad and Tobago. The researcher will then examine what experts in the field of maritime security are advising states and other relevant agencies to adopt or implement in order to improve security of ships and their cargoes. From the available data, the researcher should be able to determine what could be applicable to Trinidad and Tobago, therefore, make recommendations for adopting these best practices.

<u>Limitations to the Research</u>

The research was limited in that there are no recorded attempts to seize any ship and use or attempt to use it as a WMD. While ships have been attacked by pirates and even terrorists, the passengers and crews have been the main targets. In some cases, the actual ships were the targets with the terrorists targeting the vessels for destruction to highlight their cause, as was the case with the aircraft in the 11 September 2001 attacks. Since there is no actual evidence for using ships for this purpose, the researcher had to use his judgment and informed extrapolations from piracy's tactics, techniques and procedures to try and forecast possible counters to this threat.

Another limiting factor is the unavailability of information regarding security for ships in the Caribbean. The fledgling Jamaica Maritime Authority is only now beginning to establish a record of maritime security in the region. This coupled with a Caribbean region that is viewed as at low risk to terrorist attacks, explains the paucity of information in this area.

In the Caribbean region, piracy is gradually becoming a problem. The waters off Guyana's Coast are now particularly prone to piracy. The Guyana newspaper, *Stabroek News*, reported on 7 September 2007, that there was a marked increase in piracy acts in Guyana for the year 2007. The pirates are well armed and seemed well informed about details concerning the fisher folk, as well as the Guyana Coast Guard's movements, so that their attacks appear well coordinated. Additionally, given that Guyana's coastline is 432 kilometers long and the Fishery Zone is 138,240 square kilometers, the country's armed forces cannot cope in patrolling the vast region. This situation is no different with the other members of CARICOM since none are able to adequately patrol their borders and territorial waterways. This makes them vulnerable to infiltration by persons with ill-intent, including potential terrorists. The major reason for this is their inability to provide the staff and equipment that are needed to secure their borders. Fortunately, the region is not the pirate's haven it once was. It is evident from examining the annual data on piracy compiled by the International Maritime Organization, that South America and the Caribbean area has relatively few attacks compared to the South East Asia and the Horn of Africa regions.

Summary

This chapter described to the reader how the researcher conducted the project. It provided the overarching framework adopted to complete the research. It broke down the primary and secondary questions into parts so that the research could be focused on identifying the pertinent answers to complete the research work. Chapters 4 and 5 respectively will deal with the analysis and recommendations to be made in safeguarding against a terrorist attack on the maritime security of the Caribbean and the ships sailing its waters.

[1]United Nations, Oceans and Law of the Sea, Article 101, http://www.un.org/ Depts/ los/index.htm (accessed 22 August 2007).

[2]Gal Luft and Anne Karin, "Terrorism Goes to Sea," *Foreign Affairs* 83, no. 6 (2004): 5.

[3]Adam J. Young and Mark J. Valencia, "Conflation of Piracy and Terrorism in Southeast Asia: Rectitude and Utility," *Contemporary Southern Asia* 25, no. 2 (August 2003), 269-283.

[4]Lieutenant John F. Bradford, US Navy, "The Growing Prospects for Maritime Security Cooperation in Southeast Asia," *Naval War College Review* 58, no.3 (Summer 2005): 67.

[5]Kean and Hamilton, 101.

[6]Admiral William J. Crowe, Retired, Report of the Accountability Review Boards on the Embassies Bombings in Nairobi, Kenya and Dar es Salaam on 7 August 1998, http://fas.org/irp/threat/arb/accountability_report.html (accessed 14 November 2007).

[7]Kean and Hamilton, 70.

[8]Department of Justice, News Release: Four Individuals Charged in Plot to Bomb John F Kennedy International Airport, 2 June 2007, 2, http://www.usdoj.gov/usao/nye (accessed 5 September 2007).

[9]Ibid.

[10]Ibid.

[11]John Arquilla and David Ronfeldt, *Swarming and the Future of Conflict* (Santa Monica, CA: RAND National Defense Research Institute, 2000), vii.

[12]Luft and Karin, 3.

[13]The White House, "The National Strategy for Maritime Security," September 2005, http.//www.dhs.gov/interweb/assetlibrary/HSPD13_MaritimeSecurityStrategy.pdf (accessed 17 October 2007).

CHAPTER 4

ANALYSIS

This chapter examines the threats to maritime security and addresses the evidence of tactics, techniques, and procedures insurgents at sea use. The chapter also examines the best anti piracy and counterterrorism practices countries have used over the years to handle large volumes of shipping and handle dangerous cargoes like LNG.

This research is important to the Caribbean and especially the nation of Trinidad and Tobago at this time because the outreach of Islamic fundamentalism and global terrorism has reached the region's shores. This was clearly demonstrated in the month of June 2007, when the authorities arrested two Guyanese nationals and one Trinidad and Tobago citizen for allegedly planning to blow up the JFK Airport. These three persons and another accomplice, who was arrested in New York City, are believed to be part of a new terrorist network that came into being following the outbreak of the US global war on terror. The three individuals who were arrested in Trinidad and Tobago were allegedly trying to establish links with the Jamaat al Muslimeem, a local Sunni Muslim sect that has now become infamous for its 1990 attempt to overthrow the elected government by staging a coup. That attempt was ended on 1 August 1990, after seven days, when the TTDF through its quick and decisive action, forced the coup leaders to seek terms of surrender. It is noteworthy that Saddam Hussein invaded Kuwait the following day, 2 August 1990, having moved his military forces from Baghdad to the border while the world was distracted.

<u>Motives and Modus Operandi of Middle East and Far East Pirates and Terrorists</u>

It is estimated that piracy worldwide is a billion dollar enterprise and some researchers claim that losses are approximately $16 billion annually.[1] The writers, Gray, Monday, and Stubblefield in their book, *Maritime Terror* support this sum; however, they go further and suggest that even this figure is an understatement, since many ship owners and captains do not report attacks on their vessels because of the delays and "red tape" involved in making these reports.[2] Gal Luft and Anne Korin, Senior Directors at the Institute for the Analysis of Global Security, wrote that pirate attacks tripled in the decade 1994 to 2004. Their research also revealed that some apparent acts of piracy are in reality terrorist activity since they are not committed for personal gain. Terrorist actions are usually committed in order to make a political statement and strike terror in a populace, as in the attack on the USS Cole, to gain the freedom of imprisoned comrades like in the attack on the Greek passenger ship, City of Poros, or to acquire funding for quasi-political causes like the purchase of weapons to be used by freedom fighters. The last reason is the case of the Free Aceh Movement of Indonesia and the Movement for the Emancipation of the Niger Delta. These two groups attack vessels at sea and confiscate the vessels and cargoes for resale or else secure both along with the crews for ransom. The two factors, profits for the attackers and the ship-owners reluctance to report attacks may have contributed to the pirates and terrorists' continuing attraction of attacking ships.

The research found that piracy is a major problem in the regions of Southeast Asia, West Africa, and around the Horn of Africa. Most pirate and maritime terrorist activities occur in the Far East and The Middle East regions. In 2003, there were 445 reported pirate attacks worldwide in which 92 seafarers died. Of that total, 129 attacks took place in the

Far East, 77 in the Indian Ocean, and 70 in Africa. The situation in 2006 reflected a similar average with the Far East recording 66 attacks, 38 in the Indian Ocean and 40 in Africa, out of a total of 173 attacks. Pirates and maritime terrorists engage in the same activities of attacking and seizing ships at sea, but they do so for different reasons. Pirates are water borne bandits who attack shipping and coastal regions to rob and steal for their own benefit. Terrorists engage in the same acts; however, their ultimate goals go beyond self-interest since their actions are politically motivated. Their purpose is to draw attention to their cause and to strike fear and create confusion in the targeted population.

Sometimes, however, financial gain may be vital to achieving political ends; therefore, some terrorist organizations use piracy to fund their agendas.[3] The Free Aceh Movement funds it operations from the proceeds of piracy and averages $100,000 per ship, in ransom payments. The success of this type of piracy has inspired groups in other regions of the world, notably Africa. The Movement for the Emancipation of the Niger Delta (MEND) that operates in the Niger Delta of Nigeria is a case in point. The MEND use piracy and kidnapping for ransom to gain funds needed to finance its struggle for greater autonomy in the oil-rich Niger Delta. The MEND acquired the means to range far into the Atlantic Ocean in order to attack ships and kidnap crew members for ransom.

Terrorists have attacked ships in the past to deadly effect and they are likely to continue to do so when opportunities arise. Pirates, whose motivation is mainly profit, will attack all types of ships, especially high-value targets like tankers; however, terrorist attacks to date have been mainly against passenger ships; notwithstanding that the USS Cole was a US Navy destroyer. While maritime security for passenger ships improves, terrorists will continue to seek out targets of opportunity, and their focus may extend to

include targeting other regions around the world where maritime security may appear to be less stringent.

The research revealed that modern pirates cum terrorists are usually well-armed with rocket-propelled grenades and modern heavy machine guns that are mounted on their boats. They are likely to carry GPSs and wireless communications. Some even employ military type tactics in their ship attacks. This is the case of the Free Aceh Movement that operates in the Straits of Malacca region in South East Asia, where this organization is fighting to gain independence from Indonesia. The Free Aceh Movement's combatants actually operate in military style uniforms in the belief that this will provide some recognition to the organization. This in turn is supposed to legitimize their actions, since their acts of piracy are not an end in itself, but a means to an end: the acquisition of funds to maintain their struggle for independence. It was found that many would have had prior military service and therefore, they are able to apply this military training and discipline to the training of new recruits and the pursuit of what they now perceive as their legitimate agenda. These pirates and terrorists possess the capacity to attack vessels anywhere, be it in port, in restricted waterways, and even in the open ocean. The open ocean is generally considered to be the most dangerous place to encounter pirates. This is because in the open ocean pirates usually kill the crew because they are unwilling to leave witnesses, and it is easy to dispose of the bodies.[4]

<u>Pirate and Terrorist Activities in the United States and the Caribbean</u>

Since the arrival of Europeans in the Caribbean, piracy has become a legacy. Piracy flourished during the sixteenth to nineteenth centuries before it was brought under control by the might of the British Navy, with assistance from the other European and US Navies.

In this modern era, piracy is relatively low-keyed compared to other regions, like South East Asia. Piracy still exists in the region; however, the Caribbean states can do little to eradicate it. A point of concern would be the region's inability to properly respond to increased pirate or maritime terrorist activity.

In the USA and the Caribbean regions, terrorist attacks to date have occurred on land or in the air. However, as land and air targets become more difficult to attack, and as the composition of maritime cargoes increase in importance, the likelihood of terrorists targeting ships becomes an increasing prospect. This possibility is high given the unstable political environment of the fragile economies in the region.

The four Caribbean nationals who were arrested in June 2007, for plotting to attack New York's JFK Airport caused consternation in the region and greatly alarmed CARICOM leaders. This action of the four also exemplifies that terrorist cells are increasing and spreading to unlikely places. Additionally, their action may be informed by increasing anti-American sentiments in areas like the Caribbean, a region where traditionally there have been strong pro-American sentiments and where nations view the US as an important ally and major trade partner.

Prime Minister Patrick Manning acknowledged this possibility on 20 June 2007, when he addressed the CARICOM Heads of Government and delegates at the Experts Forum of the Conference on the Caribbean. He stated that "in light of the alleged plot to bomb facilities at the JFK International Airport, our region has taken the initiative to establish a regional mechanism to combat terrorism."[5] He also said that collectively, the region must prepare to utilize every facet of available resources to achieve this aim. Threats to the region were recognized back in October 2002, when Ambassador Odeen

Ishmael of Guyana addressed a meeting of the Committee on Hemispheric Security in Washington, DC. Back then, he warned that the trade in illegal drugs had a direct linkage with the increase in small arms in the region. This is because arms and drugs are usually transported on the same vessels. The increased presence of illegal weapons in these small states fuels crime escalation and adversely impacts their peace and security.[6] The incidence of crime, sadly, has not improved over the ensuing years. In a number of regional countries, including Trinidad and Tobago, crime rates are increasing annually even as governments are making every effort to prevent a complete breakdown of law and order. This is reason for concern because destabilized governments in turn could lead to instability in the region, and this will pose a threat to regional security, by paving the way for a well-funded terrorist organization to infiltrate and set up shop in the region. Historically, terrorism flourishes in unstable environments.

In the next decade, regional shipping is likely to increase dramatically. This is because Panama proposes to construct a third set of locks by 2015. These new locks will cater for vessels that are currently too large to pass through the canal. Additionally, on 3 October 2006, Nicaragua announced plans to construct its own canal by 2016, at an estimated cost of $20 billion (US dollars). If Nicaragua completes the canal, it will accommodate 250,000 ton vessels. Panama's proposed expansion project will only allow vessels to a maximum of 120,000 tons.[7] The proposed increased maritime capacity for both countries would attract an increased shipping volume, which potentially could act as a magnet for maritime terrorists.

Piracy worldwide is declining, but it is not likely to be totally eradicated. There is piracy occurring in the Caribbean region but so far attacks have been restricted to small

craft like fishing boats and yachts. The danger, however, is that the region seems unable to prevent these acts of piracy because of the inadequacy of the CARICOM states to effectively patrol their territorial areas of responsibility. It can be assumed therefore that should the situation degenerate and terrorists enter the equation, the Caribbean nations' forces will still be ineffective to act.

Table 2 contains a compilation of pirate attacks in the South American and Caribbean region, for the period 2000 to 2006. During this period, there were 230 recorded attacks while at the same period the Malacca Straits recorded 342 attacks and the South China Sea region recorded 830 attacks out of a worldwide total of 2,512 recorded attacks.[8] Approximately one-half of the attacks from this region occurred within the Caribbean Sea, an area that is the domain of the CARICOM states. Additionally, these attacks occurred in territorial waters or in port areas. In 2006, the physical violence against crews decreased compared to previous years' figures; most likely because of overall increased maritime security awareness. However, of the fifteen deaths worldwide that year, one person was killed in Trinidad and Tobago.[9]

A possible reason for the reduced pirate attacks is that ship crews are more vigilant especially when sailing in known danger areas. Alternatively, it could be that ships are under-reporting attacks because of consequences like increased insurance charges.

Table 2. Regional Analysis of Reports on Acts of Piracy and Armed Robbery Against Ships South- America and The Caribbean 2000-2006

ACTS REPORTED TO HAVE BEEN ALLEGEDLY COMMITTED/ATTEMPTED		2000	2001	2002	2003	2004	2005	2006
Location of incident								
	In international waters	3	1	3	9	3	-	-
	In territorial waters	26	11	12	3	2	2	6
	In port areas	12	11	52	35	23	12	4
Status of ship when attacked								
	Steaming	9	11	14	15	4	1	1
	At anchor or at berth	30	12	16	42	24	13	8
	Not stated	2	-	1	-	-	-	1
Number of persons involved in the attack								
	1-4 persons	13	6	25	26	14	9	3
	5-10 persons	9	8	20	11	6	3	4
	More than 10 persons	4	-	3	-	7	-	-
	Not stated	15	9	19	20	1	2	3
Consequences to the crew								
	Actual violence used against crew	14	8	10	8	9	4	5
	Threat of violence (including crew being tied up but not physically attacked)	8	13	26	9	4	5	1
	Ship missing	-	-	-	-	-	-	-
	Ship hijacked	-	-	-	2	13	-	-
	None/Not stated	19	2	31	38	2	5	4
Weapons used by attackers								
	Guns	13	10	14	3	7	1	4
	Knives	4	5	14	14	8	9	2
	Other	2	1	1	1	-	1	-
	None/Not stated	22	7	38	39	13	3	4
Parts of the ship raided								
	Master and crew accommodation	10	8	12	6	1	-	-
	Cargo area	8	6	9	18	20	9	2
	Store rooms	8	1	28	20	4	3	4
	Engine room	5	-	-	1	-	-	1
	Not stated	5	2	4	3	-	-	-
Total number of incidents reported per year		41	23	67	47	28	14	10
Total number of incidents reported		230						

Source: This information was compiled by the author from the International Maritime Organization (IMO) Annual Reports on reported acts of piracy and armed robbery against ships; 2000-2006.

<u>Regional Response to Security Concerns</u>

Regionally, the CARICOM nations established the CARICOM Single Market and Economy (CSME) in 2006. This agreement expected to fulfill the region's unification aspiration dreamt about since the 1950s Federation attempt. An important aspect of this cooperation among member states is the Framework for the Management of Crime and Security in the region, which began in 2005. The importance of this is recognized in international forum as exemplified in the Joint Report by the United Nations Office on Drugs and Crime and the Latin American and Caribbean Region of the World Bank which stated that the Caribbean has been "caught in the cross fire of international drug trafficking."[10] CARICOM States now recognize the need to develop a more comprehensive and coordinated approach to safeguarding regional security in the face of new and emerging challenges to regional, hemispherical, and global security. As a result, the heads of government have declared that security is now the fourth pillar on which they will jointly pursue the development and progress of the region. The other three pillars are foreign policy, trade and economic development, and functional co-operation. CARICOM heads of government are taking steps to incorporate recognition of this fourth pillar in the revised Treaty of Chaguaramas. In 2006, the nerve centre for this initiative, called the Implementation Agency for Crime and Security, began operations. Its mandate is to foster coordination and collaboration on matters of security among the law enforcement and security agencies throughout the CARICOM region. In 2007, the system was tested when the CARICOM nations hosted the Cricket World Cup Tournament, the world's third largest sport event after the Olympic Games and Federation Internationale Football Association (FIFA) World Cup Football competition. The security reviews were

encouraging as there were no reports of any security breaches during the competition. The recent events' concerning the alleged plot to bomb New York's JFK Airport facilities has caused the region to expand this security mandate to include a regional mechanism to combat terrorism.

In April 2001, President George W. Bush, speaking at the launch of the Third Border initiative said that the US was committed to deepening cooperation with other hemispheric states to fight the spread of HIV and AIDS, respond to natural disasters, and ensure the benefits of globalization are felt in even the smallest economies. These goals were at the heart of the Third Border initiative, which was a joint venture with the USA and the Caribbean nations. The Bush Administration recognized the Caribbean region as its "third border" and admitted that the region was often overlooked, but now there was a desire to accept these nations as important trade partners.[11]

During a previous administration, the US began deporting former Caribbean nationals who were convicted felons and living in the US. Unfortunately, the Caribbean authorities were not informed about the returning nationals or about their criminal past. Additionally, many of these "deportees" had no family residence in the land of their birth and were literally strangers in their homeland. Many resorted to what they knew best--a life of crime. Some banded together and formed criminal gangs, and using the skills acquired in the USA, engaged in a degree of sophisticated criminal activity that almost overwhelmed many local security forces. Many Caribbean states are still suffering the effects of the crime surge brought on by these deported criminals. This current US administration's effort to cooperate with the Caribbean is different from many past

attempts. This time, there is an effort at bilateral engagement rather than the US unilateral approach that some previous administrations practiced.

CARICOM has the means through these protocols to seek bilateral agreements with the US in order to strengthen maritime security within the Caribbean Sea region. The member states all maintain a friendly relationship with the USA and are dependant on this country for trade and general support. This connectedness is an opportunity rather than a threat to the entire region. The threat of terrorism could be the bond that draws CARICOM and the USA even closer. It is in the USA's interest to ensure that the Caribbean region does not become vulnerable to terrorist infiltration; therefore, all parties should be willing to negotiate security related matters because of their mutual needs. Both the USA and CARICOM should make efforts to keep the Third Border Initiative active and workable as this will redound to their mutual benefit.[12]

CARICOM leaders must accept that their region is vulnerable and therefore must be willing to adopt measures to improve security within the region. The greatest vulnerability is in the maritime domain. Trinidad and Tobago now accepts this and is pursuing measures to reduce this situation. The islands should also look extra-regionally and seek advice from countries like Singapore, since that country has developed methods to reduce its vulnerability to pirate and maritime terrorism.[13]

The United States is a major trading partner of all the English speaking islands of the Caribbean. The islands are a popular tourist destination for many American and European visitors and many Caribbean nationals in turn view the United States as the land of opportunity; whether it is for education purposes or as the "Promised Land" to resettle and establish new lives. The United States sought to improve its border security post 11

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September 2001, and some of the measures adopted have had some adverse effects on the Caribbean islands' economies. The requirement for United States citizens to possess passports for travel to the Caribbean has resulted in a reduction in the number of American tourists visiting the islands, and this put a financial strain on the islands that depend on tourism for a substantial part of their economy.[14] The full positive effects of the Third Border Initiative are yet to rebound to the good of the region because the USA's focus is currently in the Middle East. Meanwhile, the islands are still trying to cope with the negative effects of globalization. The loss of preferential markets and competition from larger producers has adversely affected their economies, and faced with escalating costs for food and fuel among others, regional governments have a very difficult task to provide quality living standard for their citizens.

At the same time, Venezuela's President, Hugo Chavez, who maintains strong links with Cuba and Iran, has been making overtures to Caribbean leaders to form an alliance with Latin America. In June 2005, Presidents Castro and Chavez met with fourteen top officials from the Caribbean and they agreed to a Venezuelan plan that included the sale of oil at preferential rates. As part of the plan, named Petro Caribe, Venezuela indicated that it would be willing to accept CARICOM goods like sugar and bananas as part payment for the oil.[15] These initiatives were viewed as Chavez's alternative to the US proposed Free Trade Area of the Americas (FTAA), which now appears to be no longer relevant, given the US immediate priorities in the Middle East. As an alternative, Chavez has called for the establishment of the Bolivarian Alternative Trade Pact, which envisages a South American and Caribbean trade zone that excludes the United States. To date, all the islands except Barbados and Trinidad and Tobago have signed the agreement; however, Barbados has

indicated that if oil prices continue to increase it will have no option but to accept

Venezuela's offer. If this movement gains popularity in the region and the Caribbean

reorients itself toward South America, the United States may lose some of the mass appeal

it currently enjoys from the region's population. This situation in turn has the potential for

exploitation by any terrorist group that is looking for an opportunity to establish a base for

either attracting recruits and or a launch-pad for operations against the United States.

Caribbean people could be less focused on the USA and may not be particularly alarmed if

a stranger voices anti-American sentiments, especially if that person were to offer financial

inducements to people who feel abandoned by the USA.

<p style="text-align:center">Vulnerability of Ships</p>

Pirates generally employ ambush tactics, and they use armed speedboats to spring

surprise attacks on their targeted vessels. Gray, Monday, and Stubblefield described the

ambush process as having seven steps: stalk; site; stop; shock; smother; secure, search and

snatch; and scram.[16] The first two steps, stalk and site are the pre-ambush phase of the

process. During the stalking step, the ambusher selects the potential target, gathers

intelligence on the intended victim and develops plans on how, when, and where to spring

the attack on the vessel. In the sighting step, the attackers arm and position themselves to

perform the actual attack. Locations like the Malacca Straits, with their natural choke

points and numerous islands that provide concealment are ideally suited for sighting

maritime ambushes. The Caribbean with its chain of tiny islands also has some locations

that can provide excellent ambush sites. From these locations, pirates and terrorists using

speedboats can quickly launch attacks against their slower moving quarry. Another method

involves the use of mother ships, in which large vessels that contains small speedboats to

be used for the assault are pre-positioned in the likely path of target vessels. When the target is within range, the smaller boats are launched to quickly overpower and seize the target.

The actual ambushes involve the steps of stop, shock, and smother. The targeted vessel must be halted and prevented from escaping. A number of options are employed to cause a target to be stopped. These include the use of distress signals, impersonation of maritime security forces, and the employment of the swarm tactic, which is a simultaneous attack by several small craft approaching from different directions. Once the vessel is stopped, the attackers employ shock and smother to quickly overwhelm any resistance by the crew that may prevent the successful take over by the attackers. These steps of the actual ambush usually occur almost simultaneously and for a successful ambush, must be completed quickly before the targeted crew could muster an effective counterattack or else alert maritime security forces that may be within range to initiate a rescue mission.

Secure, search and snatch are the next steps of the ambush process. The attackers need to quickly complete their mission, whether it is to seize the entire vessel or the crew and or cargo, ensure none of the crew escape, among other things. The last step is the scram, which is for the attackers to quickly depart the ambush area, leaving as little evidence of their activity as possible.

Again, it is important to note the different aims of pirates and terrorists. Terrorists generally are little concerned with profit, unless it is to provide funding for their cause. Therefore, in a situation of an attack in the open ocean, terrorists will more likely destroy the vessel in order to make a political statement. Modern terrorists have demonstrated their ability to devise ingenious ways to achieve their goals, much to the horror of an

unsuspecting population. It is likely, therefore, for terrorists to attack a tanker in the open ocean on the pretext of executing a pirate attack. During the attack, divers may plant explosives on the tanker's hull before allowing it to continue on its journey. The explosives could then be remotely detonated at any opportune moment. Alternately, the terrorists may decide to pattern the 11 September 2001, attacks and endeavor to use the tanker as a weapon. They may take physical control of the vessel before it gets into port, plant explosives within its confines, set a course directly toward the port, and propel the tanker at full speed before detonating the explosives. The effects of such an attack could be greatly increased if the terrorists acquire radiological, chemical, or even nuclear materiel, along with the expertise to create a crude, yet workable weapon to affix to a tanker in order to create a super WMD.

In the case of Trinidad and Tobago, a pro-USA country, its proximity to Venezuela could become a cause for concern, because Venezuela is anti-USA and an associate of Iran, a country that sponsors international terrorism and also possesses a nuclear capability. Trinidad and Tobago does not support Venezuela's Petro Caribe plan because it poses a direct challenge to the country's national economy. Trinidad and Tobago is therefore an economic rival to Venezuela and a trade partner of the USA. Iran and the USA geopolitical differences are widening. In October 2007, the USA froze Iran's US assets in a move to force that country to disband its nuclear program, but Iran responded by insisting that its program was too far advanced to stop. There is the likelihood for these two nation's differences to increase with potentially frightening results. Since Iran is assumed to be a sponsor of international terrorism, the Caribbean can become a potential soft target area for organizing terrorist activities against the USA.

Trinidad and Tobago exports most of its LNG to the United States and this dangerous cargo must be transported there by ship tankers. It is therefore in the United States' interest that terrorists do not attempt to use the Caribbean as a potential base of operations, and attempt to use the islands as a recruiting ground and a platform from which to launch terrorist activities against mainland USA. Specifically, it is in the United States interest that potential terrorists do not seek to use one of the LNG tankers as a WMD in one of its ports.

A supertanker traveling from Trinidad and Tobago and loaded with LNG may prove to be the ideal high value target sought after by terrorists. Their cause will be further advanced if the tanker's destination is a US port and the tanker can be hijacked or otherwise infiltrated, unbeknown to the United States authorities. Alternatively, a ship may be en route through the Caribbean via the Panama Canal and the occupants may devise a pretext to divert to a US port, and once there, detonate the vessel to create a WMD.

<u>Trinidad and Tobago's Maritime Situation</u>

Trinidad and Tobago is acutely aware of many of the threats that are arrayed against its sovereignty and its people. Some of these threats are transnational crimes like drug and gun running, human trafficking, piracy, and terrorism. Trinidad and Tobago's proximity to Venezuela places it in the direct trans-shipment path for drugs like cocaine, destined for the lucrative US market. The drugs are transported in small boats outfitted with powerful engines that can cover the seven-mile distance in a few minutes. These boats also transport weapons and human cargo. There is also the possibility that terrorists can also infiltrate the country by this means.

In order to counter the threats to Trinidad and Tobago's sovereignty, the country installed a radar system that enables the security forces to monitor and track all classes and size of vessels that traverse its territorial waters on a twenty-four-hour basis. The radar provides the course, speed, and position of any vessels operating within its operational range. This is a key weapon in the country's arsenal to combat illegal activities especially within the water that separates it from Venezuela. Additionally, the country proposes to extend this coverage to as far as the island of St Lucia and will cover Grenada and St Vincent and the Grenadines as well. This coverage may also be linked with Barbados since that country proposes to upgrade its radar system and link it with its RSS partners. Trinidad and Tobago has begun the process of acquiring military equipment like naval vessels and armed helicopters that will be used in tandem with the radar to provide security and military protection within its territorial waters and the wider Caribbean region. These acquisitions will enable the TTDF to become more effective by increasing the number of maritime patrols and boosting security for shipping within the southern Caribbean region while acting as deterrence against pirates and possible maritime terrorists.[17]

The CARICOM nations, as part of an integrated security strategy, initiated the Implementation Agency for Crime and Security plan in 2006. CARICOM created this plan to facilitate cooperation and coordination among the CARICOM states' security and military forces. It was tested in 2007 when CARICOM hosted the Cricket World Cup competition, the third largest sporting event after the Olympics and FIFA Soccer World Cup competition. The plan worked well and it is now fully integrated within CARICOM's framework. The arrest of the three Guyanese and the one Trinidadian who were implicated in an alleged plot to blow up New York's JFK Airport highlighted to CARICOM that

terrorism had arrived in the region. This spurred the region to include counterterrorism in its integrated security mandate. Thus, there is a definite commitment among the nations of CARICOM to fully cooperate on security matters. This cooperation will also include working with the US authorities. Bilateral discussions with the USA on matters of border security, maritime, port and airport security, and counterterrorism are an ongoing process. As Thomas Barnett wrote in his book, *The Pentagon's New Map*, "Whether we realize it or not, we are all-right now-standing present at the creation of a new international security order."[18]

In Trinidad and Tobago, approximately twenty to twenty-two tankers depart monthly for US ports like Everett, Massachusetts; Lake Charles, Louisiana; and Elba Island, Georgia. Atlantic LNG controls the Point Fortin facility which produces and processes the LNG for export. The facility contains two 700-meters jetties that fully meet the ISPS standards. The remainder of the facility is governed by an Integrated Emergency Management Plan (IEMP) that includes among others a Maritime Emergency Response Plan. Major (Retired) Sarwan Boodram, Corporate Security Manager at the facility, advised that the Maritime Emergency Response Plan speaks to the safety and accommodation of ships at the jetties, turning basin and approach channel of the Atlantic LNG port. Atlantic LNG, through its Corporate Security Policy and Crisis Management Plan, adopted the Homeland Security Alert States system and this is in sync with the MARSEC levels similar to that used by the United States. This ensures that its process and non-process areas are covered for all incidents.[19]

When vessels are approaching the Point Fortin port, they are met and escorted to their berthing point by tugs belonging to ALNG. Major Boodram pointed out that ALNG

had no responsibility for the vessels since they belong to the owners; therefore, once the vessels sailed from the port they become the responsibility of the owners. The captains and crews become directly responsible for their own security. Each vessel is required to have its own Ship Security Plan (SSP) as per the ISPS Code, and therefore, ship captains are responsible for ensuring that their crews are acquainted with the contents of their plans.[20]

Major Boodram further advised that the ports of countries engaged in the energy business are ranked regarding their risk to terrorist attacks. They may be ranked as high, medium, or low risk. Currently, Trinidad and Tobago's ports are ranked as low. However, Admiral William Crowe (Retired) wrote in his report on the Nairobi and Dar es Salaam US Embassies bombings, to then Secretary of State, Madeleine Albright, that "Transnational terrorists often strike without warning at vulnerable targets in areas where expectations of terrorist acts against the United States are low."[21] Since this information about the status of Trinidad and Tobago's ports is available to anyone, including potential terrorists, and given that many modern terrorists are brilliant strategists, any number of them can seek to take advantage of Trinidad and Tobago's situation.

During Major Boodram's interview, he reconfirmed the information that Lt. Cdr. Braithwaite provided on the role of the TTDF. The TTDF is the body that has responsibility for staffing and operating the PFSMU and that the Designated Authority has full control of the waters as well as all actions regarding security incidents at sea around the territorial waters of the country. The TTCG and the PFSMU maintain a working relationship with the US Coast Guard (USCG). The USCG provides training opportunities and advice as it relates to port and harbor security and adherence to the ISPS Code. The USCG also provides advice and periodically assesses the effectiveness of security and anti-

terrorism measures that are in place in Trinidad and Tobago ports. At present, the TTCG is

restricted by a lack of vessels to adequately patrol the country's territorial water; however,

this is expected to be resolved with the acquisition of the vessels referred to previously.

The TTCG will then be able to perform long-range patrols around Trinidad and Tobago's

territorial water and also patrols over a wide swathe of the Caribbean Sea. This action

should help to reduce illegal maritime activities and hopefully reduce pirates and deter

potential terrorist. Additionally, these vessels could be used to forge a working partnership

with the USCG in order to provide extended protection for tankers throughout their

journey in the Caribbean because that is when they may be most vulnerable to pirate and or

terrorist attacks.[22]

Roles of the Trinidad and Tobago Defense Force

The Trinidad and Tobago government mandated the TTDF with responsibility for

the security of ports and the surveillance and monitoring of all shipping in the country.

This relates specifically to security matters. The TTDF sought and got approval from the

government to establish a special unit called the PFSMU and gave it the mandate to ensure

that the nation's ports were all ISPS compliant. When the new radar was established, the

unit was assigned the task of ensuring that it was manned round the clock. The TTDF

conducts maritime patrols within the country's territorial waters; however, when the new

assets become available, this capacity will be significantly enhanced and patrols will be

extended over a much wider area to include neighboring island's territory. This will be in

keeping with the Implementation Agency for Crime and Security plan and may even be

linked with the US in a strategic partnership.

The TTDF and the USCG have long maintained a good working relationship. Within recent times, this bond was strengthened with the USCG providing training and advice to the TTDF on port and harbor security matters and matters on adherence to the ISPS Code. The USCG also assists the TTDF by providing assessment of the effectiveness of the security and antiterrorist measures that have been adopted and put into practice at the various ports in the country. There is still room for improvement as there is the opportunity for the US to share information on potential and actual terrorists that operate within the region. It must be noted that three of the alleged plotters of the proposed JFK Airport bombing were arrested in Trinidad and Tobago and this was made possible through information sharing between the law enforcement organizations of both countries. This is an excellent example of what can be achieved through joint cooperation between nations. It may be possible that the Third Border Initiative could be the catalyst to strengthen bilateral arrangements between the USA and CARICOM including sharing security information that could impact the region.

<div align="center">Security Measures Used by International Agencies</div>

Most international ports have adopted the ISPS Code, and this has helped to increase their security awareness. Some nations that are very dependant on shipping have adopted additional security measures that exceed the requirements of the ISPS. Singapore is one nation that has gone this route because at any point in time, as many as 1,000 ships may be alongside it ports. It is estimated that more than 12,000 oil tankers and 3,000 chemical tankers use its ports annually. The Singapore government was the first in Southeast Asia to adopt the ISPS Code and the US Container Security Initiative. This nation also introduced a number of additional initiatives designed to protect it maritime

reputation. Singapore introduced the Harbor Craft Transponder System (HARTS), used to identify all ships in harbor. In special instances, some ships are assigned Accompanying Sea Security Teams (ASSeT) that remain with the vessels until their cargo is offloaded or until the ships depart Singapore waters. For vessels below 500 tons, Singapore requires that the vessels fill out a self security assessment checklist before entry into port. The authorities also restrict access to water around oil terminal and other installations. Additionally, there are many sea checkpoints around entry areas to the harbors, and these are constantly patrolled to provide added protection. Ship captains are required to provide their crew lists and all crew members must be positively identified before being allowed access to their vessels.[23]

The maritime area around Singapore is very dangerous; therefore, the country installed a vessel traffic information system that provides navigation information to ships traveling through its territorial domain. Dr. Sam Bateman, a maritime security analyst who is a fellow of the Institute of Defense and Strategic Studies, Nanyang Technological University, Singapore, wrote that Singapore introduced the "Harbor Craft Transponder System (HARTS) that requires each watercraft using its ports to be fitted with a transponder that identifies the craft to monitors onshore."[24] Small vessels that do not require compilation to the ISPS Code are required by Singapore's laws to fill out a "Ship Self Security Assessment Checklist" before entry into the port's waterways. This system can track up to 5,000 vessels in real time and has the capability to provide electronic navigational charts and other voice and data information to vessels.[25]

Singapore also uses special security teams to protect selected ships while they are in Singapore's waters. These teams called ASSeT comprise of members of the Singapore

Military who travel on the vessels while they are on their way to port and remain until their cargoes are securely offloaded. If the ships are traversing Singapore's territorial waters to another destination, the teams remain on board until they have cleared territorial waters.[26] For ships heading to or from Singapore and traveling through the Singapore and Malacca Straits, Singapore's laws mandate that they use a Differential Global Positional System and STRAITREP so that these vessels will maintain contact with Singapore's Maritime Authorities. In this way there can be some assurance that pirates have not attacked and taken over the vessel.[27]

The research also examined USA's security methods. Following the events of 11 September 2001, the USCG trained a cadre of specialist to provide escort duty on selected ships while they were in US ports. This cadre is similar to Singapore's ASSeT body as they both perform similar tasks. In 2005, following an initiative from President George Bush, the Departments of Defense and Homeland Security published the *National Strategy for Maritime Security* (NSMS) designed to synchronize US maritime security program to defeat maritime terrorism. The four strategic objectives of the NSMS are: prevent terrorist attacks and criminal or hostile acts; protect maritime related population centers and infrastructure; minimize damage and expedite recovery; and safeguard the ocean and its resources. From these objectives the NSMS outlines these five strategic actions:

First is the objective of enhancing international cooperation. This action is designed to involve all nations that have an interest in maritime security as well as the ability and willingness to take steps to defeat terrorism and maritime crime. The US will take steps to ensure that all nations fulfill their responsibilities to prevent and respond to terrorist or criminal actions with timely and effective enforcement. This includes developing and

expanding means for rapid exchanges among governments of relevant intelligence and law enforcement information concerning suspect terrorist and or criminal activity in the maritime domain.

Second is maximize domain awareness. This involves the effective understanding of all activities, events, and trends within the maritime domain capable of threatening the safety, security, economy, or environment of the US and its citizens. It is important therefore to gain knowledge of the enemy's capabilities, intentions, methods, objectives, goals, ideologies, strength, vulnerabilities, and centers of gravity. This knowledge will assist to develop appropriate responses and countermeasures. Success in this will be heavily dependant on information sharing and requires increased cooperation among the various US and international sectors.

A third action is to embed security into commercial practices. Potential adversaries are opportunistic and will attempt to exploit existing vulnerabilities. They will seek to choose the time and place to act according to the weakness that they identified and or observed. Private owners can improve defenses against terrorists by embedding security measures that reduce vulnerabilities. This is achievable by developing a close partnership between government and the private sector in order to identify and correct the vulnerabilities.

Fourth is the deployment of layered security. The public and private sectors can prevent terrorism and or criminal activity by using diverse and complementary measures. This can be achieved by applying security measures to vulnerable points. These points are transportation, staff, passengers, conveyances, access control, cargo and baggage, ports and security en route. The security measures work best by continually evolving through

calculated improvements that are geared to introduce uncertainty into the adversary's deliberate planning process and efforts to conduct surveillance or reconnaissance.

Finally, the assurance of the continuity of the marine transport system is essential and paramount. The US will be prepared to maintain vital commerce and defense readiness in the aftermath of any terrorist attack or other disruptive incidents. This requires properly defined and documented roles for responders. There must be contingency plans including response plans and these should be exercised to ensure that players know their roles and functions. Selected personnel must also be trained, equipped, and periodically tested in their roles.[28]

The US recognizes that securing the maritime domain successfully will not come from acting alone, but through a powerful coalition of nations maintaining a strong, united, international front. In the Caribbean region, this is the opportunity for CARICOM to seek to forge strong regional ties with the USA in order to jointly safe guard the southern maritime approaches to continental USA.

Many threats and concerns face mariners in some sea lanes and chokepoints of the ocean. As a result, the International Maritime Organization produced MSC/Circ.623 for ship captains and crews and MSC/Circ 622 for governments. These documents contain recommendations for countermeasures to protect vessels against pirates and maritime terrorists. The measures are geared toward security forces and rescue coordination centers.

The maritime nations also banded together and created new conventions that closed the gaps in maritime law regarding piracy and maritime terrorism. The new protocols are contained in the Convention for the Suppression of Unlawful Acts against the safety of Maritime Navigation (SUA Convention). This allows coastal states to extend jurisdiction

beyond their territorial limits and in special circumstances extend into adjacent states territorial waters. Additionally, other protocols provide for prosecuting individuals who use ships as weapons, as a means of conducting terrorist attacks, for transporting terrorists or cargo to be used in connection with a WMD program.[29]

Some ships have adopted their own onboard security measures and there is at least one documented, successful defense against an attack. On 5 November 2005, the 10,000 ton passenger liner, Seabourn Spirit, with 151 passengers on board was attacked by pirates115-kilometers off the coast of Somalia. The pirates were in two speedboats and they were armed with machine guns and rocket propelled grenades. The ship's crew repelled the attack using a pressure hose to keep the boats at bay and a Long Range Acoustic Device. The Long Range Acoustic Device operates by emitting a powerful sound wave that affect the hearing and can potentially cause permanent deafness. The pirates were defeated and forced to give up their attack, and the vessel was able to complete its journey. Two members of the crew were honored by the Queen of England for their bravery on 16 May 2007.[30]

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[1]Mann, 2.

[2]Gray, Monday, and Stubblefield, 1.

[3]Luft and Karin, 1.

[4]Ibid., 12.

[5]Embassy of the Republic of Trinidad and Tobago, Address by Honourable Patrick Manning, Prime Minister of Trinidad and Tobago at the Experts Forums, "Security and Competitiveness in a Global Environment," The Preston Auditorium, World Bank Headquarters, Washington, DC, June 2007, http://www.ttembassy.org/062007.html (accessed 14 November).

[6]Odeen Ishmael, Approaches on Security in the Caribbean Region, Statement by Ambassador Odeen Ishmael of Guyana at the Meeting of the Committee on Hemispheric Security of the OAS, Washington, DC, 29 October 2002, http://www.guyana.org/ Speeches/ishmael_102902.html (accessed 17 November 2007).

[7]Ibid., 5.

[8]Bruynell.

[9]Ocean Policy Research Foundation, OPRF MARINT Monthly Report (January, 2007), http://www.sof.or.jp/ocean/report_e/pdf/200701.pdf (accessed 29 August 2007).

[10]Manning, 3.

[11]Adam Ereli, Joint Statement by the USA, the Caribbean Community and the Dominican Republic on the Third Border Initiative, 13 January 2004, http://www.state. gov/r/pa/prs/ps/ 2004/28136.htm (accessed 17 November 2007).

[12]Ibid.

[13]Khaleej Times online, Singapore Navy to escort passing Merchant Ships to stop terrorism, 28 February 2005, http://www.khaleejtimes.com (accessed 31 August 2007).

[14]John Mintz, "U.S. Will Tighten Passport Rules," *Washington Post*, http://www. washingtonpost.com/ac2/wp-dyn/A28188-2005Apr5 (accessed 20 September 2007).

[15]Trinidad and Tobago News Bulleting Board, Posted 30 June 2005, http://www. trinidadandtobagonews.com. (accessed 29 August 2007).

[16]Ibid., 26-29.

[17]Manning, 3.

[18]Thomas Barnett, *The Pentagon New Map* (New York, Berkeley Books, 2005), 45.

[19]Major Sarwan Boodram, Telephone interview by author, 27 August 2007.

[20]Ibid.

[21]Crowe.

[22]Lieutenant Commander Michael Braithwaite, Telephone interview by author, 22 September 2007.

[23]Khaleej Times.

[24]Bateman, 82.

[25]Ibid.

[26]Khaleej Times.

[27]Ibid.

[28]Ibid., 13-24.

[29]International Maritime Organization, Maritime Safety Committee Circular 622/Rev 1 16 June 1999, 4.

[30]Mary Braid and Simon Calder, "Pirates Fire at Luxury Seabourn Spirit," *The Independent (UK)*, http://news.independent.co.uk/world/africa/articles325171. ece5nov2005 (accessed 5 September 2007).

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

This chapter addresses the possibility of whether small states like Trinidad and Tobago can adopt security measures to deter potential terrorists from seizing a loaded ship tanker and infiltrate a US port and use the vessel as a WMD. The chapter also examines the best anti piracy and or terrorism practices of countries that handle large amounts of shipping and also countries that handle dangerous cargoes like LNG. Finally, it conducts a comparison with Trinidad and Tobago's existing security arrangements and those countries that handle an abundance of shipping through their ports annually, as well as those countries that also handle similar types of dangerous cargoes. This will help to determine what gaps exist when compared to other nations that are exposed to similar potential dangers.

This chapter concludes the examination and provides an answer to the research question on the extent of the threat of the use of dangerous cargoes such as LNG by terrorists as possible WMD and whether Trinidad and Tobago should adopt security measures to deter potential terrorists from seizing a LNG tanker and getting it to a US port and detonating it to create a WMD. The secondary questions contained the research and provided a focus for determining the answer to the primary question. While the focus was on LNG tankers, Trinidad and Tobago also exports methanol and ammonia and these are also very dangerous materials that can be used to create a WMD.

The research found that piracy and maritime terrorism are occurring throughout the world and there appears to be no sign that either will disappear. In some cases, there

appears to be a symbiotic relationship between piracy and terrorism; mainly from a

financing perspective. Worldwide, including the Caribbean region, the incidence of piracy

has fallen from it 2003 high point; however, the practice is still very prevalent.

Additionally, while piracy in the Caribbean region is primarily against small vessels, the

potential for this to escalate to larger vessels is still very real. The reason is that shipping in

the region is likely to increase, especially when the addition to the Panama Canal is

completed and Nicaragua's Canal is constructed. Increased shipping is likely to attract

more pirates whose main interest is profit, and in regions where piracy abounds, terrorism

is likely to be present. At present, the CARICOM nations are unable to adequately secure

their territorial waters from pirates and unless they make the financial sacrifice and inject

resources to increase their maritime capabilities, they will still be unable to make an impact

when shipping volume increases, to their peril.

 The phenomenon of terrorism has resurfaced in the Caribbean with the arrest of the

four regional nationals who are implicated in a plot to destroy New York's JFK Airport.

The point that three of these persons were arrested in Trinidad and Tobago must not be

overlooked. This is because this nation is home to a Muslim sect that tried to overthrow the

country in July 1990, and this sect is still very active. Additionally, Trinidad and Tobago, a

pro-American nation, is neighbor to Venezuela, which is anti-American and whose

government maintains links with Iran, another anti-American state. Iran, a known

supporter of international terrorism, has an ongoing row with the USA over the former

state's nuclear program. If this row escalates, it is possible that Trinidad and Tobago could

unwittingly become involved in these two nations' struggle. Terrorists may use Venezuela

as a staging area to attack the USA. They may seek to use a LNG tanker departing from

Trinidad and Tobago and bound for a US port as a weapon against American lives and interests. It is vital that Trinidad and Tobago develop a clear and detailed counterterrorism policy, and this should be done based on a strategic study of the likely threats to the country, including the nature, type of terrorism, and likely avenues of attack. This study could be done in conjunction with CARICOM and the USA, so that there would be greater interconnectivity and sharing of information and a wider pool from which to draw solutions. This is recommended since most terrorists today have international connections and have demonstrated that they are able to surprise security agencies by their ability to think outside the proverbial box.

Trinidad and Tobago has adopted the ISPS Code and is actively working to ensure that its ports remain compliant. The port that processes LNG is well secured and at present is rated as a "low risk" facility. The security personnel for Atlantic LNG and the TTDF work in conjunction with the USCG to test, and where needed, improve the security measures of the port. While ships receive protection in port, once they depart, they are responsible for their own security and the country does not have the military assets to respond to a terrorist attack on a tanker while it is underway.

Placing the responsibility on the TTDF for securing Trinidad and Tobago's maritime domain, including its ports, is a step in the right direction. To this end, the establishment of a special unit commissioned to deal exclusively with port security has improved security operations at the port. This unit monitors a newly installed radar system that surveys the territorial domain on a twenty-four-hour basis and is now able to identify vessels by size and can also determine their location, speed, and direction of travel. The government proposes to expand this radar coverage to include the domain of some of it

CARICOM partners and will likely link this coverage with Barbados when that country

installs a similar system. Additionally, Trinidad and Tobago is about to purchase sea and

air assets for the TTDF that will allow for extensive maritime patrolling in support of the

increased radar coverage. This will allow timely military responses to any identified

security threat within the maritime area. The increased capacity Trinidad and Tobago

envisages should cover to some degree, the shortfalls of some of its CARICOM neighbors

that are unable to adequately secure their territorial waters. This is in keeping with the

regional security initiative established in 2006. This regional initiative should redound to

the general improvement of security within CARICOM and when expanded and linked

with US initiatives fashioned exclusively for the region, there should be sufficient

deterrence to restrain potential maritime terrorists. The Trinidad and Tobago government

has taken the lead in the region to increase defense expenditure in order to improve

security within its territorial waters and over the territorial domain of some of its

neighbors. When the assets arrive, maritime security will be greatly enhanced over an

extended territorial domain.

Singapore has adopted many programs geared towards providing efficient security

within its ports and territorial waters. Trinidad and Tobago could seek assistance from this

experienced nation and adopt some of Singapore's initiatives in order to further improve its

maritime security domain. The Differential Global Positional System, Harbor Craft

Transponder System, and STRAITREP are facilities that Singapore uses to maintain

constant contact with vessels in its region. Trinidad and Tobago could adopt these and use

them for the same purpose. The systems could also be linked to other CARICOM countries

and the USCG through the NSMS system, so that there is security over watch at the

beginning and end phases of the tankers journey. The country could also adopt the database system that maintains a record of all personnel who crew the tankers and this information shared with the US security services and the International Maritime Organization for cross reference purposes. The TTDF can select personnel from the PFSMU for specialized training, similar to Singapore's ASSeT and the USCG security teams. This security detachment can be utilized to protect selected ships and their crews and may even be used as onboard security for portions of the journey. It will be costly for Trinidad and Tobago to maintain this high level of security, however, if the other CARICOM nations collectively seek to assist, then the burden will be reduced. Security is expensive and the islands must accept this and be willing to share the financial costs of securing their region.

The USA has expressed a willingness to assist the region with security, but does not want to be the sole provider. CARICOM should seek to become a more active partner to secure the Caribbean Basin and proactively engage the USA with security initiatives. It is in the USA's interest to have a secure Caribbean area, and CARICOM should pursue bilateral agreements that will be of mutual benefit to all parties. It should be possible for the TTDF maritime patrols to link up with the USCG or the US Navy patrols in the Caribbean and thereby secure the most likely tanker routes. This will greatly reduce the possibility of a hijacking or a terrorist takeover of a vessel while at sea.

The key to countering terrorism is vigilance. Unfortunately, terrorists have the upper hand in terms of action since they are able to select the time and place of their next act. This does not mean that nations and security forces are totally at their mercy. Rather, the best counter strategy is eternal vigilance and strategic thinking. Since terrorists think

out of the box, security personnel must be prepared to adopt the same action and try to think like a terrorist. In this way, it may be possible to view the world from their position and preempt possible actions before they occur. It is very likely that terrorists will attempt further maritime acts; therefore, with this in mind, maritime nations and their security forces should critically examine all aspects of their maritime domain, actively seek out weak spots, and take corrective measures. This is also applicable to Trinidad and Tobago since a major percentage of the country's economy is based on movement of resources on the sea and this requires a safe and secure maritime environment. The answer to the primary research question is resoundingly positive, since all stakeholders; Trinidad and Tobago, CARICOM, and the USA will benefit by the ability of keeping terrorists at bay. Maintaining a safe and secure environment will bolster trade, and this will have a positive impact on all countries in the region.

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