

[The socioeconomic impacts of robbery at sea on the economic stability of Guyana]

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1.1. ABSTRACT

The Fisheries Sector of Guyana plays a vital role in the economic stability of many Guyanese, both directly and indirectly. Many fisherfolks are uneducated and lean towards various aspects of fisheries as a source security and income. Robbery at sea, the practice of attacking and robbing small fishing vessels, has plagued Guyana's artisanal fisheries for a long time. This occurrence is notably practiced by local fishermen as there are many reported cases of the catch and vessel engine being taken. The effects of these attacks in Guyana also extend to the doors of our neighbouring Suriname, as assailants would either attack Surinamese vessels or use their waters as a getaway option. Combating these acts prove to be challenging as the human resources are limited and ill-equipped to handle and effectively resolve this form of Illegal Unreported and Unregulated (IUU) fishing. Guyana's ratification of the FAO Port State Measures Agreement (FAO – PSMA) provides the avenue to regularize all ports/landing sites on the coastline. Analyzing how this binding agreement impacts operations in the artisanal sector is critical.

This research will look to provide a practicable and feasible programme to effectively combat robberies at sea by addressing the root cause, IUU Fishing, focusing mainly on the Unregulated Fishing activities within the artisanal industry. An analysis of the occurrences of robberies at sea, type of vessels affected, people affected, fish production, the ability of enforcement to effectively combat robberies at sea, and the role of government in assisting fisherfolk will also be addressed. It is important to examine how robbery at sea is addressed nationally, regionally and internationally through maritime safety and security and other initiatives. Cost effective solutions in Guyana's artisanal industry, renewed trust and communication between fisherfolk and the competent authority are required and will be examined. Findings from this research will highlight not social solutions but also provide guides which can be adopted by the government and small fishing organizations.

There are some issues with implementing UNCLOS and other legal regimes at the national, understanding where these gaps lay and how to address them be an area of focus in this paper. By strengthening national institutions, , through international cooperation, for building capacity at all levels, in particular in developing countries will assist in the prevention of violence and crime (Sustainable Development Goal 16.a). Regulating a fishery is not an easy job, and it is even so difficult in the artisanal industry when there are hundreds of unregistered vessels. The lack of effective and efficient Enforcement and Monitoring Control and Surveillance programmes of any fisheries creates issues. The strengthening of current enforcement strategies

and training of technical and legal capacity through regional and international assistance will provide Guyana and neighbouring states with more expertise to address robberies at sea.

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1.3. LIST OF ACRONYMS

ACP – African, Caribbean and Pacific Fish II Programme

APTF – Anti Piracy Task Force

ATMS – Advanced Technology Microwave Sounder

AVHRR – Advanced Very High-Resolution Radiometer

CANU – Customs Anti-Narcotics Unit

CARICOM – Caribbean Community

CARIFORUM – Caribbean Forum

CARIBSIS – CARICOM Border Surveillance System

CERES – Clouds and the Earth’s Radiant Energy System

CCSS – Caribbean Crime and Security Strategy

CRFM – Caribbean Regional Fisheries Mechanism

CrIS - Cross-track Infrared Sounder

CTA - Technical Centre for Agricultural and Rural Cooperation

DCCTF – Djibouti Code of Conduct Trust Fund

DNB – Day/Night Band

DRTC – Djibouti Regional Training Center

EEZ – Exclusive Economic Zone

FAO – Food and Agriculture Organization

FAO – PSMA – Food and Agriculture – Port State Measures Agreement

GATOSP – Guyana Association of Trawler Owners and Seafood Processors

GEA – Guyana Energy Agency

GDP – Gross Domestic Product

GPS – Global Positioning Systems

IMO – International Maritime Organization

IPACS – Implementation Agency for Crime and Security

IPOA-IUU - 2001 FAO International Plan of Action (IPOA) to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing

ISC – Information Sharing Centre

ISPS - International Ship and Port Facility Security Code

IUU – Illegal, Unreported and Unregulated Fishing

JCPC – Judicial Committee of the Privy Council

JPSS – Joint Polar Satellite System

M – Nautical Miles

MARAD – Maritime Administration

MCS – Monitoring, Control and Surveillance

MSC – Maritime Safety Committee

MSCC – Marine Stewardship Council Certification

MODIS - Moderate-resolution Imaging Spectroradiometer

NASA - National Aeronautics and Space Administration

NOAA - National Oceanic and Atmospheric Administration's

NPP – National Polar-orbiting Partnership

OLS - Operational Linescan System

OMPS – Ozone Mapping and Profiler Suite

PIU – Project Implementation Unit

PTSD – Post Traumatic Stress Disorder

RFMO – Regional Fisheries Management Organization

RFB – Regional Fisheries Body

RSS -Regional Security System

SAU – Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation

S-NPP – *Suomi* National Polar-orbiting Partnership

UN – United Nations

UN – DOALOS – United Nations – Division of Ocean Affairs and Law of the Sea

UNCLOS -United Nations Convention on the Law of the Sea

UN-FSA – 1995 United Nations Fish Stocks Agreement

UNGA – United Nations General Assembly

UNICPOLOS – United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea

UNITAR – United Nations Institute for Training and Research

UNOSAT – United Nations Operational Satellite Applications Programme

VIIRS – Visible Infrared Imaging Radiometer Suite

VMS – Vessel Monitoring System

WECAFC – Western Central Atlantic Fishery Commission

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1. INTRODUCTION

Artisanal fishermen of Guyana are faced with challenges that threaten not only their ability to gain but their life. This is the act of “robbery at sea”. These acts are similar to that of piracy and armed robbery at sea, however, there is no clear definition. This paper will seek to determine how the term robbery at sea is used in Guyana, under which legal regime is it applicable and provide an in-depth analysis of the impacts. In retrospect, there is some amount of confusion about the terms “piracy” and “armed robbery at sea”, coupled with weak legal mechanisms for dealing with and prosecuting offenders if apprehended.¹ The 1982 United Nations Convention on Laws of the Sea (UNCLOS) provides the legal regime for all acts or attempted acts of piracy. Whereas, recently, the International Maritime Organization (IMO) has provided an internationally accepted definition of armed robbery against ships which also is the legal regime for the issue. Since, July 2002, the IMO has produced separate monthly and annual reports on piracy and armed robbery against ships.²

The maritime zones play a vital role defining piracy and armed robbery against ships, as the paper will seek to provide an understanding of these zones to provide clarity into which the term robbery at sea is used as this will prove beneficial for effective enforcement, prosecution of the criminals and the media. This has negative implications on the international image of Guyana’s waterways; this paper will provide relevant information by examining acts of piracy and armed robbery against ships in other regions of the world. Artisanal fishermen for years have complained bitterly and frequently to the Minister of Agriculture and the Ministry of Public Security about their plight, seeking a solution to the problem which has created widespread fear in the fishing communities. Financial losses are millions of Guyana dollars (US\$1 = GYD\$200), as vessels, engines, gears, catch, supplies and personal items are taken. The situation at sea worsens for the artisanal industry, as the criminals become more desperate and violent.

¹ Herbert I. Anyiam, “When is Piracy Just Armed Robbery”, <http://www.maritime-executive.com/article/When-Piracy-is-Just-Armed-Robbery-2014-07-19>.

² International Maritime Organization, “Piracy and armed robbery against ships”, <http://www.imo.org/en/OurWork/Security/PiracyArmedRobbery/Pages/Default.aspx>

The artisanal fisheries sector of developing countries continues to grow on an annual basis, with increased fleets, larger vessels and improved technologies as a results, competition at sea is fierce, especially in an open access fishery. In the field of business, there are new players daily, and the artisanal fisheries attract new fishermen for varying reasons. With more vessels on the waterways, the security, and safety of all mariners is paramount and necessary aspects of maritime security. Robbery at sea jeopardizes the safety and security of all artisanal fishermen and thus makes managing more difficult. The Guyana Defence Force - Coast Guard and Marine Police play a vital role in national defence and enforcement of Guyana's maritime zones.

Artisanal fishermen constantly turn to these agencies to provide better protection and help in recovering their engines, gears, vessels and other personal properties. However, their ability to combat this scourge is limited since they do not possess the adequate resources to address the issue or to patrol the ocean constantly. The work of these agencies becomes eve more difficult when the waterways of Suriname are used as an escape route. Monitoring, Control and Surveillance (MCS) and Enforcement aspects of fisheries management play a key role in assisting the enforcement agencies of Guyana with combating robbery at sea. Fisheries management has focused on the sustainability of stocks for current and future use by ensuring that our human resources on sea comply with the national, regional and international law. The current situation in Guyana requires the Ministry of Agriculture – Fisheries Department, other agencies, and stakeholders to participate actively in the planning and implementation of maritime security policies as it relates to the artisanal industry.

The need for more effective cooperation and coordination internationally and integration among regional nations, international organizations and other entities that have an interest in maritime security to address robbery at sea and improve the regulatory process in Guyana must be high. Under UNCLOS, it is required for all States to cooperate to the fullest extent possible in the repression of piracy on the high seas or in any other place outside the jurisdiction of any State.³

³ UNCLOS art. 100

There is value in cooperation but there are also consequences when there is little or no framework for implementation in place at the national level or regional level. In the African and Asian regions, piracy and armed robbery against ships are addressed through means of cooperation. Due to the deteriorating nature of maritime security in Africa, particularly in Somalia waters, the Assembly of the IMO in 2007 adopted a resolution, which called for cooperation of states in the region to, implement a regional agreement to prevent, deter and suppress illicit maritime activities and cooperate with the IMO to the fullest.⁴

Fisheries around the world are key instruments of providing food security for developing states, including the Land-Locked States. Based on the Food and Agriculture Organization (FAO) data, about 60% of a developing country's population, depends on fish for more than 30% of their protein intake.⁵ That being said the nature of the marine fisheries in the Caribbean is predominantly small scale. Small-scale fisheries encompass activities such as fishing and fish farming. As it relates to the fishing aspect of small-scale fisheries, they are relatively artisanal in nature and can range from a level of subsistence to a commercial level. Artisanal fisheries provide a number of significant economic and social benefits to a number of communities around the world, particularly coastal and rural. The basic livelihood of these communities is improved and issues such as food security, nutrition, poverty alleviation and simply supporting local cultures show the value of the fishery. Critical contributions are made to development in the area of employment. Employment in the fisheries sector, in general, has grown faster than the world's population and that of traditional agriculture.⁶ There are about 37 million people worldwide who are employed in fisheries, a majority of whom are from developing countries.⁷ Additionally, there are an estimated 100 million people who are employed through associated activities. Despite various beneficial contributions, sustainable fisheries development, and management of the

⁴ IMO Assembly Res. A 1002 (25), para 7. "Piracy and armed robbery against ships of the coast of Somalia"

⁵ Ferique Shortte, "Promoting sustainable fish trade between CARICOM States and their trading partners the EU and the US: The case of St. Vincent and the Grenadines"

⁶ Food and Agriculture Organization, State of the World Fisheries 2010"

⁷ Cambria Finegold, "The importance of Fisheries and Aquaculture to development"

sector has many challenges. Women carry out a very important role in the fishing sector, even though they are not directly involved the fishing activities, they have contributed substantially to pre-and post-harvest operations, and are often financial managers and owners of an artisanal vessel on Guyana. The economic contribution of fisheries is evident in the Caribbean, however, it varies from state to state, from less than 1% of the Gross Domestic Product (GDP) of some countries to as high as 6% of Guyana's GDP.⁸ Despite this situation, artisanal fisheries do not receive the recognition it deserves and continues to face complex and major challenges, social hardships from depleted stocks, poor economic returns, ocean acidification, climate change and illegal, unreported and unregulated (IUU) fishing activities. Additionally, artisanal fishermen also compete with industrial vessels which operate in the same marine spaces, with the same marine resources, thus resulting in conflicts.

Most of the Guyana's artisanal fishermen live in coastal rural villages and have access to limited resources which makes it difficult for them to comply with regulations set out by the Ministry of Agriculture Fisheries Department and other agencies. This often makes decision making difficult, which means actions such as the removal of illegal fishermen from the sector without providing proper job replacements would create more problems for the industry and country. The small-scale fishery has contributed significantly to food security and poverty alleviation. However, many of these small-scale fishermen are trapped in poverty which makes it easy for them to take drastic negative action in order to survive. Poverty is a multidimensional phenomenon, encompassing inability to satisfy basic needs, lack of control over resources, lack of education and poor health. There are over 836 million people who are living in extreme poverty globally according to the United Nations. Poverty can be intrinsically alienating and distressing, and of particular concern are the direct and indirect effects of poverty on the development and maintenance of emotional, behavioural and psychiatric problems.⁹ Rural communities are still areas where poverty exists on a large scale, it is thus essential for poverty to

⁸ Caribbean Fishing Industry: A brief overview

⁹ Vijaya Murali *et al*, "Poverty, social inequality and mental health" <http://apt.rcpsych.org/content/10/3/216>

be eradicated since it is essentially rural.¹⁰ The causes of rural poverty are complex and multidimensional. Individuals from rural poor communities depend on agriculture, fisheries, forestry and other small-scale industries and service

Guyana is one of the poorest countries in Latin America and the Caribbean but has a wealth of natural resources, including fertile agricultural land, minerals, fisheries and a large tropical forest. Roughly two-thirds of Guyanese citizens living in poverty, with 29% of the population, being classified as being extremely poor. Rural poverty is concentrated along the northern Caribbean Coast of Guyana. Rural poverty in Guyana is characterized by:

- Weak institutional capacity
- Inadequate access to training, techniques and tools for development on and off the farm
- Limited access to basic services such as education, health care, and sanitation
- Emigration to cities or overseas
- Increasing exposure to the effects of climate change and rising sea levels.

The Guyanese government owned more than 80% of industries until the 1990's, but mismanagement combined with falling commodity prices and high fuel costs caused the standard of living to fall drastically. The government has since divested itself of many industries, but problems such as deforestation, violent crime, and widespread poverty continue to threaten the economy. The country was classified as a lower-middle-income country by the World Bank, however, the discovery oil reserves offshore of Guyana by ExxonMobil and improved economic performance, has, as of July 1, 2016, caused the country to be promoted to an upper-middle income state.

¹⁰ United Nations Commission on Sustainable Development, "Report on the Seventeenth Session (16 May 2008 and 4 – 15 May 2009)", Res. E/CN.17/2009/19,

Crime in Guyana is at a critical level. Criminal activities continue to be a major issue, particularly crimes against people and property. Serious crimes, such as murder and armed robbery are common. The most recent information from the United Nations Office on Drugs and Crime lists Guyana's 2012 homicide rate as 17 per 100,000 people, the fourth highest murder rate in South America behind Venezuela, Colombia, and Brazil. Guyana's murder rate is almost four times higher than that of the U.S. The onset of crime drives away investment, both foreign and domestic, consequently, developmental growth is slowed. Poverty, unemployment and underemployment, inequalities, the rising cost of living, social exclusion and marginalization and governance failures provide an enabling environment for criminality to flourish. In the report of the thirteenth United Nations Congress on Crime Prevention and Criminal Justice, stated, "the capacity to monitor progress in crime prevention and criminal justice will be crucial for advancing the post-2015 international development agenda". With an increasing crime rate, it is necessary for law enforcement to develop more strategies to combat crime.

Additionally, there are various unsustainable fishing practices in the sector which arise from a large number of unlicensed artisanal fishing vessels in Guyana's waters. These errant vessels continue to fish without any form of certification from the Fisheries Department of the Maritime Administration Department (MARAD). In 2011, 1234 artisanal vessels were counted, however, the Fisheries Department has not achieved at least 50% of the counted vessels being licenced annually. Managing fisheries resources become even more difficult due to such a large number of unlicensed vessels. With a limited amount of enforcement exercises annually, the situations become more troubling. Lack of knowledge of who is operating in Guyana's waters creates a dangerous situation for all mariners with heavy environmental and socioeconomic implications. Many legitimate fishermen have complained about these illegal fishing vessels which compete with them, making the industry unfair and not safe. As an aspect of illegal fishing activities, fisheries managers being the competent authority must eliminate the number artisanal vessels which are unlicensed. These illegal vessels do not possess any form of documentation and risk being fined or face jail time if caught by law enforcement official. Illegal fishermen take to the sea knowing these risks due to their returns being high. Fishing cooperatives are essential in Guyana. They provide additional structure to management, supply fishermen with cost effective

gear and necessary information within the artisanal fishing sector. However, with only a few operational cooperatives and a limited number of fisheries personnel, the unregulated fishing activities have made it difficult for effective management to occur in Guyana.

1.1. Research Questions and Methodology

The main objective of this thesis is to provide a practicable and feasible institutional programme to effectively combat robbery at sea and an unregulated fishery, by exploring various management practices and the lessons learned by various States.

The research addresses the following questions:

1. How do robberies at the sea impact economic stability of the artisanal industry?
2. Is the term robbery at sea being used correctly?
3. Is there a relationship between IUU fishing and robbery at sea in Guyana?
4. What are the responses of Guyana to address IUU fishing activities and robberies at sea?
5. What is the international and regional approach to addressing IUU fishing?
6. How does Guyana's ratification of the Port States measure to aid in creating economic stability and assist in the control of robberies at sea?
7. Where does global, regional, and national cooperation present a solution?
8. How to strengthen the fisherfolk community through better management of Fisherfolk Co-operatives?
9. Is the level of cooperation nationally enough to combat robberies at sea, not only in fisheries but other sectors utilizing Guyana's waterways?

In order to address these questions, this research will be conducted mainly as a desktop study in which consultations will be held with technical experts in Guyana, collecting, compiling and analyzing data from national archives as it relates to the fisheries sector, export and imports, national laws, regulations, policies and plans, and maritime data amongst other things. Literature reviews on academic writings, journals and other relevant documents which discuss various aspects of the issue.

1.2. Constraints

This being the first attempt at addressing an issue such as this will have various barriers to the collection of relevant data and information. Due to problems with information sharing in Guyana, the, acquiring data on a timely basis will have challenges.

Part 1

The Issue

2.1. GUYANA FISHERIES

In Guyana, there are two separate, but related issues which present a problem to the artisanal fishery, a large number of unlicensed fishing vessels and a number of armed robberies out at sea. Though not within the jurisdiction of the Ministry of Agriculture, Fisheries Department, robbery at sea affects overall management and creates complications within the industry. With the primary focus of the Fisheries Department being for managing, regulating and promoting the sustainable development of the nation's fishery resources, IUU in the artisanal fishery makes this a difficult task. IUU Fishing has always proved to be a nuisance to the management of any fishery and is used to describe all fishing activity which acts outside of fishery law. However, each aspect of IUU fishing is different in its own realm. Identifying which aspect of IUU fishing in the artisanal industry, the Fisheries Department needs to focus on to get the fishery under some form of control is essential.

2.1.1. Geographic location



Guyana has a land area of 214,970 km² and is located on the northern coast of South America, situated between 1° and 8° North Latitude and 57° and 61° West Longitude. The country has a

¹¹ Map of Guyana

http://www.vidiani.com/maps/maps_of_south_america/maps_of_guyana/large_detailed_relief_and_political_map_of_guyana_with_cities.jpg

population of 746,965 ¹² citizens with 90% of its inhabitants living on the coastal plain.¹³ The country has a 432 km Atlantic coastline to the north and is bordered by Venezuela to the west, Brazil to the south and Suriname to the east. Its continental shelf is approximately 38,016 km².

2.1.2. Marine Environment

The marine environment of Guyana is found within the area bounded by the Orinoco and Amazon Rivers. during the rainy season the marine environment is largely influenced by the heavy sediment load and great discharge of fresh water from these huge rivers, along with the Essequibo, Demerara, and Berbice rivers of Guyana affects the salinity, while the sediments (and nutrients) create a series of shifting sand bars and mud flats that cover the shelf out to about the 40-m isobath. Sand gradually becomes dominant beyond this depth and is replaced by coral at about 100 m depth. The mud supports a rich invertebrate fauna that nourishes a variety of demersal species and various species of penaeid shrimp.

2.1.3. Importance of Guyana's Fisheries

The fisheries sector is the second highest employer in the agricultural industry in Guyana, with approximately 11,000 individuals being employed directly and indirectly.¹⁴ Based on the Caribbean Regional Fisheries Mechanism (CRFM), “this includes persons engaged in harvesting, processing, preserving, storing, transporting, marketing and distribution or selling fish or fish products, as well as other ancillary activities, such as net and gear making, ice production and supply, vessel construction and maintenance as well as persons involved in

¹² Bureau of Statistics, “2012 Population and Housing Census Final Results, May 10, 2016”

¹³ The coastal plain of Guyana occupies approximately 5% of the land space. It ranges from 5 - 6km wide and extends from the Corentyne River to the Venezuelan border.

¹⁴ This is inclusive of full time and part time fishers, harvesters and farmers engaged in artisanal or commercial activities. The use the word “fisheries” represents both the marine capture, aquaculture and inland fisheries.

research, development and administration linked with the fisheries sector. Fisheries in the Caribbean generally contributes from 0.1 – 3% of the GDP. Only Guyana and Suriname have contributions above 2.1%”.¹⁵ On average, it has contributed 2.9% to the national GDP between 2006 – 2014.

2.1.4. Guyana’s Marine Fisheries Sector

Fisheries in Guyana is made up of three sub – sectors: 1) Aquaculture, 2) Inland Fishery and 3) Marine Fishery. Effective management of each of these sub – sectors is critical to ensure sustainability for years to come. The marine fishery is made up of a diverse number of commercially viable fish species of which all fishing activities take place on the continental shelf. There are three components of the marine fishery: 1) Industrial, 2) Semi – Industrial and 3) Artisanal.

Note: F – Final Data, R – Revised Data

¹⁵ Caribbean Regional Fisheries Mechanism, Statistics and Information Report 2012

GDP at prices									
Item	2006 (F)	2007 (F)	2008 (F)	2009 (F)	2010 (F)	2011 (F)	2012 (R)	2013 (R)	2014 (R)
GDP	262,880	281,335	286,896	296,417	309,373	326,194	341,905	357,758	373,576
Agriculture	62,779	63,131	61,280	62,060	63,514	65,199	67,579	69,151	73,051
%GDP	23.9	22.4	21.4	21	20.5	20	20	19.3	19.5
Fisheries	9,349	9,649	9,483	8,488	9,199	8,711	10,058	9,401	6,892
% Agri GDP	15	15.3	15.5	14	14.5	13.4	15	13.6	9.4
Fisheries % GDP	3.6	3.4	3.3	2.8	3	2.7	2.9	2.6	1.8

Table 1: Fisheries contribution to GDP

(Source: Bureau of Statistics Guyana)

2.1.4.1. Industrial Fishery

This industry has dominated the export market within the fisheries sector, with an 80% of the catch being exported to the Caribbean, European Union and United States of America. Currently, the main target species of the industry are shrimp, also referred to as seabob (*Xiphopenaeus kroyeri*). In the late 1950s, foreign investors established bases in Guyana and commenced exploitation of four species of prawns (*Peaneus spp.*)¹⁶ The prawn industry was sustainable up until the late 1980s. A reduction in catch caused the closure of various companies due to over fishing. This resulted in a shift the seabob industry. There are currently 116 vessels operating

¹⁶ Dawn M. A. Maison, “Management of Inshore Artisanal Fisheries In Guyana: A Co-management Approach”.

both seabob (87) and prawns (29), which is a significant reduction from 200 vessels in the 1980s. Resource management and sustainable exploitation, together with rising fuel costs, are currently the major concerns for this fishery.¹⁷ This is the only fishery through which the members have established an association to ensure its members honour the fisheries and marine law, as well as management practices, this is the Guyana Association of Trawler Owners and Seafood Processors (GATOSP). The seabob fishery is the only industry which has a closed season and has limited to fishing between 7 and 18 fathoms of water, whereas, the prawn vessels fish above 18 fathoms.

2.1.4.2. Semi – Industrial Fishery

Fishing activities occur on the deep slope of the continental shelf. This industry utilized traps or longlines to target red snapper (*Lutjanus purpureus*), handliners were used to exploit for a number of years before they were replaced. On average, 53% of the local vessels are licenced annually. There are more foreign vessels in this industry than any other, and these vessels are licenced on a quarterly basis to operate in Guyana's waters.

¹⁷ Idib

Fishery	Type of vessels / gear	Number of licences / active vessels	Target species	Fishing zone	Estimated catch tonnes / GUY\$ (2012)
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2.1.4.3. Artisanal Fishery

The FAO defines an artisanal fishery as, “traditional fisheries involving fishing households (as opposed to commercial companies), using relatively small amount of capital and energy, relatively small fishing vessels (if any), making short fishing trips, close to shore, mainly for local consumption.” In Guyana, the artisanal fishery is not only subsistence in nature but has grown to take on commercial markets domestically and internationally. Many Guyanese peruse this fishery as it has proved to be a lucrative investment and provides a source of employment for their community. There are over 5,000 fishers and over 1000 boat owners (male and female) which increases annually, with some of the boat owners being members of co-operative societies which acquire and sell fishing requisites to their members. Fishermen have used various methods, gear types and vessels ranging from 6 – 18m to exploit the fish resources. The gear types used are Chinese or fyke seine, gillnet (polyethylene and nylon), caddell or demersal handline and pin seines. Each targets a specific species of fish and the duration of a fishing trip varies.

Industrial (seabob)	twin outrigger shrimp trawlers	88 / 78	seabob	coast – 15 fathoms	19,433 t
Industrial (prawn)	twin outrigger shrimp trawlers	31 / 18	penaeid shrimp ('prawns')	~20 fathoms	368 t
Semi-industrial (trappers)	fish traps	60 / 32*	red and vermilion snapper	shelf edge	758 t
Semi-industrial (liners)	demersal hook and line	55 / 25	red snapper	shelf edge	
Artisanal	drifting gillnets, seines; other artisanal gears	436 / 1234 (estimate 2011)	mixed finfish, seabob and white-bellied shrimp (see below)	coast – ~10 fathoms	16,300 t / G\$10 billion**

Table 2: Estimated catch of each Sub – Sector

Source: Fisheries Management Plan 2013 – 2018

Table 2 shows the artisanal sector has the second largest catch number of catch. This is key, since most of the fish consumed by Guyanese comes from this sector. Guyana has the highest per capita consumption of fish in the Caribbean, which is estimated to be 54kg. With such a high fish consumption, it reflects the importance of the industry to food security in the country. Despite the dangers of the ocean such as the issue of robbery at sea, artisanal fishermen continue to ply their trade with unlicensed vessels which result in them being easy targets. Due to weak management of the various landing sites from the Fisheries Department since it is understaffed in all Administrative Regions, a large number of the landings comes from many unlicensed vessels.

2.1.5. Illegal, Unreported and Unregulated (IUU) Fishing in the Artisanal Sector of Guyana

Left unchecked IUU fishing can create flaws in the system on which fisheries management decisions are based. Most cases of IUU fishing occur in the High Seas and areas of a States EEZ that is not monitored, thus it is hard to accurately determine the economic and social impacts of the activity. The 2001 FAO International Plan of Action (IPOA) to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated fishing defines each aspect of IUU fishing separately:

“Illegal fishing refers to fishing activities:

conducted by national or foreign vessels in waters under the jurisdiction of a State, without the permission of that State, or in contravention of its laws and regulations; conducted by vessels flying the flag of States that are parties to a relevant regional fisheries management organization but operate in contravention of the conservation and management measures adopted by that organization and by which the States are bound, or relevant provisions of the applicable international law; or in violation of national laws or international obligations, including those undertaken by cooperating States to a relevant regional fisheries management organization.

Unreported fishing refers to fishing activities:

which have not been reported, or have been misreported, to the relevant national authority, in contravention of national laws and regulations; or undertaken in the area of competence of a relevant regional fisheries management organization which have not been reported or have been misreported, in contravention of the reporting procedures of that organization.

Unregulated fishing refers to fishing activities:

in the area of application of a relevant regional fisheries management organization that are conducted by vessels without nationality, or by those flying the flag of a State not party to that organization, or by a fishing entity, in a manner that is not consistent with or contravenes the conservation and management measures of that organization; or in areas or for fish stocks in relation to which there are no applicable conservation or management measures and where such

fishing activities are conducted in a manner inconsistent with State responsibilities for the conservation of living marine resources under international law”.¹⁸

Region	Gear types						Total
	Gillnets						
	nylon 2-4"	polyethylene 5-6"	polyethylene 7-8"	Chinese seine	Pin seine	Cadell line	
#1	15	0	0	0	0	15	30
#2	61	15	5	29	4	6	119
#3	43	27	0	89	11	22	209
#4	144	99	59	89	2	37	430
#5	78	55	0	35	3	7	178
#6	107	100	0	43	18	0	268
Total	448	296	64	307	32	87	1234

Table 3: Number of artisanal vessels operating in Guyana

Source: Guyana Marine Fisheries Management Plan 2013 - 2018

In 2011, the Fisheries Department conducted a vessel count of the artisanal vessels operating in Guyana’s waters. The results yielded 1234 vessels being counted and is considered the licencing target annually. This may be an underestimate as there are gillnet fishermen from 6 who fish mainly in Surinamese waters and may not be accounted for. On average the Department licences 290 vessels annually from 2007 – 2014. The low number of applicants cause the Department to have annual licencing exercises which created an increase in the number of artisanal fishermen being licenced.

¹⁸ Food and Agriculture Organization, “International Plan of Action (IPOA) to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated (IUU) fishing 2001,” para. 3 <http://www.fao.org/docrep/003/y1224e/y1224e00.htm>

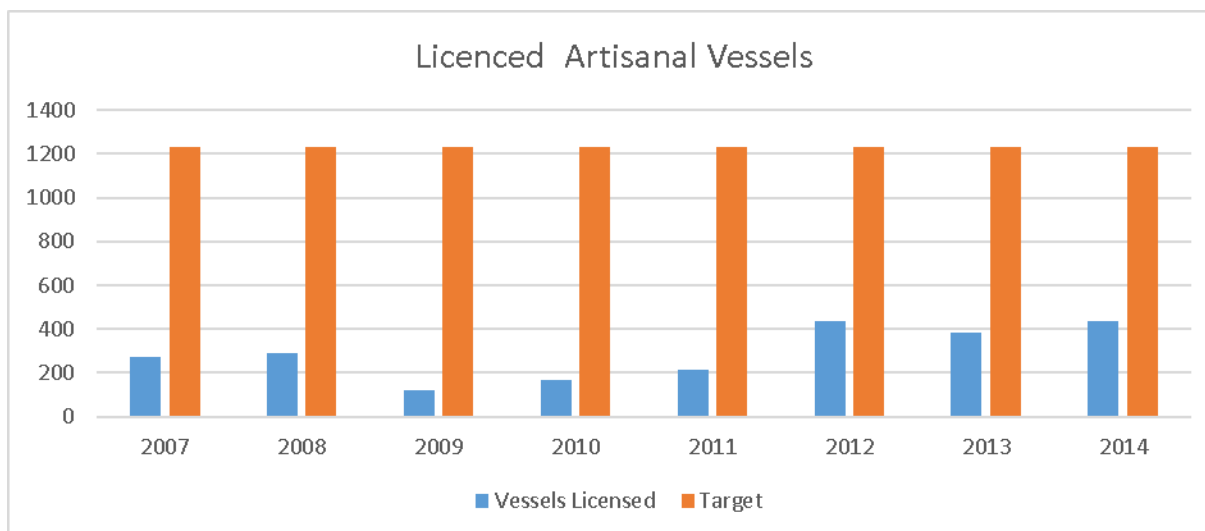


Figure 2: Number of Licenced Artisanal Vessels

Source: Fisheries Department Annual Reports

2.1.5.1. Unregulated Fishing

With more than 65% of the vessels being unlicensed artisanal vessels in 2014, which was considered to be a good licensing year clearly shows that more needs to be done. This has created a free for all environment in the artisanal fisheries. At the international level unregulated fisheries have developed as a result of inadequate governance arrangements for key areas of the high seas, including activities by vessels from nations that are not party to existing international arrangements, while at the national level it has evolved as a result of ineffective management and inadequate surveillance and control.¹⁹ The perpetrators benefits from great financial returns, while proving costly for States to counter. There is an added cost to the Monitoring, Control and Surveillance (MCS) and Enforcement operations of management of Guyana's fishery. The unique move by the Fisheries Department to go directly to the landing sites of the fishermen has

¹⁹ Sean Pascoe *et al*, "Economic and ecosystem impacts of illegal, unreported and unregulated (IUU) fishing in Northern Australia", *The Journal of Australian Agriculture and Resource Economics*. Pg 433 – 434.

improved the number of fishing vessels that were being licenced, however without proper enforcement to follow up these exercises has led to no positive impact on the industry.

2.2. MARITIME ZONES

2.2.1. Fishery Zones

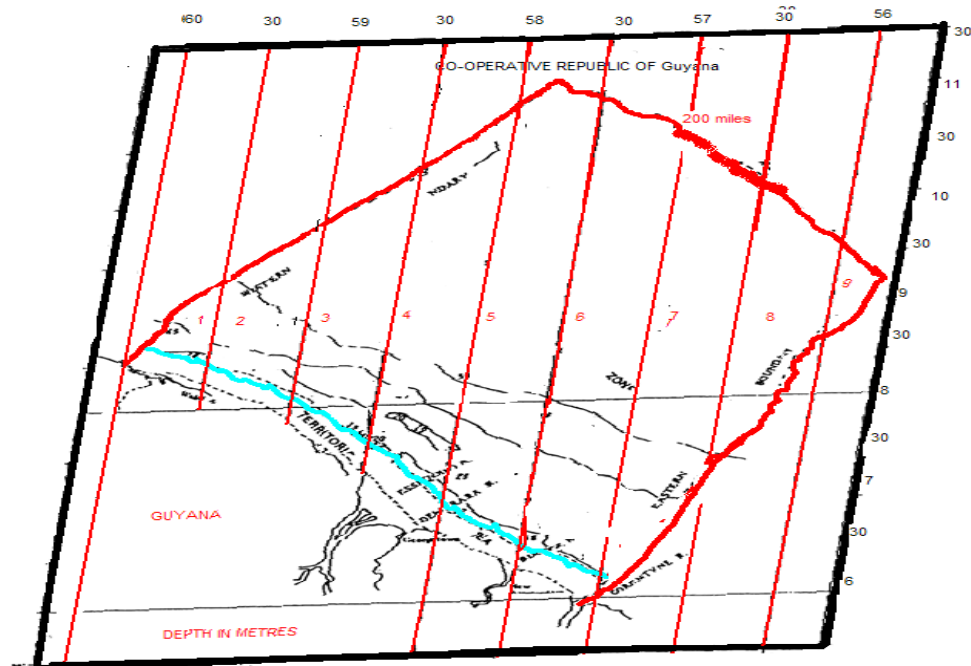


Figure 3: Map of Guyana Fishery Zones

Source: Ministry of Agriculture – Fisheries Department)

The 1977 Maritime Boundaries Act of Guyana established a fishery zone beyond and adjacent to the territorial sea and bounded on its seaward side by the line every point of which is 200 miles

from the nearest point of the baseline of the territorial sea.²⁰ On February 23, 1991, the zone became Guyana's EEZ when the President of Guyana promulgated an order known as the Exclusive Economic Zone Order 1991.²¹ Within Guyana's EEZ, nine longitudinal zones spaced 30 minutes apart currently represent the fishery zones. These zones are used to assist in the analysis of data collected from all local and foreign fishermen.

2.2.2. Limits of Maritime Zones

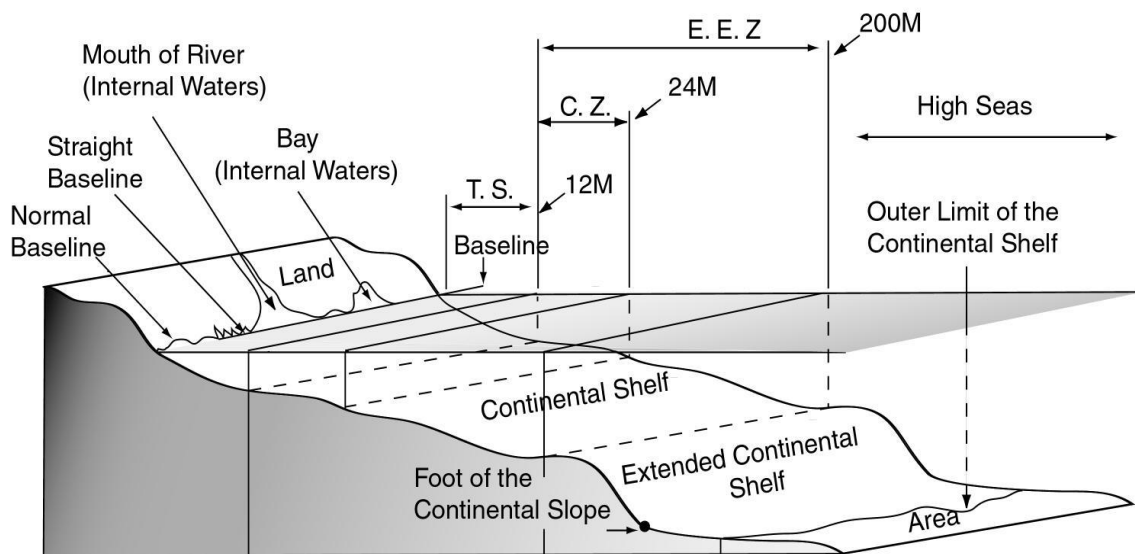


Figure 4: Detailed layout of the Maritime Zones

Source: (UN -DOALOS)

²⁰ Maritime Boundaries Act 1977, Act No.10.

https://www.un.org/depts/los/LEGISLATIONANDTREATIES/PDFFILES/GUY_1977_Act.pdf

²¹ Ministry of Agriculture, "Review of The Agricultural Sector in Guyana: Volume 2 Technical Presentations 1993, pg 79.

https://Books.Google.Com/Books?Id=Ho8qaaaayaaj&Pg=Pa79&Lpg=Pa79&Dq=Guyana+Fishery+Zones&Source=Bl&Ots=J-Bfgsh4bp&Sig=Wdknf7ec5ql6byz6_Ebpxwctedy&Hl=En&Sa=X&Ved=0ahukewjs_Dny8bboahxf0iykhcibklyq6aeirdah#V=OnePage&Q=Guyana%20fishery%20zones&F=False

Before 2002, all illicit acts against were considered to be acts of piracy²². The IMO's separation of armed robbery against ships from piracy was done by determining whether the crime occurred in international waters or territorial waters. By understanding the geographic locations of attacks at sea aids coastal States in developing strategies for maritime security to ensure compliance and aid legal scholars in assessing the congruence of international legal frameworks governing threat response measures.²³ The limits of the maritime zones provide an understanding of each crime in international law. The recognized maritime zones applied to defining these crimes at sea under international law are the internal waters, the territorial sea, the contiguous zones, the exclusive economic zone and the high sea. Each maritime zones have different levels of a coastal States legal interests and sovereignty, balanced with the international community's legal interests. UNCLOS provides the legal regime for all maritime zones. It specifies in detail the nautical mile limits of the maritime zones, with rules for world's oceans, and highly technical areas for ocean management and operations at sea.²⁴ The baseline of the maritime zone is used to measure the breadth of the territorial sea, except where otherwise provided in the convention. The baseline is "the low-water line along the coast marked on large-scale charts officially recognized by the coastal State".²⁵ The internal waters are on the landward side of the baseline and the coastal State has full sovereignty over it.²⁶

²²International Maritime Organization, "Piracy and armed robbery against ships", <http://www.imo.org/en/OurWork/Security/PiracyArmedRobbery/Pages/Default.aspx>

²³ Simon O.Williams, "International Framework for Governing Maritime Security: Examining Maritime Zones, <https://www.kcl.ac.uk/sspp/departments/dsd/research/researchgroups/corbett/Tactique-Briefing---International-Legal-Framework-Governing-Maritime-Security---Examining-UNCLOS-Maritime-Zones.pdf>

²⁴ Simon O.Williams, "International Framework for Governing Maritime Security: Examining Maritime Zones, <https://www.kcl.ac.uk/sspp/departments/dsd/research/researchgroups/corbett/Tactique-Briefing---International-Legal-Framework-Governing-Maritime-Security---Examining-UNCLOS-Maritime-Zones.pdf>

²⁵ UNCLOS, Art 5.

²⁶ UNCLOS, Art 8.

2.2.2.1. Territorial Sea

Article 3 of UNCLOS refers to the breadth of the territorial sea and states, every State has the right to establish the breadth of its territorial sea up to a limit not exceeding 12 nautical miles (M), measured from baselines determined in accordance with the Convention.²⁷ All artisanal fisherman conduct their fishing activities in the territorial sea. This maritime zone plays a key role in differentiating between piracy and armed robbery at sea and also provides a tricky situation for military vessels trying to apprehend a vessel which has committed a crime or is suspected of committing a crime and has fled to the territorial sea of another State. A State is made up of three components, 1) territory, 2) population and 3) the government exercising its power over its territory and population. Territorial sovereignty is a States power over its territory, and it does not cover only the land but the sea. However, sovereignty increases with its proximity to land giving the internal waters and territorial sea that highest level of coastal State legal control and is considered to be State-owned waters (national) up to 12 M. Its scope extends to the water column, airspace, seabed, and subsoil.

2.2.2.2. Contiguous Zone

Coastal States have limited jurisdiction on maritime zones contiguous and seaward of the territorial sea. This contiguous zone extends from the outer limit of the territorial sea, but no more than 24 M from the baseline of the coastal State. States are able to exercise the control necessary to: a) prevent or punish infringement of its customs, fiscal, immigration or sanitary laws and regulations within its territory or territorial sea; (b) punish infringement of the above laws and regulations committed within its territory or territorial sea.²⁸ A vessel is considered to be in international waters or air space once it has existed the territorial sea. There is some amount

²⁷UNCLOS, Art 3.

²⁸ UNCLOS, Art. 33.1.

of fishing carried out by the artisanal industry in this zone, however, exploitation of the fishery resources is mostly carried out by the industrial fishing trawlers.

2.2.2.3. Exclusive Economic Zone

The most important maritime zone regarding a coastal state's fishery and natural resources is the Exclusive Economic Zone. The EEZ is an intermediary zone found between the territorial sea and the high sea, its maximum extension is 200 M from the baseline.²⁹ The coastal State has sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents and winds.³⁰ The coastal States sovereignty only extends to the seabed and the subsoil in this maritime zone and other States are allowed to navigate the High Seas with complete freedom. However, the coastal state has the right safeguard various economic activities in the such as fishing and wind farming *inter alia* by boarding, inspecting, arresting and prosecuting.

2.2.2.4. High Seas

The High seas lay beyond 200 M from the baseline of a coastal State and is open and freely accessed by all maritime users. UNCLOS sets out the legal regime for the water column as the

²⁹ Simon O. Williams, "International Framework for Governing Maritime Security: Examining Maritime Zones, <https://www.kcl.ac.uk/sspp/departments/dsd/research/researchgroups/corbett/Tactique-Briefing---International-Legal-Framework-Governing-Maritime-Security---Examining-UNCLOS-Maritime-Zones.pdf>

³⁰ UNCLOS, Art. 56.1.a

freedom of the high seas,³¹ these freedoms are: 1) Navigation, 2) Overflight, 3) Laying of cables and pipelines, 4) Artificial islands, 5) Fishing and 6) Marine Scientific Research.³² There is a high frequency of piracy attacks on the high seas and it is the responsibility of the international community to protect all vessels from interference from all forms of illicit activities.

³¹ UNCLOS, Art. 87. 2.

³² UNCLOS, Art 87. 1a – f.

2.3. UNDERSTANDING PIRACY AND ARMED ROBBERY AGAINST SHIPS

2.3.1. Piracy

Piracy is one of the oldest international crimes known to man, and was only related to the maritime arena. Over time the word has evolved and refers to illicit and unauthorized activities *inter alia* in air transportation and intellectual property. The use of the word piracy in this paper refers to the maritime arena depicting acts of hostility, depredation, robbery, or violence perpetrated at sea against a ship, property carried on-board, or persons traveling with the ship either they are crew member or passenger.³³ These illegal acts threaten maritime security by creating an inhospitable environment for all mariners the security of navigation and commerce.

Individuals who carry out these acts are known as pirates, and piracy has and continues to provide great economic gains for the criminals. Hence the economic growth of a State or States are hindered by these activities. For instance, the presence of Somali pirates roaming the waters in the horn of Africa resulted in billions being lost globally, as mariners would have to alter their routes which result in more fuel and higher insurance premiums. The intensity of acts of piracy in various regions of the world varies. Article 101 of UNCLOS defines piracy as:

(a) any illegal acts of violence or detention, or any act of depredation, committed for private ends by the crew or the passengers of a private ship or a private aircraft, and directed: (i) on the high seas, against another ship or aircraft, or against persons or property on board such ship or aircraft; (ii) against a ship, aircraft, persons or property in a place outside the jurisdiction of any State;

³³ Jean Edmond Randrianantwniana, "Maritime Piracy and Armed Robbery Against Ships: Exploring the Legal and the Operational Solutions. the Case of Madagascar," pg., 2

(b) any act of voluntary participation in the operation of a ship or of an aircraft with knowledge of facts making it a pirate ship or aircraft;

(c) any act of inciting or of intentionally facilitating an act described in subparagraph (a) or (b).

This definition is also incorporated in the Hijacking and Piracy Act 2008 of Guyana Laws. It is the responsibility of all States to cooperate to the fullest possible extent in the repression of piracy on the High Seas or in any other place outside the jurisdiction of any State. Geographic location within the maritime boundaries aids in providing a starting point for acts of piracy. It is further strengthened by three aspects of the definition:

1. Type of act (any illegal acts of violence or detention),
2. two ships/crafts (a pirate ship and the victim),
3. committed for private ends (all political purposes are removed)

2.3.2. Armed Robbery against Ships

During the sixty-third session of the United Nations General Assembly (UNGA), resolution A/Res/63/111 on “Oceans law of the sea” urged all States, in cooperation with the International Maritime Organization, to actively combat piracy and armed robbery at sea.³⁴ There was a great concern especially when 61.8 percent of identical acts as piracy took place in the territorial waters in 1990’s according to Dubner’s study whereas in 2000’s attacks occurred even berthed pier side or at anchor.³⁵ The International Maritime Organization (IMO) Code of Conduct for the Investigation of the Crimes of Piracy and Armed Robbery Against Ships, determines that armed robbery against ships consists of any of the following acts:

(a) any illegal act of violence or detention or any act of depredation, or threat thereof, other than an act of piracy, committed for private ends and directed against a ship or against persons or property on board such a ship, within a State's internal waters, archipelagic waters and territorial sea;

³⁴ Res. A 26/Res. 1025, para, 4.

³⁵ Mejia, M., Maritime Gerrymandering : Dilemmas in Defining Piracy, Terrorism and other Acts of Maritime Violence, *Journal of International Commercial Law* 2(2), 153-175, 2003.

(b) any act of inciting or of intentionally facilitating an act described above.³⁶

During the ninth meeting of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea (UNICPOLOS) was held in New York from 23 to 27 June 2008, piracy and armed robbery against ships were discussed. The meeting highlighted the distinction between the two topics. Where piracy is an illegal act of violence, detention or depredation committed for private ends in an area outside a coastal State's jurisdiction. Armed robbery, on the other hand, refers to illegal acts of violence against ships, which takes place in maritime zones within the coastal State's sovereignty.³⁷

2.2.3. South American Incidents

³⁶ Res. A.1025(26) (Annex paragraph 2.2)

³⁷ Ximena H. Oyarce, "Consultations on Maritime Security and Safety", *Environmental Policy and Law*, 38/5 (2008), pg 222



Figure 5: Armed robbery at sea in South America 2006 – 2013

(Source: UNOSAT Global Report on Maritime Piracy: A geospatial analysis 1995 – 2006)

The United Nations Institute for Training and Research (UNITAR) has an Operational Satellite Applications Programme (UNOSAT) which is a technology-intensive programme delivering imagery analysis and satellite solutions to relief and development organizations within and outside the United Nations (UN) system, produced a geospatial analysis from 1995 – 2013 on Maritime Piracy. According to the report, “Between 2006 and 2013, piracy and armed robbery activities in South America and the Caribbean have been negligible in comparison with the western Indian Ocean and South East Asia situations. Only 216 incidents were reported, of which 102 could be considered severe (threat of violence and violence, with fatalities in 3 of these incidents). The phenomenon is an armed robbery problem rather than piracy, as incidents occur mainly in ports, coastal waters or rivers. Attacks on the high sea remain rare, and most of

the targets were yachts, particularly vulnerable, attacked in Venezuelan and lesser Antilles waters.”.³⁸

2.4. ROBBERY AT SEA IN GUYANA ARTISANAL FISHERY

2.4.1. Robbery at Sea

Filled with fear, artisanal fishermen have complained frequently and bitterly to the Minister of Agriculture and Minister of Public Security about being the targets of criminals at sea. These pirates, who were allegedly reported to also be fishermen at times have terrorized the entire 432 km off of the Atlantic coastline, from Barima Wani to Corentyne (Regions 1 – 6). An incredibly larger number of these attacks are more focused off the Corentyne coast. It is currently difficult to identify the exact area where these attacks occur in the ocean and thus makes it increasingly difficult to classify them as an act of piracy or armed robbery. The targeted artisanal vessels are mostly the gillnet vessels between 10 – 16 meters. With a drive to kill if necessary, these pirates arm themselves with guns, knives and machetes, taking valuables and lives in the process. An estimated 14 lives were taken in the past two years. Survivors and owners have reported losing their seine (some instances they are cut from the vessel and left adrift), catch, vessel, Global Positioning Service (GPS) device, fuel, vessel and an incalculable number of man hours. Losses have amounted to millions of Guyanese dollars which leave most owners in debt, fear and limited trust in the enforcement and humanity. The use vessels with dual engines are often stolen from various landing sites or are personal vessels.³⁹ Due to artisanal fishermen’s lack of limitation in Guyana’s EEZ, highlighting areas in the ocean where attacks occurred exactly without tracking devices makes it difficult to determine if the acts committed are that of piracy or armed robbery against ships. Targeted vessels are known to fish approximately 20M (20 nautical miles) from shore.

³⁸ United Nations Institute for Training and Research Operational Satellite Applications Programme, “UNOSAT Global Report on Maritime Piracy: A geospatial analysis 1995 – 2006”, pg 37

³⁹ UNCLOS, Art 103. The status of a fishing vessel or any vessel can be change to that of a pirate ship once the person in dominant control uses the vessel as defined in UNCLOS Art. 101.

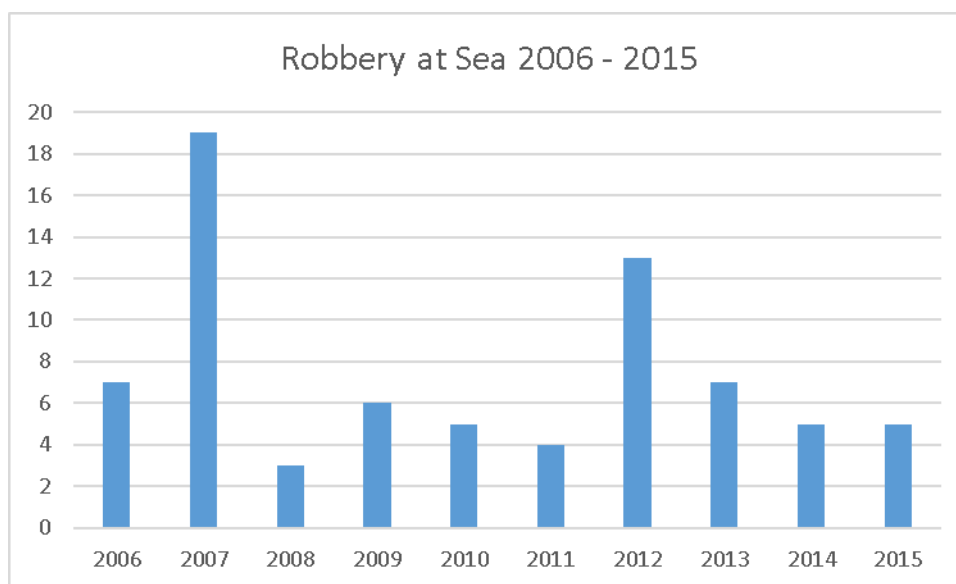


Figure 6: Recorded incidents of robbery at sea in Guyana from 2006 to 2015

Source: Ministry of Agriculture -Fisheries Department

There were 74 incidents recorded by the Fisheries Department, via the media over the past 10 years. Devising a strategy to combat these attacks would have to start in areas where the frequency of attacks is high. The county of Berbice, yields the largest number of attacks, with 73% of all recorded attacks occur in this area and Suriname waters.

2.4.2. Guyana – Suriname Waters

The Corentyne River separates Guyana from neighbouring Suriname and is located in the 6th Administrative Region. The number of attacks on sea yearly is highest in the Region 6 area. Many of the assailants who rob and kill fishermen in Guyana's waters, flee to Suriname waters as a means of escape. There are arrests made by both authorities, however, tackling robbery at sea can only be addressed if a crime was reported. The agreed maritime boundary between the two States places Guyanese fishermen in Suriname waters when they leave the shore of Corentyne near the Suriname border. There are a number of unlicensed fishermen found along the shore of the river. From time to time, the Suriname authorities have arrested Guyanese fishermen for using unlicensed boats in the Corentyne River. In most cases, diplomatic intervention by Guyana would lead the release of the fishermen and their boats.⁴⁰

2.4.3. Impact of Robbery at Sea

Acts of violence at sea threatens the harmony of any security measure set out to protect all seafarers. In today's globalized and independent world, the implications of illegal acts at sea are far reaching and extended to all countries, whether coastal or landlocked.⁴¹ The maritime domain provides numerous economic opportunities for Guyana, from being able to trade internationally, oil, port facilities and fishing. Ensuring security is at sea is a heavy investment States take to ensure investments are protected. Any threat to this maritime security can result in financial losses from potential investors. The outbreak of piracy and armed robbery attacks off the coast of Somalia and its consequences leading to massive financial losses for the shipping industry and the insurance companies.⁴² Artisanal fishermen invest millions of dollars into their

⁴⁰ Many Guyanese fishermen from the Region 5 and 6 area who fish legally have dual licences which allows them to fish in both Guyana and Suriname. With lively hoods at stake however, other individuals risk breaking the law to make ends meet. Available at: http://www.guyanaca.com/suriname/guysuri_boundary.html

⁴¹ United Nations Conference on Trade Development, "An overview of trends, cost and trade-related implications", pg. 13.

⁴² Jean E Randrianatenaina, "Maritime piracy and armed robbery against ships: Exploring the legal and the operational solution, The case of Madagascar". Piracy in Somalia began due to illegal fishing practices by foreign

operations, and with each incident at sea, the losses leave the victims scarred. Victims of crime often suffer physiologically, financially, spiritually, emotionally and physically. Post-Traumatic Stress Disorder (PTSD) makes it difficult for individuals to return back to the world of fishing. This creates additional discomfort for some, as fishing is the only trade they know. Crime is more “expensive” for poor people in poor countries, and disadvantaged households may struggle to cope with the shock of victimization.⁴³

2.4.4. Motives

The importance of oceans and seas for trade-led economic prosperity has increased in tandem with growth in the world economy, global merchandise trade and maritime transport activity. The opportunity for crime explains a large part of the motives of criminals at sea in Guyana’s waters, while poverty and an unregulated fishery aids in its growth. Criminal activity on land is extremely high, as many young males seek to gain wealth the fast way. Living in poor households’ places pressure on all members of the family to provide in order to live. Crime in the simplest of forms is often a byproduct of deplorable economic conditions, as individuals move into a life of crime to make ends meet. However, the aim of pirates is not always for financial prospects, but can be committed for revulsion or revenge reason.

3.1. LEGAL FRAMEWORK PIRACY, ARMED ROBBERY AGAINST SHIPS AND SAFETY AT SEA AND FISHERIES MANAGEMENT (INTERNATIONAL)

fishing vessels forcing local fishermen to defend their own fishing trips since there were no serviceable Coast Guards at the time. Their first pirate gang came about in the 90’s to protect against foreign trawlers.

⁴³ Thematic Debate of the 66th session of the United Nations General Assembly on Drugs and Crime as a threat to Development, 26 June 2012 – New York.

3.1.1. United Nations Convention on the Laws of the Sea (UNCLOS)

The United Nations Convention on the Law of the Sea (UNCLOS), also referred to as the Law of the Sea Convention (LOSC) or UNCLOS III constitutes the legal framework for which all aspects of ocean affairs “must” be carried out. One of the most important aspects of UNCLOS is outlining the maritime zones and the rights and responsibilities afforded to coastal States as balanced by rights and duties of the international community. The law of the sea is a body of customs, treaties and international agreements which already existed to maintain peaceful relations, productivity and order at sea. Four treaties were signed on the subject in Geneva during UNCLOS I (February 24 – April 29, 1958):

1. Convention on the Territorial Sea and Contiguous Zone, entry into force: 10 September 1964;
2. Convention on the Continental Shelf, entry into force: 10 June 1964;
3. Convention on the High Seas, entry into force: 30 September 1962; and,
4. Convention on Fishing and Conservation of Living Resources of the High Seas, entry into force: 20 March 1966.⁴⁴

This was a major step for international law, however the maximum breadth of the territorial sea was not established.

UNCLOS II (March 17 – April 26, 1960) tackled issues which caused the disagreements in UNCLOS I and were left unresolved, however, the conference was simply a forum for further negotiations. After the negotiations of UNCLOS I and UNCLOS II failed, a third conference was held. The first session of the third conference was held and negotiations were divided into three main components in 1973:

- 1) the legal regime of the seabed

⁴⁴ Abbas D. Djama, “The phenomenon of piracy off the coast of Somalia: Challenges and solutions of the international community”, pg 11.

- 2) the legal regime of the preservation of the marine environment
- 3) scientific research

After ten years of negotiations, in 1982, the convention became open for signatories and came into force on November 16, 1994, one year after Guyana became the 60th State to sign the agreement. The convention sets out to address piracy in Articles 100 to 107. All acts of piracy occur on the within international waters and thus customary international law applies. UNCLOS provides counterpiracy measures which are left to the discretion of the States. Article 105 recommends that states should decide which penalties to impose on those convicted of piracy and what action is to be taken with respect to any property seize.⁴⁵ If a pirate vessel is apprehended outside a States jurisdiction, UNCLOS states that international law is applicable when carrying out the process. One of the criteria for piracy is the two ships/aircraft rule, understandably there must be a pirate ship and a victim. However, acts committed by the crew or passengers on board are not boarded a ship against the ship itself, or against persons or property on the ship is excluded from what can be termed as piracy.

3.1.2. Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation (SAU)

In addition to UNCLOS, the international community employs the Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation (SUA) which came into force on March 1, 1988. The main purpose of the Convention is to ensure that appropriate action

⁴⁵ Afyare A. Elmi *et al*, "Piracy in the Horn of Africa Waters: Definitions, History, and Modern Cases.

is taken against persons committing unlawful acts against ships. The SAU differs from UNCLOS by not directly mentioning piracy, however its provision sets out an offender whose unlawful and intentional acts leads to “seizing or exercising control over a ship by force or threat and that performs an act of violence against a person on board a ship.”⁴⁶ A ship is defined as a vessel of any type whatsoever not permanently attached to the sea-bed, including dynamically supported craft, submersibles, or any other floating craft.⁴⁷ This definition provides coverage for all vessel types, without any prejudice to vessel size. The SAU is also not limited to the maritime zones, except a States internal waters, as Article 4 addresses all illegal acts which occur in within or through the territorial sea.

This agreement has a wider coverage than UNCLOS, by removing the loopholes pirates/robbers used by entering the territorial sea of another state, know that the coast guards in pursuit cannot enter. The SUA Convention provides that all States shall take measures to prevent illegal acts in or outside its territory, exchange information with the aim of preventing illegal acts and finally when an illegal act is committed in the territory of a Member State, and take all steps to ensure that cargo, passengers or crew is not unduly detained or delayed.⁴⁸ In a robbery at sea situation, lack of any form of communications makes it difficult for the State to protect the crew, its catch and property.

On October 10 – 14, during the Diplomatic Conference, States moved to revise the 1988 SUA Convention. This birthed “The 2005 Protocol” of the Convention which provides grounds for extending the provisions of the SUA Convention by introducing measures which all to fight against an act which hampers safety, security, and navigation. The new Article 3bis, states that a person commits an offense within the meaning of the Convention if that person unlawfully and intentionally to “use of a vessel in a manner that causes death or serious bodily injury or property

⁴⁶ SUA Convention, Art. 3.1.a

⁴⁷ SUA Convention, Art. 1.a

⁴⁸ SUA Convention, Art. 13

damage or threat to commit an offense”.⁴⁹ The risk of fishing as an artisanal fisherman in certain areas of Guyana’s waters is high. Threats to their life and income are part and parcel of the reality. Article 3bis regards these threats to be with or without a condition and should be provided for under national law. Intimidation by these criminals of the sea continues to work on the fishing community. Any person who commits an act which, by its nature and context, is to “intimidate a population or compel a Government or an international organization to do or abstain from doing any act” commits an offense under the SUA Convention.⁵⁰

3.1.3. International Response to Fisheries Conservation through the 1995 United Nations Fish Stocks Agreement

The sixth session of United Nations Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks, adopted the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea on August 4, 1995, relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (UN-FSA). The UN Fish Stocks Agreement objective is to ensure the long-term conservation and sustainable use of straddling fish stocks and highly migratory fish stocks through effective implementation of the provisions of UNCLOS.⁵¹ States are obligated to carry out the following:

- application of the precautionary approach;
- consideration of the interests of artisanal and subsistence fishermen;
- strengthening of regional fisheries organizations and arrangements, including regional cooperation in enforcement;
- assessment of the impacts of fishing, other human activities and environmental factors on target stocks and ecologically related species or dependent or associated stocks;

⁴⁹ SUA Convention, Art. 3bis (a) (iii)

⁵⁰ Ibid, Art.3bis (a)

⁵¹ UN Fish Stocks Agreement, Article 2

- implementation and enforcement of conservation and management measures through effective monitoring, control and surveillance, and through flag State duties and port State jurisdiction;⁵²
- adoption of conservation and management measures for ecologically related species or dependent or associated stocks, with a view to maintaining populations of such species at a level above that at which their reproduction may become seriously threatened;
- minimizing pollution, waste, discards, catch by lost or abandoned gear, catch of non-target species and impacts on associated or dependent species through the use of selective, environmentally safe and cost-effective fishing gear and techniques;
- protection of biodiversity in the marine environment;
- adoption of measures to prevent or eliminate overfishing and excess fishing capacity and to ensure that fishing efforts are commensurate with the sustainable use of resources;
- collection and exchange of data concerning all aspects of fishing activities as set out in Annex I of the UN Fish Stocks Agreement;
- Promotion of scientific research and development of appropriate technologies for fishery conservation and management; and
- adoption of compatible measures for the conservation and management of straddling and highly migratory fish stocks within and beyond areas under national jurisdiction.

⁵² *The highlighted obligations are key areas where Guyana's Fishery Management needs to improve on, which may yield better results in assisting with combating robbery at sea against fishermen.

3.2. REGIONAL FRAMEWORKS TO COMBAT ILLEGAL ACTIVITIES

3.2.1. The Djibouti Code of Conduct for the repression of piracy and armed robbery against ships and illicit maritime activity in the Western Indian Ocean and the Gulf of Aden

The Code of Conduct for the repression of piracy and armed robbery against ships and illicit maritime activity in the Western Indian Ocean and the Gulf of Aden, also referred to as the Djibouti Code of Conduct, was adopted and came into force on 29 January 2009 by the representatives of 20 State from the 21 eligible to sign. The code also considers the implementation of relevant aspects of UN Security Council resolutions 1814 (2008), 1816 (2008), 1838 (2008), 1844 (2008), 1846 (2008), 1851 (2008) and of UN General Assembly resolution 63/111, which fall within the mandate of IMO. By signing to the Code, signatories agreed to cooperate to:

1. Investigation, arrest, and prosecution of suspected pirates and armed robbers at sea, including inciter or facilitator of such acts;
2. interdiction of suspect ships and seizure of property on board such ships;
3. rescue of ships, persons and property subject to piracy and armed robbery at sea and facilitation of proper care, treatment and repatriation of seafarers, fishermen, other shipboard personnel and passengers victims of such acts;
4. conduct of shared operations both among States parties and with navies from countries outside the region such as the embarkation of law enforcement officials or ship riders;
5. information sharing through a number of centers and national focal points;
6. revision of national legislation related to maritime piracy and armed robbery against ships to allow adequate criminalization, the exercise of jurisdiction, investigations, and prosecution; request for assistance from States, regional and international organizations to support the implementation of the Djibouti Code of Conduct and recommendation for the establishment a regional training center in Djibouti.⁵³

⁵³ Jean E Randrianatenaina, "Maritime piracy and armed robbery against ships: Exploring the legal and the operational solution, The case of Madagascar".

4. The third resolution describes the enhancement of a joint training of maritime security forces in the so-called Djibouti Regional Training Center (DRTC). The training center is tasked to deliver courses and workshops to provide forces with anti-piracy techniques and procedure”.
5. The fourth resolution expresses appreciation to Djibouti for holding the code meeting.⁵⁴

The Djibouti Code of Conduct is recognized as an essential instrument for the promotion of onshore regional capacity building in the fight against maritime piracy and armed robbery in the region.⁵⁵ Capacity as a whole poses as a problem for many third world States which has resulted in management difficulties. Its counter-piracy infrastructure can assist in improving the communication between states, enhance the capabilities of states in the region to deter arrest and prosecute pirates/robbers, improve states’ maritime situational awareness; and enhance the capabilities of local coast guards.

⁵⁴ Bueger, C. & Saran, M.S., Finding a Regional Solution to Piracy: Is the Djibouti Process the Answer ?, Piracy Studies, Academic Research on Maritime Piracy,

⁵⁵ Report of the UN Secretary-General pursuant to United Nations Security Council Res. 1846(2008), 13 November, 2009/590.

3.2.2. Agreement concerning cooperation in suppressing illicit maritime and air trafficking in narcotic drugs and psychotropic substances in the Caribbean area.

The production and trafficking of popular illicit drugs such as cocaine and marijuana, generate a multi-billion-dollar black market in which Latin American criminal and terrorist organizations thrive. These groups challenge state authority in source and transit countries where governments are often fragile and easily corrupted. This has proved a challenging issue for many Caribbean States. In order to combat this States agreed to increase their cooperation to the fullest extent in the suppression of illicit traffic in narcotic drugs and psychotropic substances by the sea in accordance with international law of the sea, respecting freedom of navigation and overflight.⁵⁶ This yielded the bilateral agreement to suppress the above-mentioned acts. The 2003 agreement concerning cooperation in suppressing illicit maritime and air trafficking in narcotic drugs and psychotropic substances in the Caribbean area, is intended to enhance the effectiveness of Article 17 of the 1988 UN Convention⁵⁷ and is directed to the national competent authority. “On the 18 September 2008, and emerged from the practical experiences of the States and territories of the region, including the development of an extensive network of bilateral agreements to counter drug trafficking. In 2008 the Caribbean Community (CARICOM) Member States decided to introduce an all-encompassing maritime security agreement. The 2008 CARICOM Agreement differs from the 2003 Caribbean Agreement both in its *ratione materiae* and *ratione personae* scope. This agreement aims at addressing a series of threats to maritime security, including drug trafficking, and it is not restricted to the latter activity. However, it is only applicable to the Member States of the CARICOM and not to third States.”⁵⁸

⁵⁶ 2003 Agreement concerning co-operation in suppressing illicit maritime and air trafficking in narcotic drugs and psychotropic substances in the Caribbean area, para, 1.

⁵⁷ Gilmore William, “An explanatory report on the 2003 Caribbean Regional Agreement. Includes the text of the Agreement and of Art. 17 of the 1988 UN Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances”, pg 8

⁵⁸ United Nations Office of Drugs and Crime, “Combating Transnational Organized Crime Committed at Sea”, pg 30

UNCLOS Article 17 addresses a State's *right of hot pursuit*, where "such pursuit must be commenced when the foreign ship or one of its boats is within the internal waters, the archipelagic waters, the territorial sea or the contiguous zone of the pursuing State, and may only be continued outside the territorial sea or the contiguous zone if the pursuit has not been interrupted".⁵⁹ With this in mind, combating various criminal acts at sea proves challenging as it is a breach of international law to enter the territorial sea of another State. By granting authorization in support of law enforcement operations of the other Parties. The entry into its waters and air space of law enforcement vessels and aircraft and aircraft⁶⁰ ensures that the hot pursuit does not end in Caribbean waters once a vessel is suspected to be holding illicit drugs on board.

⁵⁹ UNCLOS Art. 17 (1)

⁶⁰ 2003 Agreement concerning co-operation in suppressing illicit maritime and air trafficking in narcotic drugs and psychotropic substances in the Caribbean area", Art. 7 (1)(d)

3.3. GUYANA’S LEGAL STRUCTURE

Guyana’s legal structure is based on English common law with a certain admixture of Dutch-Roman law. It has a republic-style government with an executive president as Head of State. The newly revised 1980 Constitution provides for the fundamental rights and freedom of the individual irrespective of race, political opinion, colour, creed and sex. In early 2005, the legislative amendment was made to allow Guyana's accession to the Caribbean Court of Justice as its final Court of Appeal. There are four branches of the legal structure:

- Legislative
- Executive
- Judiciary
- Local Government

In Guyana, legislative and policy arrangements relating to issues such as maritime securities, fisheries management or environmental protection are often advanced through the adoption of negotiated international legal instruments, regional agreements, treaties or bilateral agreements. The implementation of these agendas at the ground level, however, is an extremely challenging one. An inexperienced workforce and/or lack of manpower has resulted in many breaches of the law by citizens going unpunished. Guyana also suffers from the effect of the world’s highest level of brain drain. Ninety percent of Guyana’s post-secondary graduates have migrated.⁶¹ This leads to a small number of qualified persons wearing many hats and serving on different boards and positions at the same time.

⁶¹ Organization for Economic Cooperation and Development and United Nations Department of Economic and Social Affairs. (2013). World migration in figures. October 2013.

3.3.1. National Legislation for armed robbery at sea and fishery management

3.3.1.1. Hijacking and Piracy Act 2008

Armed robbery is defined in this act as, *an act of robbery, not amounting to piracy, committed with any unlawful act of violence or detention or any act depredation using firearms or other dangerous weapons or offensive weapons and directed against a vessel or against any person or property on board a vessel within the rivers, internal waters or territorial waters of Guyana.*⁶² Before 2008, this definition did not exist in the first draft of the act. All acts out on sea were considered acts of piracy⁶³. The term ‘vessel’ takes into account the plight of artisanal fishermen in Guyana, as a *vessel can be any steamship, ship, boat, or other floating craft whether used for fishing or not*. Any individual found guilty of committing armed robbery or piracy, are sentenced to life imprisonment, fined and or sentenced to death if murder is involved. Guyana’s law usually states (without providing for alternatives) that an individual convicted of a capital offense “shall be liable to suffer death as a felon.” In 1970, Guyana “severed its ties” with the Judicial Committee of the Privy Council (JCPC).⁶⁴ It is therefore not subject to the significant JCPC decisions that abolished the mandatory death penalty (which were handed down after 1970). Guyana’s highest court of appeal, the Caribbean Court of Justice, has implied a position that the mandatory death penalty is incompatible with human rights protections. However, Article 152 of Guyana’s Constitution (a savings clause) may prevent a rights-based challenge to the mandatory death penalty. The fine however differs for both offenses, individual fines range from GUY\$200,000 to GUY\$1,000,000 for act of piracy and GUY\$1,000,000 for armed robbery. The number of actually incident as sea are much higher, due to many of the victims’ being unregistered, these incidents are not reported.

⁶² Hijacking and Piracy Act 2008, para 2, sub para (1) pg. 3

⁶³ The definition of piracy is identical definition of piracy in UNCLOS art 101

⁶⁴ Criminal Law (Procedure) Act of Guyana, sec. 164, Laws of Guyana ch. 10:01, Mar. 1998.

3.3.2. The Fisheries Act 2002

The Fisheries Act 2002 is Guyana's regulation *to provide for the promotion, management, and development of fisheries and for matters connected*.⁶⁵ The Act encompasses laws which address fisheries issues nationally and internationally. Importantly, managing a sustainable fishery is have some amount control on how the resource is exploited. The Chief Fisheries Officer, through the act is responsible for the sustainable management of the fishery and developing a management plan for the industry. Recently, in 2015, the Fisheries Advisory Committee⁶⁶ was reinstated to provide much needed technical support fishery management in Guyana. Guyana's artisanal fishery continues to display a large number of unregulated vessels who continuously exploit the resources without consequences. The Fisheries Act 2002 states, "*every owner of a local fishing vessel which is used or intended to be used for fishing in the fisheries waters, shall, before such vessel is put to sea, be the holder of a valid certificate of registration in respect of such fishing vessel.*"⁶⁷ It is difficult to combat the large number of unregistered and unlicensed vessels due to limited number of personnel on in the Fisheries Department. Fishermen take advantage of this law since the landing sites are not monitored regularly. However, the Part IV of the Act states, *no fishing vessel shall be used for fishing or related activities in the waters of Guyana without a valid licence issued in respect of the vessel*. These licences last a calendar year irrespective of the time it was issued within that year. The Fisheries Department, however, allows a grace period of two (2) months for vessel owners to renew their licences. The staggering number of unlicensed vessels possess a cause for concern. The act provides the means to address the issue in the following two (2) ways, by allowing:

⁶⁵ Fisheries Act 2002, pg 6

⁶⁶ Fisheries Act 2002, Part 1, para 6 (1): The Minister may appoint a Fisheries Advisory Committee to advise on the management and development of fisheries, with the objective of ensuring the optimum utilization of the fisheries resources of the fisheries waters of Guyana for the benefit of the people of Guyana.

⁶⁷ Fisheries Act 2002, Part III, para, 9 (1)

- enforcement measures to be taken (seize any vessel (together with its fishing gear, furniture, monitoring devices, navigational aids, appurtenances, stores and cargo) used or employed in, or with respect to which it reasonably appears was used or employed in the violation of any provision of this Part or any regulation),⁶⁸ and
- application of fees (a fee not in excess of GUY\$50,000 is applied to any vessel without registration),

⁶⁸ Fisheries Act, Part XIII, para. 48, sub para. 2(d)

3.4. MARINE FISHERIES MANAGEMENT IN GUYANA

The need for fisheries management stems from the fact that fishery resources are common property. Fisheries management is characterized by multiple and conflicting objectives, multiple stakeholders with divergent interest and high levels of uncertainty in the resource being managed.⁶⁹ Any fishery whether managed or unmanaged has some form of a social institutional framework that constitutes a fisheries management regime. This is considered to be a set of rules and regulations that control the fishing activities.⁷⁰ The Ministry of Agriculture Fisheries Department is responsible for managing, regulating and promoting the sustainable development of the Guyana's fishery resource for the benefit of the participants in the sector and the national economy. The administration provides relevant support services which are necessary for the development and maintenance of the fisheries programmes and activities. The Fisheries Department is divided into two marine management sections, (1) Statistical Unit, and (2) Legal and Inspectorate Unit. Additional support for managing the resources are carried out by regional offices.

3.4.1. Statistical Unit

Tasked with the collection and analysis of data as well as surveys to provide scientific and social-economic information for policy determination, planning and resource management. the key responsibilities include:

- market survey activity,
- management of data entry and storage,
- production and management of individual export licences forms.

⁶⁹ Millicent A, Moukua *et al*, "The cost-benefit analysis of fisheries management systems in Kenya: The Case of Victoria"

⁷⁰ Dawn M.Maison, "Management of inshore artisanal fisheries in Guyana: a co-management approach"

3.4.2. Legal and Inspectorate Unit (L&IU)

This unit ensures the observance of all legal and administrative requirements by all entities in the fishery sub-sector and recommended appropriate changes to existing regulations which govern the Sector. The Fisheries Act 2002, is supported by a number of regulations which explicit. All aspects of monitoring control and surveillance (MCS) and enforcing the regulations are the responsibility of the L&IU. The key responsibilities include:

- Registration and Licencing of fishing vessels,
- License and inspect fish processing plant,
- Conduct enforcement and surveillance activities of fishing vessels,
- Monitor the industrial fleet/artisanal compliance with licence conditions,
- Monitor and conciliate complaints and disputes at the centre and the regions,
- Issue export licences for fish and fish products,
- Ensure the collection of revenue under the Fisheries Act 2002 and Maritime Act of 1977, etc.

Licencing and registration of artisanal fishing vessels is a challenging and complex issue for the L&IU. As mentioned in previous chapters, only 35% of 1234 counted vessels have been licenced. The actual number of vessels licenced before 2008 was much lower, with the strategy of visiting the locations where the vessels dock had resulted in an increase to 35%. However, lack of follow-up activities to or strict penalties against a number of unlicensed vessels has made it a free for all industry. Importantly, the enforcement arm of fisheries management in Guyana is not limited to the staff members of the Department. The Fisheries Act 2002, Part 2, para. 4 (2) appoints members of the Guyana Police Force and Guyana Defense Force as a Fisheries Officer of the state. This provides a larger enforcement arm of fisheries management. However, due to poor communication and lack of various resources, such as vessels, enforcing continues to be a challenge. With the loss of lives on sea becoming more and more prevalent and crime steadily increasing, it is necessary for all enforcement agencies to be more inclusive when dealing with

the protection of our fishermen. For instance, the establishment of a community-based list of all active and dormant fishermen can assist investigative matters. This would require changes in the current registration process for the Fisheries Department.

3.4.3. Is the government aware who fishes in its water?

Many fishermen from as ages 10 - 35 come from a life of poverty and their education was limited to only primary school. With limited skills, they are provided with temporary or permanent jobs by captains or owners of many artisanal fishing vessels. Many of these individual lack identification as they are not either ignorant of their name or has chosen an alias. This makes issuing a Jackman (all workers of a fishing vessel except the captain) licence a major issue. Vessel owners are known to purchase the maximum number of Jackman licences their vessel is allowed, however, the names issued only work for a short period of time. The Minister of Public Security, Hon. Kemraj Ramjattan during a public forum meeting on June 2, 2016, with the members of the #66 Fisherman's Co-operative Society, stated that "We have to start a more stringent registration process of all these boats and knowing very carefully who is behind all of these boats." Various ports lack any form of skilled security professionals, usually a security personnel is/are a member(s) of the community whose sole objective is to watch the vessels. Port and port facility should face legal liabilities for negligently providing or failing to provide mandatory or adequate security are likewise a serious possibility. Stricter penalties on these facilities must be put in place, as the opportunities for applying a negligent security cause of action in the maritime arena are boundless.

3.4.4. Role of Cooperatives Society

A major player of fisheries management is the fishermen themselves. Fishermen villages along the coast or along rivers or fishermen districts in big coastal towns and cities, are normally established around small wharfs or landing facilities. Since the first half of the 20th century, most of these communities are organized in associations or cooperatives.⁷¹ Greater participation of cooperatives societies (co-ops) and NGOs may be sought in implementation of welfare schemes for fishermen, thereby reducing the direct role of Central and State Governments in the process.⁷² Co-operatives, of which there are six functioning in Guyana provide the artisanal community with cheap supply, market availability, increased purchasing power and transportation. The overall impact of robberies at sea has caused fisheries management to become an increasingly difficult task. Pressure continues to rise on law enforcement to find solutions, however working alone has not yielded many positive results. Enforcement and MCS activities are extremely costly and can be as high as 20% of the value of the fisheries alone. The added task of dealing with these crimes at sea can cause a strain on the budget.

The concept of a co-management approach to through co-ops was researched by a former Principal Fisheries Officer.⁷³ Findings from the research show that the co-op fisheries management system keeps management costs down and the co-ops can assist in the implementation of monitoring, enforcement and surveillance activities, which then reduces the burden of the government through power sharing and appears to be viable for artisanal fisheries. The #66 Co-op in the Berbice area has in the past provided assistance to victims of robbery at sea by carrying out sweeps for missing persons, but the lack of technical application has diminished their capabilities and results. Capacity building should not be restricted to government officials only, programs must be devised to have members of these cooperatives trained in countermeasures against attacks at sea. However, building the capacity of community-based

⁷¹ Food and Agriculture Organization, "Present and Future Markets for fish products from small scale fisheries in Latin America," pg 5

⁷² Ansy Matthew, "Marine Fisheries conservation and management in India," pg 73.

⁷³ Dawn M.Maison, "Management of inshore artisanal fisheries in Guyana: a co-management approach."

organizations and the nonprofit sector is not a simple task. There is no magic formula that guarantees success, and little agreement exists on where to begin or what to do.⁷⁴

3.4.5. Resource Implications

Human, financial and material resources are central to the functioning of national regimes as institutions and systems must be run and managed by people and capital, equipment and facilities are needed to carry out the objectives. It is important for technical, administrative and law enforcement agencies to have access to the most basic of needs out at sea to effectively carry out their duties. Access must be given to various patrol ships, protective gear and essential equipment, teaching and educational equipment for continuous training and drilling of employees in key institutions, computer databases for the practical storage and easy dissemination of data and information, and state of the art communications systems at sea and on land. This requires a large number of highly skilled human resource to monitor various overlapping issues which are complex.

Brain drain has made this a complex task in Guyana. Since the 70s, the loss of quality human resource to other countries has stagnated the development of the State. Workers take decades of accumulated organizational knowledge with them, and this “brain drain” could result in the loss of key information about practices that could be devastating to organizations.⁷⁵ Implementing various international, regional and bilateral laws, treaties and initiative is a relatively slow process in Guyana. Burdened with limitations relating to capacity and an insufficient resource base, implementation is a matter of technical and financial assistance in capacity building and mitigating resource shortages. The development of Guyana is often hampered by increasing

⁷⁴ Carol J. De Vita et al, “Building capacity in nonprofit organizations,”pg 6

⁷⁵ It is a common for many government agencies to have a staff member who is responsible for three times more than they are required. With the loss of relevant information, the restart button is pressed and major setbacks are as a result.

levels of crime and corruption by government officials. Political will plays a vital role in implementing various initiatives.

3.4.6. Government response to robbery at sea

The overwhelming effects of robbery at sea on artisanal community resulted in various government interventions. In 2015, the Anti-Piracy Task Force (APTF) was created to devise countermeasures against acts of piracy and armed robbery at sea against ships. The APTF comprises of various government agencies, such as the Guyana Defence Force – Coast Guard, Police Force, Customs Anti-Narcotics Unit (CANU), Fisheries Department, Maritime Administration (MARAD), Guyana Energy Agency (GEA), Shipping Association of Guyana and Ministry of Presidency. The cooperation between these agencies has thus far yielded the sharing of information on all recorded acts of piracy and armed robbery at sea against ships and the coordination of various aerial and ocean reconnaissance initiatives. Through the Ministry of Home Affairs, a “Draft Strategy for The Conduct of Effective Anti-Piracy Patrols In The Sea-Space And Rivers Of The Republic Of Guyana was established in 2008 (**Annex 1**).

Guyana and Suriname are both affected by the criminal activities on the sea, as a result the National Assembly of both States meet in Suriname in October 2015 start discussions on how to combat the scourge of piracy. States agreed to:

- Collaborate between law enforcement agencies of both countries with emphasis on patrolling targeted areas;
- Engaging in dialogue at the national level;
- Creation of jobs and opportunities; and
- The continuous exchange of information between both countries regarding this problem.

It was also agreed that a draft plan should be finalized which will see both Assemblies entering into continuous consultations to address the various issues and challenges faced, and the Guyana delegation will submit the document to the appropriate Committee of the National Assembly for examination and amendment. To the writers knowledge, no update was given on the outcome of the document. Additionally, the Minister of Public Security proposed arming fishermen with guns so that they will be able to defend themselves at sea. The system would see fishermen using a firearm issued by the Police Department for the duration the trip and returned at the end of the trip.

Part 2

Plan of Action

4.1. MARITIME SAFETY AND SECURITY

The safety and security of all seafarers are of paramount importance to the government of Guyana. The concept of ‘marine safety’ addresses the safety of ships and maritime installations with the primary purpose of protecting maritime professionals and the marine environment. Maritime security is however also linked to economic development. Throughout history, the oceans were always of vital economic importance. The concepts of ‘blue economy’ and ‘blue growth’– proposed at the 2012 Rio+20 world summit ². It widely endorses maritime security since sustainable management strategies not only require the enforcement and monitoring of laws and regulations, but a secure maritime environment provides the precondition for managing marine resources.⁷⁶ These security threats pose additional economic and social ramifications for States all over the world, thus requiring an immediate action to combat them.

Globally, the major sea security problems include terrorism, IUU fishing, trafficking in narcotics, arms and piracy and armed robbery at sea against ships. Having IUU fishing and armed robbery at sea overlap means that a plan of action must be devised to eradicate these security issues in Guyana. A large number of unlicensed and unregistered artisanal fishing vessels provides a nourishing environment for pirates/robbers to take advantage of the situation. The International Maritime Organization (IMO) is the international authority which provides support, assistance, and guidance to Member Governments on matters relating to maritime securities. The mission of IMO, as a United Nations specialized agency, is to promote safe, secure, environmentally sound, efficient and sustainable shipping through cooperation. This will be accomplished by adopting the highest practicable standards of maritime safety and security, the efficiency of navigation and prevention and control of pollution from ships, as well as through consideration of the related legal matters and effective implementation of IMO instruments, with a view to their universal and uniform application.⁷⁷

⁷⁶ Christian Bueger, “What is Maritime Security?” pg. 4

⁷⁷ Res. A29/Res. 1097, Annex, para. 1.1

The first mention of “security” in any treaty, convention, or resolution appears in the Convention on Facilitation of International Maritime Traffic, 1965 (the FAL Convention).⁷⁸ After the occurrence of the *Achille Lauro* hijacking in 1985 and over 20 years of silence from the IMO, the IMO Assembly adopted Resolution A.584(14), titled Measures to Prevent Unlawful Acts which Threaten the Safety of Ships and the Security of their Passengers and Crews. This resolution authorized the Maritime Safety Committee (MSC) to request the Secretary-General to “issue a circular containing information on the measures developed by the Committee to Governments, organizations concerned, and interested parties for their consideration and adoption.”⁷⁹

In the Caribbean, a project for Maritime Border Control was devised. Its objectives were to generate information from a Maritime Border Control perspective on the current firearms situation in Caribbean States; promote standardization of law enforcement training throughout the Caribbean, and strengthen the national capacities and expertise of Caribbean States to tackle micro and macro challenges in dealing with increased armed violence and crime.⁸⁰ Border control (checks and surveillance) including risk analysis and crime intelligence,⁸¹ detecting and investigating “cross-border crime” in cooperation with all the relevant law enforcement authorities and inter-agency cooperation in border management including border guards, customs and police, national security and other relevant authorities. Bilateral management of the Corentyne River provides Guyana and Suriname with a strategic baseline for ensuring that robbery at sea in that area is reduced.

⁷⁸ Kenneth G. Hawken, “The development of international maritime security policies and their legal implications,” pg. 2. <https://www.jurispro.com/files/articles/Hawkes-implications.pdf>

⁷⁹ Idib, pg 3

⁸⁰ Aleeza Mosely, “The implementation of international maritime security instruments in CARICOM states,” pg 94

⁸¹The definition of “border control” is provided by the Art. 2.9. of the Schengen Borders Code which provides the Border control’ means the activity carried out at a border, in accordance with and for the purposes of this Regulation, in response exclusively to an intention to cross or the act of crossing that border, regardless of any other consideration, consisting of border checks and border surveillance”.

4.1.1. CARICOM's role in Maritime Security

CARICOM is the oldest surviving integration movement in the developing world. The Caribbean Community (CARICOM) was established by the Treaty of Chaguaramas in Chaguaramas, Trinidad on July 4, 1973. The Treaty established the Community whereas the Annex to the Treaty created and governed the CARICOM Common Market. CARICOM rests on four main pillars: economic integration, foreign policy coordination, human and social development, and security. These pillars underpin the stated objectives of our community -

- to improve standards of living and work;
- the full employment of labor and other factors of production;
- accelerated, coordinated and sustained economic development and convergence;
- expansion of trade and economic relations with Third States;
- enhanced levels of international competitiveness;
- organization for increased production and productivity;
- achievement of a greater measure of economic leverage;
- the effectiveness of Member States in dealing with Third States, groups of States and entities of any description; and
- the enhanced coordination of Member States' foreign and foreign economic policies and enhanced functional cooperation.⁸²

During its inception, CARICOM was established as a Regional Trade Agreement. The issue of security, which is the fourth pillar of CARICOM, was not the focus of agreement. Aleeza Mosely's thesis on *the implementation of international maritime security instruments in CARICOM states* highlighted the Revised Treaty of Chaguaramas does not "specifically address

⁸² CARICOM web page, <http://caricom.org/about-caricom/who-we-are>

security and security related issues in general.” Article 225 states that nothing in the Revised Treaty prevents the making of national laws or policies in the interest of national security or pursuant to national obligations in relation to international peace and security.⁸³ The need for security measures in the Caribbean continues to grow as States join together to combat organized crime and the trafficking of illegal drugs. During the twenty-fourth Inter-sessional meeting of the Conference of Heads of Government of CARICOM on February 18-19, 2013, in Port-au-Prince, Haiti, highlighted that, “*the ideals of the CARICOM integration movement and the pillars of its foundation can only be realized in a safe and secure Community.*”⁸⁴ It was here that the CARICOM Crime and Security Strategy (CCSS) was agreed on.

The Implementation Agency for Crime and Security (IPACS) is the authority mandated with addressing security in the Caribbean. The strategy clearly articulated the security interests within the wider context of the shifting balance of global geopolitical power, increasing market competitiveness, public debt financing and profound economic uncertainties, threats of climate change and scarcity of key resources. There are 14 Strategic Goals of the CCSS, the enhancement of the maritime and airspace awareness is the sixth goal of the Strategy. Maritime security in the Caribbean is a necessary step to dealing with transnational organized crime and illicit trafficking. Increased security depends on enhanced coordination and collaboration to ensure effective maritime and airspace security awareness and border management.⁸⁵

⁸³ Revised Treaty of Chaguaramas, Article 225:

Nothing in this Treaty shall be construed: (a) as requiring any Member State to furnish information, the disclosure of which it considers contrary to its essential security interests; (b) as preventing any Member State from taking any action which it considers necessary for the protection of its essential security interests: (i) relating to the supply of services carried out directly or indirectly for the purpose of provisioning a military establishment; (ii) in time of war or other emergency in international relations; or (c) as preventing any Member State from taking any action in pursuance of its obligations for the maintenance of international peace and security.

⁸⁴ Implementation Agency for Crime and Security, “CARICOM crime and security strategy,” pg 5

⁸⁵ Ibid, pg 18

4.1.2. Sixth Strategic Goal of the CCSS: Enhance Maritime and Airspace Awareness, Strengthen CARICOM Borders including Contiguous Land Borders

“The challenges the Region face with respect to illicit trafficking and transnational organized crimes are partly contingent on the significant resources required to control and patrol our maritime and airspace. Improved maritime and airspace awareness and a strong border are essential in protecting against transnational organized crime, terrorism, and illegal migration. It is vital that risks are flagged before they arrive, which requires risk management tools and advance passenger and cargo information in order to pre-screen passengers and cargo before they reach the Caribbean.

4.1.2.1. Strategic Lines of Action

- The Community will ensure that not only people entering the Region but all cargo entering the Region is subject to risk analysis for security and safety purposes based on common risk criteria and standards.;
- CARICOM will continue to implement standardize border security training;
- The development of a proposal of a CARICOM Border Surveillance System (CARIBSIS) will assist to improve situational awareness, reinforce Member States border management mechanism and increase the reaction capability of border control authorities. The objective of CARIBSIS would be to create a common monitoring and information-sharing environment for CARICOM maritime and airspace domain by integrating all existing national systems reporting and monitoring traffic and activities in sea areas under the jurisdiction of the Member States and in adjacent high seas;
- The establishment of a common CARICOM Border Code for all CARICOM border officials will also be pursued to standardize regional border protocols and procedures;

- The establishment and implementation of a CARICOM Maritime and Airspace Control Strategy should be pursued as a matter of urgency with particular attention placed on improving regional domain awareness.”⁸⁶

Action Plan	Performance Indicators	Responsible Party
Implement standardization of border security training	Standardized training curricula developed for Border Security training courses	IMPACS, Member States, Caribbean Centre for Development Administration
Develop a Proposal of a CARICOM Border Surveillance System (CARIBSIS)	CARICOM Border Surveillance System Proposal developed	IMPACS, Member State
Establish a common CARICOM Border Code for all CARICOM border officials	Common CARICOM Border Code for Border security officials developed and implemented	IMPACS, CARICOM, Secretariat Member States
Establish and implement a CARICOM Maritime and Airspace Control Strategy	CARICOM Maritime and Airspace Control Strategy	IMPACS, Regional Security

⁸⁶ Implementation Agency for Crime and Security, “CARICOM crime and security strategy.”

		System(RSS), Member States
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Table 4. Specific Action Plan of the Sixth Strategic Goal of the CCSS

Source: CARICOM crime and security strategy

4.1.3. Special Measures to Enhance Maritime Security in the International Convention for the Safety of Life at Sea (SOLAS)

The International Ship and Port Facility Security Code (ISPS Code) is a comprehensive set of measures to enhance the security of ships and port facilities. Through chapter XI-2 Special Measures to Enhance Maritime Security in the International Convention for the Safety of Life at Sea (SOLAS), 1974, the ISPS Code can be implemented. The ISPS Code entered into force a mere 18 months after its adoption by the SOLAS Conference in December 2002, by the Conference of Contracting Governments to the SOLAS Convention.⁸⁷ Regulation 3 addresses the obligation a contracting government with respect to security. With regards to paragraph 2 of the regulation, developing certain security thresholds at various landing sites in Guyana can yield desired results.⁸⁸ Administrations are required to set security levels and ensure the provision of security level information to ships entitled to fly their flag. However, such a system will require promoting technical cooperation and assistance.

⁸⁷ International Maritime Organization web page http://www.imo.org/OurWork/Security/Guide_to_Maritime_Security/Pages/SOLAS

⁸⁸ Chapter Xi-2 Special Measures to Enhance Maritime Security, reg. 3, para. 2 Contracting Governments shall set security levels and ensure the provision of security level information to port facilities within their territory, and to ships prior to entering a port or whilst in a port within their territory. When changes in security level occur, security level information shall be updated as the circumstance dictates.

4.2. MONITORING CONTROL AND SURVEILLANCE

Monitoring Control and Surveillance is the implementation of a strategy or plan to ensure compliance with fishery management measures. This is an important principle of sustainable management of any fishery sector. The basic objective of implementing MCS is to secure responsible and sustainable management of fisheries resources while allowing an ecologically safe and economically profitable exploitation of the resources. The 1981 FAO Expert Consultation defined MCS as:

- (i) monitoring - the continuous requirement for the measurement of fishing effort characteristics and resource yields;
- (ii) control - the regulatory conditions under which the exploitation of the resource may be conducted; and
- (iii) surveillance - the degree and types of observations required to maintain compliance with the regulatory controls imposed on fishing activities.⁸⁹

Carrying out MCS operations in Guyana's artisanal fishery is an extremely problematic issue which relates the usage of mix fishing gear, widely dispersed in an open access fishery and numerous unlicensed vessels. The Caribbean Regional Fisheries Mechanism (CRFM), is an inter-governmental organization with its mission being to promote and facilitate the responsible utilization of the region's fisheries and other aquatic resources for the economic and social benefits of the current and future population of the Caribbean.⁹⁰ The growing problems cause by IUU fishing in the Caribbean resulted in CRFM partnering with African, Caribbean, and Pacific (ACP) Fish II Programme held a regional validation workshop as part of an initiative to provide technical support to produce new prosecution and enforcement manuals. Fifteen Caribbean Forum (CARIFORUM) member States, participated in finalizing the documents. The successful

⁸⁹ Food and Agriculture Organization, "Fishery Monitoring Control and Surveillance"

⁹⁰ Caribbean Regional Fisheries Mechanism web page,
http://crfm.net/index.php?option=com_k2&view=item&layout=item&id=1&Itemid=114

implementation the manuals has many challenges as the lack of coordination and cooperation amongst stakeholders is not there. Resource limitation has dampened the effects of MCS activities in Guyana.

4.2.1. Effective Implementation

To meet the sustainable fisheries requirements of developed states, the coastal states of the CARICOM region are working with CRFM and are developing and implementing MCS strategies, strengthening domestic legislation to establish effective control over the fishing activities of nationals and also states are incorporating legislations against IUU fishing both domestic and foreign within their Fisheries Regulations. There are not enough resources to monitor all fishing activities adequately and to ensure compliance with fishing regulations. MCS includes enforcement, but must not be viewed solely as a police function, with enforcement as its only real focus. Many States are involving stakeholders in the development of acceptable, responsible and sustainable management planning and implementation. As mentioned earlier, an issue such as robbery at sea does not fall under the mandate of fisheries management, however being a part of the APTF means additional policies are to be developed. Intelligence operations is key to the development of a strategy, sharing this information provides an advantage for all agencies. Thus, more data must be gathered and shared by the various competent authorities. Implementing MCS relies on the enhancement of national capabilities, combined with cost effective and sustainable management practices.

4.2.2. Is there an affordable Vessel Monitoring Systems (VMS) available for developing countries?

Monitoring the activities of artisanal vessels is a challenging task. The use of Vessel Monitoring Systems (VMS), is implemented mainly in industrial vessels and is currently lenient to the artisanal industry. The current draft of the General Fisheries Regulations states with its Annex, that artisanal vessels have five (5) years to be equipped with a VMS transponder from the time the regulation enters into force (see **Annex 2**). Currently, the draft text is still under review, thus it gives the industry and government ample time to acquire a cost-effective system for monitoring these vessels. The current and only VMS applied to fisheries vessels are found on the industrial vessels. The Metafisheries platform was purchased and implemented into the industrial fisheries sector by the self-regulated GATOSP. Currently, the industrial fishery is on the verge of achieving Marine Stewardship Council Certification (MSCC) for the seabob (jumbo shrimp). This certification is a representation of sustainable fishing efforts by the industry, which yield higher revenue for its products. Importantly, the company provided the software and technical support free of charge to the government. However, the members of GATOSP are required to pay for this service. Successful implementation of VMS technologies is dependent on the availability of this technology at an affordable price. VMS transmitting units range in price from \$1,000 to \$5,800, with transmission costs of \$1.00 to \$5.00 per day. Transmission costs will likely increase with the length of the trip.⁹¹ The artisanal community, however, comprises of many poor fishermen and makes it a difficult task to have this system implemented. These systems carry monthly fees attached to them which will result in an additional expense. As it related to robbery at sea, VMS can aid in mapping areas where attacks are carried out. However, this does not stop or reduce robbery at sea.

4.2.3. Suomi National Polar-orbiting Partnership

⁹¹Pacific Fishery Management Council, “Vessel Monitoring Systems,” <http://www.pcouncil.org/wp-content/uploads/vms.pdf>

The National Polar-orbiting Partnership (NPP) is the first in a series of next-generation of polar orbiting environmental satellites, serving as risk reduction to the future Joint Polar Satellite System (JPSS) U.S. operational program. In January 2012, the NPP was christened *Suomi* NPP. S-NPP carries five earth-observing sensors:

- the Visible Infrared Imaging Radiometer Suite (VIIRS) - collects infrared and visible data to observe weather, climate, oceans, nightlife and wildfires.
- the Cross-track Infrared Sounder (CrIS) – monitors moisture and pressure.
- the Advanced Technology Microwave Sounder (ATMS) – creates global moisture and temperature models.
- the Ozone Mapping and Profiler Suite (OMPS) – measures ozone levels, especially near the poles.
- the Clouds and the Earth's Radiant Energy System (CERES) – Detects thermal radiation, including reflected solar radiation and thermal radiation emitted by earth.⁹²

S-NPP data are used in the National Oceanic and Atmospheric Administration's (NOAA) operational weather forecasts, and provide continuity to National Aeronautics and Space Administration's (NASA) research in climate change, Earth's energy budget, and the global cycling of water and carbon. VIIRS collects both visible and infrared imagery spanning from 0.4–12 μm , and combines key capabilities of several legacy instruments: Advanced Very High Resolution Radiometer (AVHRR), the Moderate-resolution Imaging Spectroradiometer (MODIS), and the Operational Linescan System (OLS). The most unique component of VIIRS is the Day/Night Band (DNB), which has the ability to collect visible/near-infrared (500–900 nm spectral response) imagery during both day and night.⁹³ With such sensitive detection levels, lights on artisanal vessels can also be detected. Through collaborations with NOAA, the

⁹² William C. Straka, III *et al*, "Utilization of the Suomi National Polar-Orbiting Partnership (NPP) Visible Infrared Imaging Radiometer Suite (VIIRS) Day/Night Band for Arctic Ship Tracking and Fisheries Management," pg 972

⁹³ Jacobson, E; Ibara, A.; Lucas, M.; Menzel, R.; Murphey, H.; Yin, F.; Yokoyama, K. Operation and characterization of the Day/Night Band (DNB) for the NPP Visible/Infrared Imager Radiometer Suite (VIIRS). In Proceedings of The 6th Annual Symposium on Future National Operational Environmental Satellite Systems-NPOESS and GOES-R, p. 349.

government of Guyana can develop a system to receive satellite images of its ocean. This can yield a vessel count which gives an idea as to how many vessels are in the ocean. Through training on the various frequency levels, determining the vessel type will allow for some form identification. Many artisanal vessels in Guyana however, do not utilize lights for fear of being found by pirates. Implementing this system requires a strong enforcement of a vessels sea worthiness inspections.

4.2.4. Mfisheries Platform

MFisheries is a mobile application designed by the Caribbean ICT Research Programme through the Technical Centre for Agricultural and Rural Cooperation (CTA) small scale fishermen in Trinidad & Tobago. ICT Integration in Small Scale Fisheries Vertical Value Chain is motivated by the pressing challenges faced by a sector which lies at the intersection of highly-vested, competing interests including subsistence livelihoods; enterprise commerce; extractive and other industries; the environment and marine resources; as well as a broad spectrum of criminal activity, both small and large scale.⁹⁴ The user-friendly application is developed with six features which assist local fishermen: navigation, weather, information, camera, alerts and S.O.S. The S.O.S functionality is connected to the local authorities, a distress signal is sent providing information such as a name, address, and location. The potential implementation of this platform in Guyana's artisanal fisheries will possibly help law enforcement respond to incidents at sea. Legislations should be drafted to have this platform or a similar system implemented as a licencing condition, just as it is recommended as a requirement for vessels to have a radio before they can have licence.⁹⁵

⁹⁴ Mfisheries webpage: <http://cirp.org.tt/mfisheries/index.php/about/mfisheries-at-sea>

⁹⁵ Ministry of Public Security, "Unedited Draft Strategy for the Conduct of Effective Anti-Piracy Patrols in sea, space, and rivers of the Republic of Guyana," pg. 6

Being an application made specifically for cellular devices, its range out at sea will be limited to a certain number of nautical miles off of the coast. This still provides a platform for trials to be carried out to determine the feasibility of implementing such as system.

4.2.5. Enforcement of Piracy and armed robbery at sea

Effective and fair enforcement is critical to ensuring sustainability, peace and prosperity of any State. In order for law enforcement to work effectively, navy and coastguard, police, judiciary and private industry must work together. The Guyana Police Force and the Coast Guard have different responsibilities as it pertains to enforcement activities in Guyana's. However, their relationship towards all criminal activities are intertwined. The Coast Guard is the competent authority to enforce all maritime laws under the high seas and subject to the jurisdiction of Guyana, and continuous surveillance of the EEZ. Patrolling the waterways has and continues to deter any illegal activities. Persons apprehended by the Coast Guard on the waterways are transferred over to the Police Force where they are charged and detained. Most of the cases of robbery at sea in Guyana results in pirates escaping after they have attacked a vessel. The Police Force takes over operations once a pirate has escaped, carrying out investigations and policing activities to capture the criminals.

Randrianantenaina considered piracy and armed robbery against ships as primarily a land problem, whereby solutions are derived on land before addressing the issue at sea.⁹⁶ As such, the issue should first be resolved by the State to which the criminals belong to. It is, therefore, necessary for efforts on land to intensify in Guyana from all agencies. The staggering number of unknown Jackmen in the artisanal fisheries must be tackled through collaborative efforts, and not just through the Fisheries Department. Enhanced capacity through training will require the

⁹⁶ Jean Edmond Randrianantwniana, "Maritime Piracy and Armed Robbery Against Ships: Exploring the Legal and the Operational Solutions. the Case of Madagascar," pg 1

support of the international and regional communities if preventative measures are to be successful.

4.2.6. Importance of patrols and use of drone surveillance

Modern enforcement in Guyana needs to embrace the use of technology to improve its service delivery and overall performance. Both the Guyana Defence Force-Coast Guard and Police Force have commenced with the introduction of information technologies. Response to crimes on land and sea are slow processes, these are mostly due to uncontrolled issues such as, lack of effective communications devices, shortage of vehicles and excessive demands on law enforcement resources are mitigating explanations. In 2014, the Coast Guard received four (4) Metal Shark jet boats, equipped with state of the art communications capabilities to ensure timely sharing of information and operational coordination from the United States Government. The presence of these vessels reduces the number illegal incidents at sea. Guyana's Coast Guard responses to various levels of threats at sea. As it relates to reports of unlicensed fishing vessels in various waterways, a more proactive and responsive approach must be taken.

Technological advancement in surveillance continues to grow at a rapid speed and has improved the capabilities of enforcement division for many years. The introduction of drones has changed the way surveillance assist enforcement measures. Drones have many beneficial uses, including in search-and-rescue missions, scientific research, mapping, and more. Using these devices along the coast provides enforcement officials with vital information about the activities of these communities. There is now a large number of drones with 1080 p High Definition cameras at budget prices.

5.1. COOPERATION

5.1.1. Cooperation through CARICOM

The Regional Task Force on Crime and Security was established in 2001, it was established to examine the major causes of crime, and recommend approaches to deal with increasing levels of crime, violence and security threats in the Region. The Management Framework for crime and security, security being considered the fourth pillar of CARICOM, as mentioned in earlier

chapters. It demonstrates a progressive posture towards fostering unprecedented cooperation within regional security. These milestones and improvements in the management of CARICOM's crime and security agenda have brought greater focus, responsiveness, integration and functional cooperation to the Community's approach to security. CARICOM moved towards deepening its level of cooperation through the adoption of the Revised Treaty of Chaguaramas and continues towards enhanced functional cooperation. Strengthening the region's capacity and consolidate the Region's capabilities can be achieved through move cooperation among the Member States.

5.1.2. Cooperation against Piracy and Armed Robbery

States have cooperated for the common good of mankind for centuries. Various international instruments emphasize the need for cooperation in the repression and prevention of piracy and armed robbery against ships. UNCLOS article 100 obliges all States to cooperate to the fullest extent in the repression of piracy. CARICOM recognized the complexity of maritime security in the region and developed the CARICOM Maritime and Airspace Cooperation Agreement, with the understanding that no State on its own, can ensure its security from threats of traditional and non-traditional nature. Increased cooperation enhances a States effectiveness in handling matters related to safety and security. States must cooperate amongst themselves and the IMO, to be able to build capacity, provided reports and the sharing of essential information. Such levels of cooperation include:

- sharing and reporting relevant information;
- interdicting ships and/or aircraft suspected of engaging in such illegal activities at sea
- ensuring that persons committing or attempting to commit illegal activities at sea are apprehended and prosecuted; and
- facilitating proper care, treatment, and repatriation for seafarers, fishermen, other shipboard personnel and passengers subject to illegal activities at sea, particularly those who have been subjected to violence

5.1.3. Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (ReCAAP)

ReCAAP is the first regional government to government agreement to promote enhanced cooperation against piracy and armed robbery in Asia ⁹⁷ and was adopted in November 2004. During the 2001 AESEAN Summit, the Japanese delegation proposed enhancing cooperation within the region through the adoption of a legal document. The sharing of information is an essential part of combating piracy and armed robbery against ships. Contracting Parties of the agreement shall cooperate to mitigate the impunity enjoyed by pirates by extraditing persons suspected of a crime or crimes prohibited by the agreement, following a request made by another contracting party. The agreement provides the creation of a national focus point in charge of transmitting information to ships; cooperation between the contracting parties for the detection and arrest of people guilty of acts prohibited by the Agreement.

Improve capacities for the prevention and suppression of acts of piracy, notably through the training of coast guards, allocation of equipment and materials, technical assistance and simulated training cooperation is required by the States through this Agreement. The Agreement notes the establishment of an Information Sharing Centre (ISC) in Singapore. The center is responsible for disseminating early warning signals to contracting parties, collecting, compiling and analyzing information related to piracy acts and armed robbery, and preparing statistics and

⁹⁷ RECAAP webpage: <http://www.recaap.org/>

reports based on this information. In the November 2016 Report from ReCAAP, to provide some perspective on incidents of piracy and armed robbery, the ISC evaluated the significance of each incident in terms of two factors – the level of violence and the economic loss incurred. This can provide the Guyanese administration with reporting parameters to formulate an effective report. The indicators for the two factors are as follows:

a. Violence Factor.

This factor refers to the intensity of violence in an incident, and the three indicators used to determine this are:

- Type of weapons used. Incidents of pirates/robbers who board a ship with no visible weapons are generally deemed as less violent compared to those equipped with pistols, knives, machetes, or other dangerous weapons. In cases where more sophisticated weapons are used, such incidents would be considered more violent.
- Treatment of the crew. Incidents, where pirates/robbers kill or kidnap crew, are deemed to be more violent compared to petty thieves who flee upon being noticed. Other cases could include threatening crew members, assault, or serious injury.
- A number of pirates/robbers engaged in an attack. As a rule, an incident where a larger number of pirates/robbers were involved would be considered more significant as having a large capacity (as well as probability) for use of force. A larger number of pirates/robbers may also indicate the involvement of gangs or organized syndicates rather than petty and opportunistic pirates who generally operate in small groups.

b. Economic Factor.

This factor takes into consideration the type of the property taken from the ship. Cases of theft of cash or personal effects are generally less significant incidents compared to cases where the entire ship is hijacked either for the cargo on board or theft of the vessel.⁹⁸

⁹⁸ Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (ReCAAP), “Monthly Report, November 2016, pg 8

5.1.4. The Regional Anti-Piracy Prosecutions Intelligence Coordination Centre (RAPPICC)

This is a joint Seychelles-UK initiative aimed at being the center of intelligence gathering investigations, and prosecution of pirates.⁹⁹ The proposed task of the initiative is to gather prosecution package for naval/flag state jurisdiction including the accused, complaint, and evidence to deliver to the chosen forum. The task of the initiative is to gather prosecution package for naval/flag state jurisdiction including the accused, complaint, and evidence to deliver to the chosen forum. The use of this nonmilitary approach of disrupting pirate groups operating in the Arabian Sea, Red Sea, Gulf of Oman, Gulf of Aden and in the Somali Basin enhances the fight against piracy and armed robbery at sea.¹⁰⁰

5.1.5. Non – Military approach

While cooperative military efforts endeavour towards putting an end to pirate acts at sea, they have virtually no effect on the root causes of piracy tied up ashore, among them unemployment, poverty, and corruption, which, in turn, are consequences of poor socio-economic conditions in the Guyana. The government must tackle these problems first and foremost to establish a strong starting point.

5.1.6. Bilateral Cooperation role in repressing piracy and armed robbery

⁹⁹ Roger L. Phillips, “Specialized Chambers to Prosecute Kingpins,” <https://piracy-law.com/tag/seychelles/>

¹⁰⁰ Jean Edmond Randrianantwniana, “Maritime Piracy and Armed Robbery Against Ships: Exploring the Legal and the Operational Solutions. the Case of Madagascar,” pg 125

Bilateral cooperation is one specific tool that we can use to achieve our development agenda, a more comprehensive maintenance of national sovereignty, marine safety and regional security. Unlike regional cooperation, which is developed to the level acceptable to the less keen partner, bilateral cooperation bridges this gap by focusing on a specific need of the partners involved. On May 2, 2016, 5 suspected pirates/robbers were detained by Surinamese Officials. The Guyanese government sought advice from relevant experts to determine the likelihood of the criminals can be prosecuted in Guyana.¹⁰¹ The transfer of prisoners would require transfer arrangements between the two countries for a smoother and much more efficient process.

In an effort to reduce the impact of piracy and armed robbery at the coastal level, a bilateral agreement was devised with Indonesia and Singapore, as well as Indonesia and Malaysia. The States agreed to cooperate, carry out joint patrols in areas under their jurisdiction simultaneously and exchange information.¹⁰² Other countries also contributed to the efforts of the countries of the region. Japan granted three patrol boats to the Indonesian Navy in December 2007, plus 15 million USD on 7 November 2008 “to increase its ability to promote safety of navigation in the straits of Malacca and Singapore by establishing Vessel Traffic System (VTS) in Batu Ampar and a number of sensor stations to collect information on the traffic”.¹⁰³

The European Union (EU) and the Republic of Djibouti forged a bilateral agreement was made on the status of the European Union-led forces in the Republic of Djibouti in the framework of the EU military operation Atalanta. Interestingly, the agreement awarded EU forces freedom of

¹⁰¹ Demerarawaves, “Pirates likely to be charged in Guyana instead of Suriname,” <http://demerarawaves.com/2016/05/31/pirates-likely-to-be-charged-in-guyana-instead-of-suriname/>

¹⁰² News Article, Singapore, Malaysia and Indonesia could extend joint patrol in South China Sea, <http://www.channelnewsasia.com/news/singapore/singapore-malaysia-and/1838338.html>

¹⁰³ Abbas D. Djama, “The phenomenon of piracy off the coast of Somalia: Challenges and solutions of the international community”, pg 64

movement within the territory of the Djibouti, including its internal waters, territorial sea and airspace.¹⁰⁴

5.1.7. Bilateral cooperation between Guyana and Suriname is key to repress piracy and robbery at sea.

Neither of the two countries has the resources to put an end to piracy single-handedly, emphasis should be put on consistent and all-encompassing cooperation. In order for both States to be successful in this regard, various mechanisms for cooperation and coordination must be put in place, such as:

- Develop a Plan of Action that identifies the specific actions to be taken including priorities, timelines and sequence of implementation; legislative, infrastructure, training and equipment needs; and roles and responsibilities of all key maritime stakeholders
- An ad-hoc working group meetings to develop and finalize a work programme to implement the Plan
- The establishment of a joint task force responsible for coordinating patrol activities,
- Combined Task Force
- A Joint Patrol Code of Conduct
- Develop an exchange programme for relevant officials in the policy, legal, law enforcement and academic fields
- Funding outlets such as the Port Security Funds

The process, implementation, and structure of these cooperative mechanisms must be simple and flexible. A high level of coordination and cooperation is required to eviscerate this obnoxious pest of the maritime community. In order to avoid gaps and overlaps, cooperation should be supervised to the maximum possible degree by an impartial, yet capable institution such as CARICOM.

¹⁰⁴ Agreement between the European Union and the Republic of Djibouti on the status of the European Union-led forces in the Republic of Djibouti in the framework of the EU military operation Atalanta, Art. 1, para 2

5.2. THE PORT STATE MEASURES AGREEMENT

In August 2009, under the coordination of the FAO, 91 of its members States agreed on drafting a legally binding document titled the Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (also referred to as, “The Port State Measures,” (PSMA)). The Agreement was approved and adopted in November of the same year and saw eleven (11) of its member's sign on the spot.¹⁰⁵ The Agreement came into force after Guyana became the 25th member State to ratify the Agreement on March 7, 2016, and officially entered into force on June 5, 2016. The accession by Guyana to the PSMA honours previous agreements in which Guyana is involved at a regional level to ratify and implement the PSMA, such as those under the Caribbean Community Common Fisheries Policy (2014). The government has directed some efforts towards sustainable development and improving governance of our marine fishery resources, including fighting IUU.

The main purpose of the Agreement is to prevent, deter and eliminate illegal, unreported and unregulated (IUU) fishing through the implementation of robust port State measures. The Agreement envisages that parties, in their capacities as port States, will apply the Agreement in an effective manner to foreign vessels when seeking entry to ports or while they are in port.¹⁰⁶ The Agreement is based on two (2) instruments:

1. “The International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOU-IUU) proposed that “States should use measures, in accordance with international law, for port State control of fishing vessels to control IUU in a fair, transparent and non-discriminatory way.”

¹⁰⁵ Jianye Tang, “The Port State Measures: A Commentary,” pg 2

¹⁰⁶ Food and Agriculture Organization, “Port State Measures Agreement,” <http://www.fao.org/fishery/psm/agreement/en>

2. The 2005 Model Scheme on Port State Measures to Combat IUU Fishing, an intermediate step towards the conclusion of the binding PSMA.”¹⁰⁷

The PSMA requires that the master of a vessel seeking to enter port provides the port authorities with information about the identity of the vessel, the catch on board, fishing and transshipment authorizations, and details of any transshipments that have taken place. This must be done sufficiently in advance of port entry to allow for a preliminary investigation of the vessel and its activities. On the basis of this information provided in advance, an assessment is made as to whether the vessel might have been involved in IUU fishing. If suspicion is not raised, the decision is made to allow the vessel to enter port. The vessel is then subject to whatever inspection regime might be in operation. If there are grounds for suspecting that a vessel has been involved in IUU fishing, then the port State can either refuse the vessel's entry into port or decide to allow entry exclusively for purposes of inspecting the vessel and taking other appropriate actions.

If a vessel is inspected and there are no “reasonable grounds” for believing that the vessel has been involved in IUU fishing, then the vessel is permitted to land its catch and use the port's services. If, however, there are reasonable grounds for believing that the vessel has been involved in IUU fishing, then the vessel must be refused permission to land the catch or make use of port services, except, as is always the case, where the health or safety of the crew or the safety of the vessel are at risk. In addition, other enforcement action might be taken in consultation or cooperation with the flag State and, if appropriate, other coastal States and (Regional Fisheries Management Organizations) RFMOs. If it is subsequently established that there is insufficient proof that the vessel has been involved in IUU fishing, then the port State withdraws the denial to land the catch and use port services.

¹⁰⁷ A presentation by Matthew Camilleri, “Implementation of the 2009FAO-PSMA,” <https://www.ccamlr.org/en/system/files/Day%201%20-%20Session%204%20-%20Implementation,%20Legal%20and%20Policy%20of%20PSMA%20-%20Matthew%20Camilleri.pdf>

5.2.1. Benefits of the PSMA to Guyana

As a Port State Guyana is required to develop the minimum guidelines for port state controls and actions against IUU fishers should be encouraged. The harmonization of such controls, particularly with respect to the use of prior notice and inspection requirements (including health and safety conditions) should be a priority; this will help improve social conditions and may be a deterrent to prospective IUU operators. There is also a need to prevent access to the services and goods of IUU fishing vessels. The PSMA provides Guyana with the following benefits once implemented correctly:

- enhanced control over their fishing vessels
- protects the livelihoods of legitimate fishers
- promotes effective cooperation and information exchange with other coastal States, flag States and regional fisheries management organizations and arrangements
- prevents the occurrence of “ports of noncompliance”
- contributes to strengthened fisheries management and governance at all levels
- provides for the requirements of developing countries

5.2.2. The Western Central Atlantic Fishery Commission (WCAFC) role in assisting Caribbean States to implement PSMA

The Western Central Atlantic Fishery Commission (WECAFC) was established as a Regional Fisheries Body (RFB) in 1973 to promote the development, conservation and management of the living marine resources in the Western Central Atlantic Region. WECAFC assists its 34 members in the implementation of the Code of Conduct on Responsible Fisheries and the international plan of action to prevent, deter and eliminate illegal, unreported and unregulated fishing (IPOA-IUU). In 2014, WECAFC organized a workshop on implementing the PSMA, in Port of Spain, Trinidad and Tobago. This workshop focused on the steps that need to be taken in order to engage in policy, institutional, legal and capacity building for PSMA implementation. Recommendations made by the workshop included the organization of regional meetings to raise awareness, the development of a regional plan of action and the creation of an integrated regional database to support fisheries management.¹⁰⁸

5.2.3. Landing Restrictions

The use of cooperatives for incentives and the landing of catches is a traditional approach by fishermen for centuries. These organizations provide fishermen with an option to market their produce directly or find markets which the fishermen simply cannot achieve on their own. An option to assist the artisanal industry is to restrict the landing of any catch by unlicensed vessels. Refusing them the privilege to sell any of their catch makes it difficult to be able to make a profit, thus reducing their earning ability. Cooperatives can issue clearance tickets to vessels which can be logged and transferred to the Fisheries Department. Additionally, companies who have developed relationships with artisanal fishermen to provide daily catch quotas must ensure that all produce is legally caught. Recording the licence information of the vessel as well as the catch can prove helpful to the industry.

¹⁰⁸ FAO/WECAFC Workshop on Implementing The 2009 FAO Agreement on Port State Measures to Combat Illegal, Unreported And Unregulated Fishing, Port of Spain, Trinidad and Tobago, 24–28 March 2014

6. CONCLUSION

The lack of relevant data on precise locations hampers the overall prosecution process of the pirates/robbers as legal teams must first determine the correct provision under which prosecute. This paper provided an understanding of under which legal regime “robbery at sea” in the artisanal fishery falls. The maritime zones are an integral part of determining if the act of robbery at sea is an act of piracy or armed robbery against ships. It is, therefore, imperative that the locations of these attacks are accurately recorded and reported.

Forging forward, fisheries management must ensure that licencing and registration has a zero-tolerance policy attached to any operator who is not licenced within the fishing year. Penalties may be offered as an alternative to criminal prosecution in certain circumstances. A financial administrative penalties system is designed to complement the existing enforcement systems. Various criteria can be devised to determine the appropriate level of fine required. However, the prospect of corruption is an understandable threat within the minds of management, devising strict non-financial administrative penalties depending on the level of the offence committed can prove useful in Guyana. It is necessary to establish a time frame of 3 – 5 years to have all artisanal vessels licenced.

Guyana has made intention and willingness clear to manage the scourge of robbery at sea in its waters and improve maritime security by establishing legislation which is in accordance with international law. The Hijacking and Anti-Piracy Act stands provides law enforcement with the legislative support required to crack down on robbery at sea in the artisanal fishery. However, there is a deficiency in administration which is crippled from effectively implementing and operationalizing much-needed enforcement programmes. This will continue to be an impediment to ensuring the safety and security artisanal fishermen, thus requires a great deal of attention from political will.

Robbery at sea in Guyana will only be eradicated through a multifaceted and comprehensive approach, including the establishment of preventative measures various alternative activities in

the way enforcement and surveillance measures are carried out. Learning from the efforts of African and Asian States to repress and deter piracy and armed robbery against ships, provides Guyana with an opportunity to develop similar measures which will assist in protecting all seafarers.

Importantly, Guyana and Suriname must work together at all levels to ensure the ocean continues to be a safe and economical place for artisanal fishermen to grow and develop. At the policy level, both States must continue review and develop bilateral legislations for information sharing, joint patrols, security and capacity building. Having the Coast Guards of both States carry out simultaneous patrol exercise regularly offers a greater opportunity of reducing these attacks. It must be noted, that the extent to which these patrols have limitations. Improving the policing of coastal fishing communities and targeting areas where former captured pirates/robbers resided, offers a wider scope to these efforts.

ANNEX 1

Implementation period from the time of coming into force of the installation of a VMS on all fishing vessels in Guyana after the adoption of the 2013 General Fisheries Regulation.

Category of Vessel	Implementation Period
1. Trawlers	Immediate effect
2. Semi- industrial	3 years
3. Artisanal	5 years
4. Foreign Registered	1 year

ANNEX 2

Ministry of Public Security - Draft Strategy for the Conduct of Effective Anti-Piracy Patrols in sea, space, and rivers of the Republic of Guyana.

A1. Recruitment & Training

Resulting from these recommendations several serving police ranks were interviewed of which twelve were chosen to undergo maritime training. Training commenced in July 2013 and lasted for a period of eleven months. Training was divided into three categories:

1. Basic Seamanship Course for ratings on Territorial Sea Patrol Vessels (sailors, mechanics, electricians) which lasted for a period of fourteen days

2. Training Course for Small River Patrol Craft Operators which lasted for a period of seven days

This course was an upgrade for those participants who were successful at the rating examination and had shown the aptitude to be in command of small outboard driven River Patrol Craft.

3. Training Course for Coxswains in Command of Territorial Sea Patrol Craft.

This course was conducted in three phases:

Phase 1: Guyana Harbour Licence for a duration of four weeks. For ranks in command of Operations in the Harbours and rivers

Phase 2: The equivalent of a Guyana Coastal Mate's Course minus subjects related to cargo and passenger vessels which lasted for a period of twelve weeks. For ranks serving as second-in-Command at Sea

Phase 3: The equivalent to Guyana Coastal Master's Course minus subjects related to cargo and passenger vessels which lasted for one semester. The Officer in Command at sea

A2. Operations

Area of Operations	Anti-Piracy Patrols	Marine Policing Operations
Georgetown	<ul style="list-style-type: none"> Between Demerara River and Abary to the east Between Demerara River and Boraserie Creek to the west 	<ul style="list-style-type: none"> The Harbour of Georgetown to Craig Village (the point where loaded ocean-going vessels anchor to await the tide)
Berbice	<ul style="list-style-type: none"> Berbice river mouth to Abary River to the west Berbice River mouth to Benab on the Corentyne Coast 	<ul style="list-style-type: none"> The Harbour of New Amsterdam to Everton
Essequibo	<ul style="list-style-type: none"> Essequibo River mouth to Boraserie Creek Essequibo River mouth to Anna Regina Pomeroon River mouth to Anna Regina to the east Pomeroon River mouth to Shell Beach to the west 	<ul style="list-style-type: none"> Essequibo River mouth to Fort Island Consideration should be given to station one River Patrol Boat at Bartica River mouth to Charity as the situation so warrants Due to heavy marine traffic in this river, one 15' boat should be stationed at the Coast Guard base and the other at Charity.

	<ul style="list-style-type: none"> • Waini River mouth to Shell Beach to the east • Waini River mouth west to a distance of 12 nautical miles 	<ul style="list-style-type: none"> • Mora Passage to Morawhanna & Kumaka.
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