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WORLD MARITIME UNIVERSITY

Malmö, Sweden

**CAN CAPACITY BUILDING INFLUENCE
PORT STATE CONTROL ENFORCEMENT
LEVELS OF THE MARPOL 73/78
CONVENTION?**

A study on the Caribbean

By

CANDICE GOMEZ

Trinidad and Tobago

A dissertation submitted to the World Maritime University in partial
fulfilment of the requirements for the reward of the degree of

MASTER OF SCIENCE

In

MARITIME AFFAIRS

(SHIPPING MANAGEMENT AND LOGISTICS)

2020

Declaration

I certify that all the material in this dissertation that is not my own work has been identified, and that no material is included for which a degree has previously been conferred on me.

The contents of this dissertation reflect my own personal views, and are not necessarily endorsed by the University.

(Signature):

A handwritten signature in black ink, appearing to read 'G. Theodoridis', is written over a horizontal dotted line.

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Acknowledgements

Glory be to the Father, the Son and the Holy Spirit; Jehovah Elohim Chasdi.

“I praise You because I am fearfully and wonderfully made; marvellous are Your works,
and that my soul knows very well.” (Psalm 139:14 New King James Version)

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Abstract

Title of Dissertation:

Can capacity building influence Port State Control enforcement levels of the MARPOL 73/78 Convention? A study on the Caribbean

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The Caribbean like many other regions, depends heavily on shipping for economic prosperity and employment. As seaborne trade surges in the region, it is possible that the Caribbean can become a dumping ground for ship-source pollution from non-compliant vessels, if deterrence mechanisms are not in place. Port State Control (PSC) can be a safe guard against marine pollution in the region from heighten shipping activities.

This dissertation is a study on PSC enforcement levels of MARPOL in the Caribbean. It further examines whether capacity building initiatives for PSC can influence enforcement levels of MARPOL. To facilitate an in-depth understanding of the complexities which underpin enforcement of MARPOL by PSC, a literature review was undertaken. Compliance was explored from two different perspectives; enforcement and managerial, to determine the conditions that might influence States' willingness to enforcement international agreements, and to deduce possible inferences for the Caribbean's PSC regime. Capacity building as a development approach was assessed to determine its usefulness in increasing States enforcement capabilities and performances, as well as, ways to better improve capacity building endeavours for PSC divisions in the Caribbean.

Data was collected on PSC enforcement levels and capacity needs, as well as the factors that influence PSC enforcement levels of MARPOL in the Caribbean through case studies, and expert questionnaires and interviews. Insights from other regional PSC regimes outside the Caribbean was also gathered to define opportunities for improving PSC enforcement levels in the Caribbean.

The study concludes based on the findings gathered from the research instruments and the literature. Subsequently, recommendations are made for increased commitment and cooperation among the region to reorganised and strengthened the Caribbean's existing PSC regime, through regional collaboration and capacity building initiatives.

KEYWORDS: Port State Control, MARPOL, maritime regulation, enforcement, capacity building, Caribbean, ship-source pollution

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List of abbreviations

CB	Capacity Building
CCSS	Caribbean Cargo Ship Safety
CARICOM	Caribbean Community and Common Market
COP	Community of Practice
CASIT	Caribbean Ship Inspector Training
CMIS	Caribbean Maritime Information System
CMOU	Caribbean Memorandum of Understanding
DWT	Dead Weight Tonnage
ECDPM	European Centre for Development Policy Management
EU	European Union
EMSA	European Maritime Safety Agency
FS	Flag State
FNF	Fleet National Flag
GNI	Gross National Index
HAI	Human Asset Index
IDB	International Development Bank
III CODE	IMO Instrument Implementation CODE
ILO	International Labour Organisation
IMO	International Maritime Organisation
LDC	Least Develop Country
MA	Maritime Administrations
MARPOL	The Convention on Oil Pollution from Ships

MDSD	Most Different System Design
MTBS	Maritime and Transport Business Solution
MTCC Caribbean	Maritime Technology Cooperation Centre for the Caribbean
MOU	Memorandum of Understanding
NAMEPA	North American Marine Environment Protection Association
OECD	Organisation for Economic Cooperation and Development
PMOU	Paris Memorandum of Understanding
PSC	Port State Control
PSCO	Port State Control Officer
PSJ	Port State Jurisdiction
PQS	Performance Qualification Standards
QMS	Quality Management Systems
SIDS	Small Island Developing States
SSCV	Safety of Small Commercial Vessels
SVG	St Vincent and the Grenadines
TOKYO MOU	Tokyo Memorandum of Understanding
TTP	Tactics Techniques and Procedures
T&T	Trinidad and Tobago
UNCLOS	United Nation Convention for the Law of the Sea
UNDP	United Nations Development Programme
UNCTAD	United Nation Conference on Trade and Development
UNEP	UN Environment Programme
USCG	United States Coast Guard

VIMSAS	Voluntary Member State Audit Scheme
WRF	Waste Reception Facilities
WBG	World Bank Group
WCR	Wider Caribbean Region
WISTA	Women International Shipping and Trade Association
WMU	World Maritime University

CHAPTER 1

1.0 Introduction

In the Wider Caribbean Region (WCR), including Small Island Developing States (SIDS), marine ecosystems support a wide range of tangible and intangible ecosystem services, and economic activities.¹ Among the 36 States that make up the Caribbean region the marine resources are claimed by legislative jurisdiction under the provisions of United Nation Convention for the Law of the Sea (UNCLOS) or by means of customary international law.² States in using the ocean's marine resources, are expected to do so in a sustainable manner but more importantly, to act as the "responsible State" for the conservation and preservation of the marine area under its jurisdiction. "States must be entirely committed to the fullest use of its jurisdictions... [by honouring its obligations] under international law in furtherance of its rights and interests and also those of the international community".³ Therefore, given the fragility but global importance of the Caribbean's ecosystems, States within the region have a responsibility to protect the

¹Sylvia Michele Diez, Pawan G. Patil, John Morton, Diego Juan Rodriguez, Alessandra Vanzella, David Robin, Thomas Maes, and Christopher Corbin, *Marine Pollution in the Caribbean: Not a Minute to Waste* (The World Bank Group 2019) at 10.

² Asha Singh, 'Governance in the Caribbean Sea: Implications for Sustainable Development.' (2017) at 3

³ Erik Jaap Molenaar 'Port State Jurisdiction: Toward Comprehensive, Mandatory and Global Coverage.' (2007) 38 Ocean Dev & Int'l at 225

marine environment from heightened shipping activities, as it is reported that activities related to shipping significantly pollute the region's Sea.⁴

Shipping is extremely important to the Caribbean. The Caribbean is in fact considered to be one of the main shipping channels in the world.⁵ Liner and tramp shipping account for over 90% of the Caribbean's intra-regional and external trade, while smaller cargo vessels transport inter-island trade.⁶ Additionally, over 65% of cruise ships worldwide traverse the Caribbean Sea yearly. Despite the enormous benefits the shipping industry contribute to the region and the wider global community, a significant amount of pollution originates from ships.⁷

According to the United Nation the main pollutants from ships are oil spills.⁸ The WCR being one of the largest oil producing regions, transports approximately 5 million barrels of oil per day by tankers. There is no doubt that oil spills are the most observed pollutant which adversely impact the Caribbean's coastal ecosystems and recreational beaches.⁹ The World Bank Group (WBG) highlighted that based on a modelling analysis done, on average 250 oil spills can be expected to occur annually in the Caribbean and the Gulf of Mexico. Increase marine litter from seafarers and waste and sewage from cruise shipping

⁴ Diez et al, supra note 1 at 50

⁵ Diez et al, supra note 1 at 49

⁶ ECLAC "Port State Control – in the Caribbean" (2000) FAL Bulletin 163, ECLAC at 2

⁷ Diez et al, supra note 5

⁸ UN Environment 'Oils (Global versus Caribbean Studies on Oil)' Un Environment programme, Caribbean Environment Programme < <https://www.unenvironment.org/cep/oils-hydrocarbons>> accessed on 16 July 2020

⁹ Alfonso V Botello & Villanueva F, Susana (1996). Status of the petroleum pollution in the Wider Caribbean Sea. International Conference on Pollution Processes in Coastal Environments, Argentina: J Marcovecchio at 16

is another key concern for the Caribbean given the density of the cruise ship traffic in the region.¹⁰

The International Maritime Organisation (IMO) as the competent international organisation responsible for ship activities under UNCLOS has acknowledged the potential threat shipping activities pose to the Caribbean, and the world at large. In an attempt to address the issue of ship-source pollution, the IMO continues to advocate for wider implementation and enforcement of its international instruments which govern every aspect of maritime safety and environmental protection.¹¹ The Convention on Oil Pollution from Ships 73/78 (MARPOL) is one such instrument. MARPOL provisions classify ship-source waste into 6 Annexes which place restrictions on particular clusters of materials and define requirements for their removal. Under UNCLOS the parties have an obligation to apply the MARPOL provisions in their respective States.¹²

The Caribbean however, like many other regions continues to overlook the opportunities to protect the marine environment afforded under MARPOL. One such privilege is the opportunity for the region to be considered fully as a “Special Area” under MARPOL Annex V. The WCR has been designated as a special area by the IMO due to its vulnerability to climatic hazards and potential substandard shipping practices, where more stringent mandatory rules apply against overboard waste disposal. However, adequate provisions of waste reception facilities to achieve the special area status remain a challenge in the Caribbean. Unfortunately, apart from Mexico and Argentina, there are no dedicated waste

¹⁰Diez et al, *supra* note 1 at 49-50

¹¹ IMO ‘IMO Secretary-General launches 2014 World Maritime Day Theme: ‘IMO conventions: Effective implementation’.’ (21 January 2014) <<http://www.imo.org/mediacentre/pressbriefings/Pages/4-wmd-launch-2014.aspx%23.VB1YLBKwXHs>> accessed on 20 July 2020

¹²Jørgen Rasmussen, *Maritime Governance and Control* (WMU pub 2016) at 5

reception facilities in ports in the WCR.¹³ In the region waste disposal services such as sewage and garbage are offered by private firms. However, the lack of arrangement for oily waste-streams is more prevalent.¹⁴ Consequently, because of these intricacies implementation of MARPOL and enforcement of its provisions remains an ongoing challenge.¹⁵

Implementation of MARPOL is mainly based upon a combination of flag, coastal and port State enforcement. Ideally, under MARPOL, prescriptive and enforcement jurisdiction falls squarely on the flag State regime.¹⁶ However, periodic revisions of the application of Conventions by the IMO and its member States resulted in a number of modifications, one being the establishment of a legal regime, whereby port States can exercise control over vessels visiting their ports in respect of breaches of the Convention.¹⁷ Interestingly, many studies¹⁸ seem to highlight the weaknesses of the flag State in enforcing MARPOL. Conversely, there is greater emphasis on port State enforcement by States and the IMO to support the enforcement efforts of effective implementation¹⁹

Under the Convention port State have the right to check and verify foreign vessels within their respective jurisdictions to ensure compliance with international maritime safety and

¹³ Diez et al, supra note 1 at 59

¹⁴ Alejandro Trillo, 'Implementation of MARPOL in the Caribbean' (Caribbean Maritime 27 February 2018) <<https://www.caribbean-maritime.com/index.php/latest22/issue-33-jan-march-2018/469-marpol.html>> accessed on 12 August 2020

¹⁵ A report published by the US National Academy of Sciences noted *inter alia* that a lack of worldwide enforcement, monitoring and port State control severely limit the effectiveness of the Convention. See Karim Saiful, 'Implementation of the MARPOL Convention in Developing Countries' (2010) 79 Nordic J Int'l at 319

¹⁶ Saiful, supra note 15 at 310

¹⁷ George C. Kasoulides, *Port State Control and Jurisdiction Evolution of the Port State Regime* (1993) MLP at 90-91

¹⁸ Saiful, supra note 15, at 319; Erik supra note 3 at 226; Vincent P Coglianti-Bantz, 'Disentangling the Genuine Link: Enquiries in Sea, Air and Space Law' (2010) 79 Nordic J Int'l at 406

¹⁹ Molenaar, supra note 3

pollution standards. The exercise of this right is known as Port State Control (PSC).²⁰ PSC ensures that the provisions of MARPOL are effected for the purposes of identifying deficiencies (as outlined by the Convention) in substandard ships and for enforcing corrective actions. However, while many States have the right to inspect foreign ships visiting their ports and verify compliance with the Convention, almost every paper that has been written on implementation of the IMO's Conventions through PSC includes a viewpoint on the failure of many States to assertively exercise this right. It is stated that many States need increased capabilities²¹ to effectively exercise their right under MARPOL. Furthermore, States' governments seem to stress the cost and difficulties of enforcing MARPOL. The Caribbean is no exception in this regard.

Introductory analyses of the effective implementation of the MARPOL Convention in the Caribbean have suggested several factors for its failure with the general theme being the need for greater capacity building (CB).²² While these problems exist, it stands to reason, for MARPOL to be effective globally it has to be enforced by all the IMO member States.²³ The Caribbean represents a microcosm of this group.

²⁰ Proshanto K. Mukherjee and Mark Brownrigg, *Farthing on International Shipping* (first published 1987, Springer 2013) at 269

²¹ Tan identifies compliance of treaty as a function of three factors- legal authorities, capacity and incentives. See Saiful, *supra* note 15, at 323

²² Colin P. Young, 'Comparative Review of the Legal and Institutional Framework between 2017 and 2019 with Respect to the Implementation of MARPOL Annex VI' presented at the MTCC Caribbean 2nd Southern Sub-Regional Workshop Trinidad and Tobago 17 -18 March 2019; MTCC *Caribbean Capacity Building for the Maritime Shipping Industry the Global MTCC Network (GMN) Project 2nd Southern Sub-Regional Workshop Report* (MTCC Caribbean 17 -18 March 2019); CMOU 'Caribbean Memorandum of Understanding on Port State Control Annual Report 2018' at 13; WBG *supra* note 1, at 61

²³ Generally suggested by Saiful, *supra* note 16; Molenaar, *supra* note 3

1.1 PSC enforcement of MARPOL in the Caribbean

Effective enforcement of MARPOL remains an issue in the Caribbean. In a recent presentation done at a regional workshop, it was highlighted that 70% of the Caribbean States have ratified provisions of MARPOL Annex VI but only 30% have actually promulgated it into national law.²⁴ Therefore, it can be assumed that while a large portion of the region ratified several of the Convention Annexes, there is limited evidence of strong emphasis on compliance.²⁵

The IMO's enforcement policy for PSC in the Caribbean is coordinated under the Caribbean Memorandum of Understanding (CMOU). The CMOU is one of the regional PSC institutions introduced by the IMO after recognition of the valuable contributions made by the Paris MOU on PSC in areas of maritime safety, pollution and the operation of substandard ships within the European region.²⁶ While the in-port inspection provisions under the IMO's Convention are non-binding, signatories to the MOUs committed to vessel inspection targets on all international ships calling at their ports.²⁷ In the case of the CMOU's 18 member States, the target is set at 15%.

In leveraging its mandate to coordinate the Caribbean's enforcement efforts against substandard shipping and ship-source pollution the CMOU instituted several approaches. Some of these included the development of a technical manual on procedures for PSC inspection, a targeting matrix tool and an inspection reporting database. It must be acknowledged that since the operationalisation of the CMOU in 1996, there was an

²⁴ Colin P. Young 'Comparative review of the Legal and Institutional Framework between 2017 and 2019 with Respect to the Implementation of MARPOL Annex VI presented at the MTCC Caribbean: capacity Trinidad and Tobago 17 -18 March 2019

²⁵ Compliance is a wider term than implementation. "It applies both to a State meeting its obligations in an international legal instrument, as well as State behaviour conforming to the principles of same." See Saiful, *supra* note 16, at 321

²⁶ ECLAC, *Port State Control – in the Caribbean* (2000) FAL Bulletin 163, ECLAC at 2

²⁷ Molenaar, *supra* note 3 at 244

observed increase in member States performing inspections, as compared to only one country; Trinidad and Tobago, which previously conducted inspections.²⁸ This confirms the opportunities the CMOU provides for regulating shipping activity in the Caribbean.

In spite of the above attainment, to date inspections in the Caribbean region remain low. It seems that members States targeted rate of inspections are not being achieved. In 2018 and 2019 only two States achieved the 15% target.²⁹ Disproportionate enforcement among the States can be a problem, since the CMOU was founded on the basis of increasing PSC inspections in the Caribbean through harmonised efforts. Highlighted in CMOU's report as one of the reasons for the lack of material enforcement within the region, was States' capacity limitations. CMOU, from inception, negotiated a lower inspection target for the Caribbean compared to other regional MOUs, making reference to the region's capacity limitations.³⁰ While some progress has been made over the last 20 years to build capacity, States are performing limited inspections with many citing insufficient capacity as the reason for low or no inspections.³¹ It is therefore uncertain why after more than 20 years of operation; insufficient capacity remains a major constraint for the CMOU member States. Rambarath-Parasram et al,³² mentioned that insufficient capacity, low adoption and enforcement rates of international agreements seem to persist in the Caribbean, in spite of the many CB programs provided over the years.

²⁸ "When the CMOU was signed in 1996 only Trinidad and Tobago was carrying out PSC inspections with the focus mainly on the intra-regional fleet and generally within the context of maritime safety agreements with neighbouring countries." ECLAC, *supra* note 28 at 5

²⁹ CMOU, *Caribbean Memorandum of Understanding on Port State Control* (annual report 2017 -2019) at 13

³⁰ Ho-Sam Bang and Duck-Jong Jang, 'Recent developments in regional memorandums of understanding on port state control' (2012) 43 (2) ODIL at 177

³¹ CMOU, *Caribbean Memorandum of Understanding on Port State Control* (annual report 2018) at 13

³² Vivian Rambarath-Parasram, Sukhjit Singh and Deniece Aiken, 'Overcoming the Challenges to Maritime Energy Efficiency in the Caribbean' (2018) at 73 cited in Aykut I. Ölçer, Momoko Kitada, Dimitrios Dalaklis, Fabio Ballini, 'Trends and Challenges in Maritime Energy' (2018) 6 WMU SMA

While there may be a need for increase CB programs for the Caribbean States PSC divisions, it is said that the concept of capacity building as a development tool is often vaguely understood.³³ Therefore conceptualisation of the term CB in the context of PSC may be of great importance to increase PSC enforcement levels in the Caribbean.

1.2 Overview of problem

Today the concern of unseaworthy ships remains an issue that threatens the Caribbean's ecosystems³⁴ yet the Caribbean faces major challenges with implementing and enforcing regulations such as MARPOL to curb sub-standard shipping. The most consistent themes found in the literature for low enforcement in the Caribbean are lack of regulation and inadequate capacity.³⁵ These problems are not unique to the Caribbean. They predominantly exist in developing States and contribute to making the MARPOL system ineffective,³⁶ and a high degree of substandard ships operate undetected.³⁷

The CMOU as the main representing body for PSC in the Caribbean is expected to effectively execute its authority in a manner that mobilises resources from the member States and other international bodies to achieve the region's inspections target. Based on

³³ Sastre Susana Merino, and Ignacio de los Ríos Carmenado, 'Capacity Building in Development Projects.' (2012) 46 *PBS* at 961

³⁴ Association of Caribbean States 'Marine Pollution in the Caribbean Maritime Transport Industry' (ACS) < <http://www.acs-aec.org/index.php?q=transport/marine-pollution-and-caribbean-maritime-transport-industry> > accessed on 23 July 2020

³⁵ Singh, *supra* note 2 at 90; Vivian *supra* note 32; NAMEPA 'Implementing MARPOL in the Caribbean' (NAMEPA, 2 May 2018) < <https://namepa.net/event/2017-5-8-implementing-marpol-in-the-caribbean/> > accessed on 23 1 August 2020

³⁶ Saiful, *supra* note 16 at 327 to 329

³⁷ Chien-Chung Yuan, Rong-Her Chiu and Cunqiang Cai, 'Important Factors Influencing the Implementation of Independent Port State Control Regimes' (2020) 8(9) *JMSE* at 2

the information outlined in CMOU's report,³⁸ so far it seems that the regional institution is powerless in achieving its mandate, and the States' enforcement approaches appear weak and fragmented. Like many other regional institutions in the Caribbean³⁹ the CMOU's efforts to fully enforce the provisions of MARPOL suggest minimal success.

The phenomenon of low enforcement levels in the developing world is widely discussed. A highly supported viewpoint is that developed States should assume financial and technical commitments to help developing States in their efforts towards enforcement.⁴⁰ It is against background that UN agencies such as the United Nation Conference on Trade and Development (UNCTAD), IMO, and UN Environment Programme (UNEP) have provided resources and technical capacity assistance to the Caribbean to help States meet their obligations under various international Conventions.⁴¹ CB is assumed to assist with the transformation of institutions and can increase performance. Therefore, it is believed that these interventions can build capacities in the Caribbean's PSC institutions to progress the region's enforcement levels. Despite this enormous support by various international agencies, many States in the Caribbean are still not enforcing MARPOL.

While the issues surrounding capacity constraints in the Caribbean are widely discussed, understanding of the problems may be low. The belief is that CB is often developed through a 'one size fit all' approach. Conversely, CB should be examined within the States contextual background, as there is a possibility that problem may not be 'insufficient capacity' but more of a structural nature.⁴² A thorough assessment of the PSC divisions

³⁸ CMOU, *supra* 31

³⁹ Diez et al, *supra* note 1 at 59 to 60

⁴⁰ Saiful, *supra* 16 at 327 to 326

⁴¹ Rambarath-Parasram et al, *supra* note 32 at 73

⁴² Anna Wetterberg, Derick W. Brinkerhoff & Jana C. Hertz, 'From Compliant to Capable: Balanced Capacity Development for Local Organisations' (2015) 25 at 969

and the capacity levels may provide insight into whether insufficient capacity is a major issue preventing the Caribbean States from fully exercising PSC enforcement under MARPOL.

Against this backdrop, this paper examines the role CB can have on compliance, at the operational level of the Convention by PSC in the Caribbean region. It becomes necessary to examine the current capacity within the PSC divisions and the gaps between what is captured in theory and what is actually being practiced, as it relates to CB. This information can inform future development interventions geared at strengthening PSC in the region.

1.3 Research objective

The aim of this research is to provide an assessment of the capacity to enforce MARPOL within the PSCs in the Caribbean region. This is being done with the hope that governments within the region and international donors use this research to effectively build the capacities needed to improve their implementation and enforcement efforts of MARPOL.

The research objectives are to:

- Evaluate Caribbean's PSC divisions' capacity and level of enforcement of the MARPOL Convention.
- Identify and assess capacity building efforts geared at strengthen the Caribbean's PSC divisions.

- Assess whether an implementation strategy based on synergies and regional cooperation can assist in supporting full enforcement of the Convention in the Caribbean region.

1.4 Research questions

This research aims to answer the following questions:

- | | |
|----------------------|---|
| Research question 1: | What are the current implementation levels of the MARPOL Convention in the Caribbean and what factors are influencing the current enforcement levels? |
| Research question 2: | What is required, in terms of capacity, to achieve optimal enforcement levels and what are the gaps within the States PSC divisions and port State control officers (PSCOs) in the Caribbean? |
| Research question 3: | How have the CB efforts toward PSC in the Caribbean impacted enforcement? |
| Research question 4: | Can regional initiatives outside the Caribbean offer any insights to strengthen PSC capacity building initiatives and enforcement? |

1.5 Methodology

This research considers elements of policy implementation within the theoretical and practical settings of PSC and therefore an explanatory qualitative research design was considered appropriate. One common way of performing qualitative data analysis is thematic analysis. Thematic analysis is suitable for research that seeks to closely align

common themes in the literature with real-world behaviours, opinions, knowledge and experiences in a flexible format.⁴³

This allows the researcher freedom to generally interpret the data, particularly since the research study is being conducted in a region where published research is limited. As such the researcher gathered qualitative data from a limited sample size through interviews and questionnaires. While, it is said that qualitative data cannot be generalized from a limited sample size, the ideas generated from the research were more important than generalisability concerns.⁴⁴

Most of the academic literature was retrieved from the World Maritime University's (WMU) library and other supported databases. The research evaluated a series of books, journal articles, publications and official documents under themes related to the phenomenon.

All personal interviews for this research were conducted within the guidelines of the WMU Research Ethics Committee Protocol.

1.6 Outcomes

This study will outline the gaps in the region's capacities preventing PSC from enforcing MARPOL, and propose a strategy based on the findings of the research to increase capacity levels for the Caribbean's PSC regime. The intent of the research is that the study and findings can be used to inform policy-makers and PSC institutions as they seek to

⁴³ Jack Caulfield 'How to do Thematic Analysis' (Scribbr 19 June 2019) <
<https://www.scribbr.com/methodology/thematic-analysis/>> accessed on 23 July 2020

⁴⁴ Helene Bareksten Solvang, Stavros Karamperidis, Nikolaos Valantis-Kanellos, and Dong-Wook Song, 'An exploratory study on the Northern Sea Route as an alternative shipping passage' (2018) 45 MPM at 500

increase enforcement levels of MARPOL and other maritime regulations within the Caribbean. The researcher hopes to present a well-researched paper that can add to the literary body on PSC in the Caribbean given that research in this area is limited.

1.7 Scope and limitations

The scope of the research was limited to PSC enforcement of maritime legislation through regional co-operation CMOU and elements of PSC capacity were examined. The paper did not consider PSC behavioural capacity in-depth or present a clear advantageous framework for PSC future development programs.

1.8 Structure of the paper

This paper presents a view of PSC implementation of MARPOL and an assessment of the capacity levels and issues. Chapter 2 examines policy elements, implementation and CB. Here the discussion focuses on key requirements for enforcement of MARPOL. Chapter 3 presents the research methodology, outlining the components of the research strategy and specifies the data collection and analysis techniques. Chapter 4 then reviews and discusses the findings of the data collected. Chapter 5 summarises the discussion and defines some regional examples and opportunities. Chapter 6 presents the main conclusions, recommendations and areas for future work.

CHAPTER 2

2.0 A broader perspective on MARPOL implementation and enforcement

The aim of this chapter is to examine elements which underpin international and national regulations with a specific lens on the MARPOL Convention. Firstly, it gives a brief introduction to policy describing the nature of some key areas surrounding policy making. Secondly the discussion is narrowed to maritime government policies with reference to MARPOL. Thirdly challenges surrounding implementation of MARPOL are considered from two perspectives; enforcement theory and managerial concepts of enforcement with reference to the Caribbean. The chapter closes by considering CB as a key component of the above and some CB theoretical concepts.

2.1 Policy

What is policy? In a statement by Trojan⁴⁵ it was summed up as “there is no simple answer to this question and perhaps that is why so many people claim to have little understanding of policy”. A simple definition is “a course of action adopted or proposed by a government, party, business or individual”.⁴⁶ Actions of policy address concerns

⁴⁵ Sherry Trodman, ‘What is Policy?’ (2015) 142 CISP at 1

⁴⁶ Lexico, ‘Policy?’ < <https://www.lexico.com/definition/policy> > accessed on the 28 July 2020

throughout our society, especially in areas of politics, economics and business, that clearly outline objectives, and set pathways to meet these objectives. Although policy is an integral part of every society, there exists a problematic difference of understanding among various bodies.

A key difference contested among researchers is whether policy is proactive; a process of clearly articulating and matching actors' goals and means towards some action or reactive; emerging in response to concerns or crisis. While reactive policy-making can be beneficial, this approach generally produces narrow adaptive actions (immediate solutions) that are eventually unsustainable. In turn, proactive policy-making considers a more systematic approach, which assists policy-makers in taking viable actions.⁴⁷ In the EU's "Better Regulation Principles and Procedures" it is stated that "Better regulation covers the whole policy cycle – planning, adoption, design, implementation, application (including enforcement), evaluation and revision".⁴⁸

With this in mind, sustainable policies should chart a clear course along the policy cycle, reflect the aims consistent with the wider society and be adaptable.

2.1.1 Public policy

Public policy involves the decisions and actions taken by governments, and the intentions that determine those actions. Similarly, actions not taken by governments such as the lack of decision making or the choice to actively ignore an issue can also be described as

⁴⁷ Trodman, *supra* note 45 at 3

⁴⁸ European Commission, *Better Regulation: taking stock and Sustaining our Commitment* (2019) EC at 7

policy.⁴⁹ Public policy is broad-based and its articulation in a plain and cogent way remains a challenge, as it often varies by region and within political systems. Policy-making at the international level through international Treaties and Conventions, requires unanimous support from States. As signatories to international agreements, States commit to implement policies, legislation and practice in line with these obligations.⁵⁰ Policies of a maritime nature are normally assessed and formulated by States' Maritime Authorities.

In assessing maritime policy decisions one must take into account the national interest, the international implications,⁵¹ the regulators, the executing institution's environment and the socio-pressures they encounter.⁵² Often, a significant gap exists between the expectations of the regulators and the implementing States/institutions. Christopher,⁵³ asserted that many international policies fail because of "failure to align problems, solutions, actors and resources and integrate local knowledge about the conditions on the ground". Effective policy design supports collaboration and discussion among all relevant stakeholders. This helps to ensure political support, realignment and strengthening of national efforts and ownership of the policy.

⁴⁹ Paul Cairney, *Understanding Public Policy: Theories and Issues* (Palgrave Macmillan UK, London 2012) at 16

⁵⁰ Trodman, *supra* note 45 at 8

⁵¹ Mukherjee and Brownrigg, *supra* note 20 at 174

⁵² Cairney, *supra* note 49 at 9

⁵³ Christopher Ansell, Eva Sørensen, and Jacob Torfing, 'Improving policy implementation through collaborative policymaking' (2017) *PP* 45, 3 at 467

2.1.2 Maritime regulations

The main objective of maritime policy is to create uniform regulations governing the use of the sea. One main area governed by maritime policy is ship activity.⁵⁴ Since international shipping activity and its operations generate unintended negative externalities, one way to fully regulate this industry is through universal regulation that encourages sustainable use of the ocean.⁵⁵ UNCLOS is the most important maritime treaty, referred to as an umbrella Convention, that covers all maritime matters in the context of public international law and sets the stage for all IMO Conventions. In turn, “IMO Conventions administer the detailed regulatory regime”. Over the years, a broad spectrum of maritime policies has been established internationally and adopted by member States under the auspices of the IMO. These extensively cover technical measures and standards in maritime safety, efficiency of navigation and prevention and control of marine pollution and the human aspect in shipping. However, most of the maritime policies are considered to be reactive; created out of necessity for safer shipping, initiated in response to a major disaster. Subsequently, these Conventions must be developed and implemented sometimes under compromising conditions and at least in theory drive worldwide compliance.

To a large extent many SIDS and developing States struggle to implement maritime policies because of cross-sectional implications and competing priorities. Within the Caribbean there exists a plethora of regional and international agreements governing ship related activity in the Caribbean Sea. To name a few, the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean (Cartagena Convention), Caribbean Cargo Ship Safety (CCSS) Code and the Code for Safety of Small

⁵⁴ Mukherjee and Brownrigg, *supra* note 20 at 173

⁵⁵ Xu Jingjing, *Contemporary Marine and Maritime Policy* (NSP 2014) at 21

Commercial Vessels (SCV), and MARPOL. The Cartagena Convention is one of the most important regulations in relation to protection of the Caribbean Sea which addresses coordination and mutual agreement among the States in combating oil spill related issues.⁵⁶ Suffice to say, great doubt exists whether many of the above rules have been actually fully implemented or even enforced. In developing maritime policies one of the major issues many regulators face is to balance the regulatory requirements with the economic cost. On one hand regulations may address problems such as environmental pollution but on the other hand, can create a problem of increased cost or the need to increase resources. This has resulted in the prevalence of non-fulfilment by many States of their obligations under international Conventions.⁵⁷

While maritime policies must be supported by all States to be truly successful, many of the weaker States are challenged in their capacity to implement these policies.⁵⁸ It may also be that SIDS and developing States are incapable of influencing the policy agenda. Moreover, the assumption of reasonableness within the framework of the policy cycle does not hold true as the implementation stage is hindered by factors such as different legal regimes, diverse perceptions and little understanding of the instruments.⁵⁹ Policy conceptualisation that fails to appreciate and understand these conditions exposes itself to radical critique, which may ultimately undermine the policy objectives.

Increased coordination at both regional and global levels may provide greater support to strengthen SIDS and developing States interest and influence. This can lead to enhanced maritime policy and greater support, contributing to globally unified standards for

⁵⁶ UN Environment, *supra* note 8, para 12

⁵⁷ Jingjing, *supra* note 55

⁵⁸ Saiful, *supra* note 15 at 323

⁵⁹ Proshanto K Muherjee and Maximo Q Mejia, *Selected Issues in Maritime Law and Policy* (NSP 2013) at 14

maritime activities. Moreover, improved maritime regulatory associations can lead to a more resilient and sustainable shipping sector.

2.2 MARPOL implementation and enforcement

Implement defined by Merriam Webster is “to carry out, accomplish, especially to given practical effect to and ensure of actual fulfillment by concrete measures.”⁶⁰ Rasmussen ⁶¹ stressed that enforcement is used alongside implementation in the IMO documents particularly to specify, that technical actions are covered because implementation is traditionally narrowly defined.

MARPOL 1973 was the first instrument developed to address marine pollution from ships but failed to meet the ratification requirement for it to be enforced. However, the increase in accidents over the next years would be the catalyst for a protocol to the MARPOL Convention in 1978. The MARPOL 73/78 Convention is therefore a combination of the 1973 Convention and 1978 Protocol.⁶² The MARPOL 73/78 was developed under the guidance of the IMO, to avert ship source pollution. To date, 156 States⁶³ approved the Convention, and are therefore obliged to implement it.

The IMO has no enforcement powers but is mainly responsible for the drafting of Conventions, and depends solely on member States to implement and enforce them. States

⁶⁰ Merriam Webster, ‘Implement define’ < <https://www.merriam-webster.com/dictionary/implementation> > accessed on 12 Aug 2020

⁶¹ Rasmussen, supra note 12 at 30

⁶² IMO, ‘MARPOL Conference’ <

http://www.imo.org/en/KnowledgeCentre/ReferencesAndArchives/IMO_Conferences_and_Meetings/MARPOL/Pages/default.aspx > accessed on 12 August 2020

⁶³ IMO, ‘Status of Convention’ <

<http://www.imo.org/en/About/Conventions/StatusOfConventions/Pages/Default.aspx> > accessed on 12 August 2020

that are contracting parties have an obligation to apply the provisions of the Convention by promulgation into national law and enforcement through a “responsible organisation”.

⁶⁴ Within the IMO’s system the factors that shape implementation are complex. Therefore, while this paper centers on PSC enforcement it is necessary to have a clear understanding of the flag State role.

2.2.1 Flag State implementation and enforcement

Enforcement of the Convention is fundamentally the duty of the flag State. The general concept of the flag State duty is to “exercise its jurisdiction and control in administrative, technical and social matters over ships’ flying its flag”, ⁶⁵ regardless of where the ship is located. The flag State authority is linked to the concept of nationality, where States that have ships registered under their flags, become fully responsible for the operation of the ships. Therefore, the responsibility to apply the rules and standards of MARPOL rests with the flag State.

2.2.2 Port State implementation and enforcement

Historically, port State jurisdiction (PSJ) has been used by States to enforce various national border measures under international law. This “special kind of enforcement jurisdiction” is normally done through the mechanism of PSC.⁶⁶ Under the IMO Conventions, PSC has a right to inspect vessels and to verify compliance with

⁶⁴ Mukherjee and Mejia, *supra* note 59 at 4-8

⁶⁵ Rasmussen, *supra* note 12 at 7

⁶⁶ Mukherjee and Brownrigg, *supra* note 20 at 184

certification, construction and equipment standards as indicated by the provisions of the Conventions.⁶⁷

PSC serves national, regional and international interests by ensuring compliance with international regulations, discontinuing substandard shipping activities, and protecting the marine environment. “Provisions on PSC or jurisdiction are entrenched in all the relevant IMO instruments”, to assist with application of the international standards. However, port States have discretionary power to enforce and may decline to do so.⁶⁸ Even so globally, PSCs are considered essential for remedying substandard shipping activities.⁶⁹

2.2.3 Maritime Administrations

MA initiates the development of a State’s national maritime policy which subsequently underscores the adoption and implementation of many maritime Conventions. This is then translated into legislation that are largely based on areas of safety, environment, and security. “Usually the policy is initiated at the senior echelons of the administration” and primarily executed by expert technocrats within the administration.⁷⁰ Therefore, the adoption and implementation of MARPOL is primarily formulated and operationalised by States’ MAs. In many jurisdictions the structure and operations of MA varies to some extent, however most MAs functions are quite similar or even interrelated.

⁶⁷ Kasoulides, *supra* note 17 at 127

⁶⁸ Molenaar, *supra* note 3 at 239

⁶⁹ Armando Graziano, Jens-Uwe Schröder-Hinrichs and Aykut I. Ölcer, ‘After 40 years of regional and coordinated ship safety inspections: Destination reached or new point of departure?’ (2017) 143 OE at 217

⁷⁰ Mukherjee and Brownrigg, *supra* note 20 at 175

2.3 Enforcement theory- MARPOL implementation and enforcement considerations

The enforcement theory focuses on regime characteristics that are most conducive to implement and enforce international policies. The premise is that State actors make their decision of policy choices based on cost-benefit assessments, and non-compliance results from the incentive structure. So they consciously choose to enforce policies, or not.⁷¹ Therefore, coercive enforcement is required to ensure States enforce their obligations. The assumption is that a State may support the policy by signing with no intent to enforce, based on the estimation of costs to be borne. It postulates that enforcement is weighed against priorities and/or scarce resources.⁷²

Essentially, the above viewpoint is one argument found in the literature for low levels of implementation and enforcement of MARPOL. For example, a ship owning State might prefer not to commit fully to a policy that supports detention of vessels which can generate a significant loss of income. Whereas, States that are dependent on shipping activities may not enforce a policy because of potential risk of loss; of business or competitiveness.⁷³ The Caribbean is one such region where sea-going transportation activities generate on average US\$57 billion annually.⁷⁴ A prime example is the cruise ship industry in the

⁷¹ David F.Victor, Kal Raustiala and Eugene B.Skolnikoff: *The implementation and effectiveness of international environmental commitments: Theory and practice* (MIT press, 1998) at 52

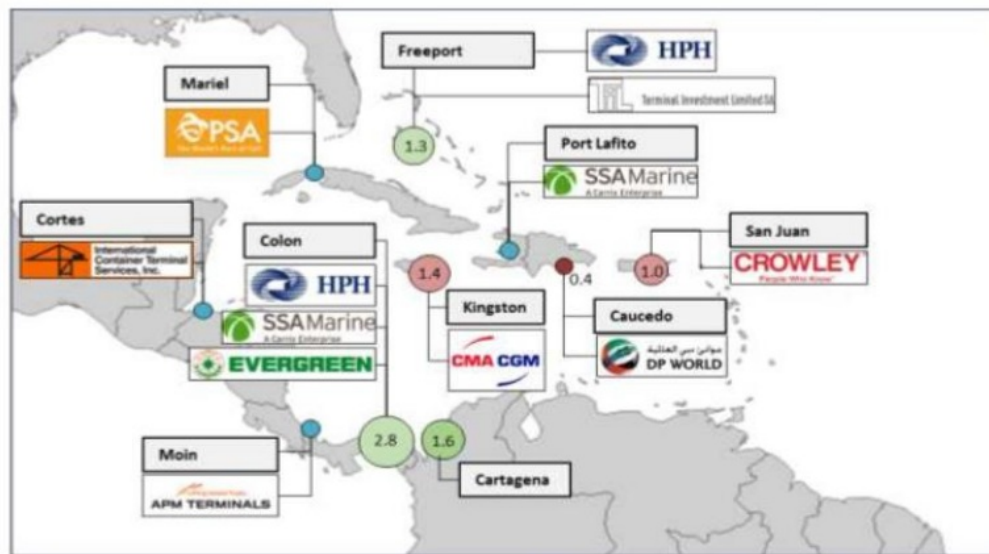
⁷² Jonas Tallberg, 'Paths to compliance: Enforcement, management, and the European Union' (2002) 56 (3) IO at 611

⁷³ Molenaar, *supra* note 3 at 226

⁷⁴ Diez et al, *supra* note 1 at 11

Caribbean which accounts for around 29% of total North American cruise activity.⁷⁵ Moreover, there are large number of transshipment ports in the region operated through public-private-partnerships as is evident by the terminal operators in figure 1 below.

Figure 1: Overview of the major transshipment ports in the Caribbean -2016



Source MTBS

It stands to reason, that the possibility of “port of convenience”⁷⁶ extensively discussed by Molenaar where competitive advantage is derived from low operating cost and avoidance of restrictions may be an actual subject matter within the Caribbean. PSC enforcement levels of MARPOL in the Caribbean will be low if States consider the

⁷⁵ Maritime Transport Business Solution, ‘Consulting Services to Develop an Inbound and Outbound Port and Logistics Hub in Trinidad and Tobago’ (2018) MTBS -accessed through Port Authority of Trinidad and Tobago

⁷⁶ Molenaar, supra note 73

enforcement of MARPOL an impediment rather than an advantage. Bloor et. al., mentioned that regulatory bodies can use flexible incentive systems to promote proactive compliance by States,⁷⁷ since voluntary non-compliance may only be resolved either through incentives structures or a structure of monitoring and sanctions and not capacity building.⁷⁸

2.4 Managerial theory- MARPOL implementation and enforcement considerations

In debating the approach outlined under enforcement theory, managerial theorists argue that implementation problems result from capacity limitations and rule ambiguity, and not deliberate decisions. For example, operational implementation of this particular Convention requires dedicated waste management facilities, pollution detection equipment, patrolling boats and technical inspectors.⁷⁹ Furthermore, the recent sulphur cap regulations under the ambit of MARPOL VI puts added pressure on PSCs to adopt technologies to measure Green House Gases from ships. Therefore, enforcing commitments may be very costly for financially constrained States with further capacity issues.

In a recent workshop held by the MTCC Caribbean, States highlighted two main underlying constraints for low levels of enforcement of MARPOL. A lack of personnel with knowledge to draft maritime related legislation and a lack of technical capacity.⁸⁰ These were also two main problems identified among all the developing States or SIDS

⁷⁷ Michael Bloor, Ramesh Datta, Yakov Gilinskiy, and Tom Horlick-Jones, 'Unicorn among the cedars: On the possibility of effective 'smart regulation' of the globalized shipping industry' (2006) 15 (4) SLS at 535

⁷⁸ Tallberg, supra note 72 at 612

⁷⁹ Saiful, supra note 16 at 328

⁸⁰ MTCC, supra note 22

in the IMO's audit summary report presented on June 20, 2018.⁸¹ Tallberg⁸² describes the above constraints as political and economic capacity limitations, where governments are restricted in their administrative ability to meet international commitments. Additionally, the aforementioned report found that many MAs lack qualify personnel and training measures to enforce Conventions. Training requirements for PSCOs can also influence States' enforcement levels. It was concluded by Graziano et. al., that differences among PSC regimes enforcement levels coincide with PSCOs background and training.⁸³

If the Caribbean PSC regime enforcement of the MARPOL is not deliberate but results from inadequate capacities and clarity, then utilising tougher measures or sanctions to increase enforcement may be misguided and costly. Particularly since, the PSC regimes require not only the backing of national law but also competent and adequate MAs, knowledgeable PSCOs, and adequate resources to implement and enforce MARPOL. Moreover, the argument that increased capacity can play a key role in increasing PSC enforcement levels may be more substantial.

So far the previous sections of this chapter focused on general areas of policy, implementation and enforcement. The following section will consider concepts surrounding capacity building as a major concern underscoring policy implementation and enforcement.

⁸¹ IMO, Analysis of Consolidated Audit Summary Reports- Analysis of the first consolidated audit summary report (CASR) under the IMO Member State Audit Scheme (IMSAS), Note by Secretariat (III/5/7 20 July 2018)

⁸² Oran Young declares: 'The effectiveness of institutional capacity varies directly with the with the capacity of governments of members to implement their provisions.' See Tallberg, *supra* note 72 at 613

⁸³ Graziano et al, *supra* note 69 at 218

2.5 Capacity building – A tool for optimising PSC enforcement levels

Shortfalls in capacity are particularly important subject matters deliberated over and absolutely relevant to policy implementation especially in the case of the IMO's Conventions. Policy support programs can help to improve implementation efforts, "especially where the policy is complex and long-term in nature". Therefore, understanding the support needed by States and the mechanisms that will be most effective is crucial.⁸⁴ Effective CB initiatives geared towards implementation and enforcement of MARPOL should take into account administrative, institutional and human resource areas for development. Moreover, these support programs should be use as a means to broaden States' ability to develop and evaluate policy choices and implement solutions, within the context of their perceived limitations and needs.

Under UNCLOS developed States have an obligation to provide several types of assistance to developing States (Article 202 UNCLOS). These programs are normally administered by the IMO through various coordinating agencies. The IMO's global partnership model known as Glo-X facilitates CB, in areas of legal, policy and institutional reforms in developing countries to implement international Conventions, and also encourages private sector partnerships to advance research, promote digital innovations and enhance information sharing.⁸⁵ Moreover, agencies such as United Nations Development Programme (UNDP) and the International Development Bank (IDB)

⁸⁴ Bob Hudson, David Hunter, and Stephen Peckham, 'Policy Failure and the Policy-Implementation Gap: can policy support programs help?' (2019) 2 *PDP* at 5

⁸⁵ UN, 'The Role of the IMO in Preventing the Pollution of the World's Oceans from Ships and Shipping' <<https://www.un.org/en/chronicle/article/role-international-maritime-organization-preventing-pollution-worlds-oceans-ships-and-shipping#:~:text=Kitack%20Lim%20is%20Secretary%2DGeneral,millions%20of%20tourists%20on%20cruises>> accessed on 2 August 2020

support developing States in building their respective capacities. While many of these programs have been successfully implemented, it is often submitted that many fall short of achieving their outcomes.⁸⁶ The need for greater collaboration and agreed understanding among the many actors is a key requirement put forward in extant literature to improve CB initiatives performance.

Another major drawback of CB initiatives mentioned by Wetterberge et al.,⁸⁷ is derived from the aspiration to achieve the goal of the donor. Many CB programs have predetermined objectives and agendas; which States can perceive as being imposed on them. Where there are perceived discrepancies between the goals of the program and their realities, States are more likely to resist programs. In light of this, capacity building programs if undertaken may be unproductive. Therefore, evidenced-based assessments can be helpful in identifying potential challenges and points of resistance. Understanding States desire to support and participate in the program can be essential to improve its merit.

2.5.1 Theoretical concepts for evaluating and building PSC capacity

Evaluation of capacity should consider the following three elements; human resource, organisation, and the enabling environment where the programs are being introduced.⁸⁸ These three elements are very important to study in the case of PSC because of the dependency factor and the varying actors/roles involved in implementation of MARPOL. Moreover, the individual elements of capacity can be reviewed in terms of technical capacity (knowledge, awareness, skills) and behavioural capacity (personal attitudes).

⁸⁶ Saiful, *supra* note 16 at 34

⁸⁷ Wetterberg et al, *supra* note 42

⁸⁸ Hallie Preskill and Shanelle Boyle, 'A multidisciplinary model of evaluation capacity building' (2008) 29 (4) *AJE* at 3

While the Social capacity can be divided into behavioural and contextual capacities within a society and its institutions.⁸⁹

Reviewing the elements of capacity within the aforesaid classifications offers the opportunity to lessen the scope in assessing PSC capacity and capacity building programs, given the complexity of the area of study. For example, the IMO Instrument Implementation CODE (III CODE) mentioned technical and behavioural features for PSC institutions and PSCOs; “implementing policies and guidelines”, “free from certain interest”, while the PSC enforcement procedures outlined both technical and behavioural qualifications; “seagoing experience and professional judgement”.⁹⁰ Individual and social capacity provide a well-organized basis by which capacities can be assessed.

⁸⁹ Susana Sastre Merino, and Ignacio de los Ríos Carmenado, ‘Capacity building in development projects’ (2012) 46 PSB at 963

⁹⁰ IMO, *III CODE* (A28/res.1070) at 16; IMO, *Procedures for Port State Control*, 2019 (A.1138(31)res, 6 January 2020) ch 2 at 2.3

CHAPTER 3

3.0 Research design - Introduction

This research methodology considered the ideas, procedures and techniques used in the research process to validate the research questions. The starting point of any research is with the question under observation.⁹¹ This study seeks to explain the causal relationship between enforcement and capacity which falls within the constructs of social sciences. Given the aforesaid and considering the sample population was the Caribbean PSC divisions/officers, the researcher conducted explanatory research. Explanatory research design generally uses theories to formulate hypotheses and also supports deductive reasoning to examine theories and generate plausible answers.⁹² Theories in the area of the related phenomena were used as a catalyst to focus the research on specific themes relevant to the research questions. Additionally, themes emerged from primary data gathered in reference to the research questions. This type of research was appropriate given the restrictions of limited data in the field of PSC enforcement in the Caribbean States, and the complex administrative environment of the region. Deductive explanatory research using thematic analysis is useful for studies that require flexibility and explication under multifaceted scope conditions

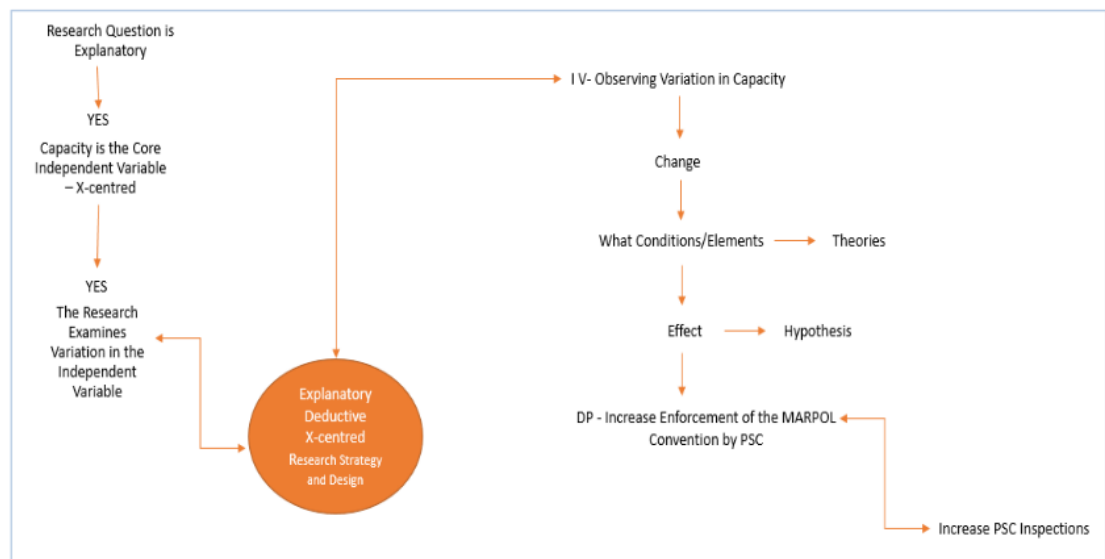
⁹¹ Diana Panke, *Research Design & Method Selection: Making Good Choices in the Social Sciences* (Sage 2018) at 2

⁹² Panke, *supra* note 91 at 78

3.2 Research strategy

Deductive explanatory research afforded the researcher the opportunity to examine elements of policy and managerial enforcement which underscores PSC application of MARPOL in the Caribbean. A number of theories based on a review of the literature in the area of PSC enforcement were categorised to determine plausible effects that capacity building can have on low enforcement levels, which were then tested in the practical settings for causal relationship.

Figure 2: Research strategy and design



Source author's elaboration of Panke decision-tree: research question essential⁹³

Based on figure 2 above 3 essential elements were considered in the research design. Firstly, the research question was used to determine the appropriate research design as indicated. The questions go beyond the descriptive approach and seek to discover the

⁹³ Panke, supra note 91 at 35

possible effects changes in capacity (independent variable (IV)) can have on enforcement levels (dependent variable (DP)), such questions are considered explanatory research questions.⁹⁴ Secondly, the research question is considered x-centred, since capacity is the core IV and forms part of the research question. In other words, the IV is not determined by the theories but forms an integral part of the research question. Lastly, through this research design the impact of changes in PSC capacity levels (IV) were observed on inspection rates and conclusions were drawn. One of this strategy's features is that it proves more useful for research projects with a limited number of subjects, for example four (4) States as was the case in this research. While the "non-finding effect" was described as a main weakness of this strategy it was considered reasonable given the scope of the research project.⁹⁵

3.2 Research method

As explained in the preceding sections this research seeks to determine the influence of capacity on implementation and enforcement levels of the MARPOL Convention by PSC in the Caribbean. After determining the research strategy, the researcher first gathered several articles by searching key terms such as "Port State Control," "enforcement," "MARPOL," "capacity," "political will" among many others. National, regional and international documents/articles in published journals and magazines, as well as dissertations on the topics were among the initial search. The articles were selected from WMU's Library, Pro-Quest, Science Direct, Google Scholar databases and a number of

⁹⁴ Panke, *supra* note 91 at 9

⁹⁵ Panke, *supra* note 94

organisations' websites. The articles deemed relevant to the objectives were included in a preliminary list of literature and irrelevant ones were discarded.

Subsequently, backward "snowballing" and author search techniques were used particularly with dissertations to obtain additional reference material.⁹⁶ This method was beneficial as it provided more precise articles and studies on implementation of MARPOL by PSC in other regions. While many of the articles found were specific to the state/region being studied, they all contained theories and concepts that can be generalised with many of their references being similar or overlapping either to a large or small extent. This further accentuated the need for flexibility in relation to the theories, and also specificity related to the characteristics of the region in studying this phenomenon.

A thematic analysis was conducted on relevant theories related to the area of study using published literature. Authors who subscribed to the same or similar viewpoints relevant to the research questions were firstly grouped together in an index of sub-themes and then central themes. Subsequently, a number of hypotheses were formulated from pre-selected theories relevant to the area of study based on the central theme groupings. These are illustrated and explained in table 1 below.

⁹⁶ Snowball or chain referral describes a random technique where existing studies reference lists can be used to acquire additional literature. Samireh Jalali and Claes Wohlin, 'Systematic Literature Studies: Database searches vs. backward snowballing' Proceedings of the 2012 ACM-IEEE International Symposium on Empirical Software Engineering and Measurement, (*Lund 2012*) at 29

Table 1 Theories and hypotheses

THEORIES	HYPOTHESES	HYPOTHESES	CRITERIA FOR ACCEPTANCE/REJECTION
ENFORCEMENT THEORY⁹⁷	Less developed States involved in shipping are more likely to use cost-benefit assumptions in their decisions to implement international policies.	NO	Already researched by a number of qualitative study in extant literature on developing States. Most studies indicated relationship between States status and enforcement on a case by case basis.
MANAGERIAL THEORY⁹⁸	The more capacities a State/institution has the more likely they will implement and enforce international policies.	YES	Novel hypothesis – no research found assessing capacity and priorities for PSC in this region
⁹⁹REGIONAL COOPERATION THEORY	The higher the trust is for regional institutions by States the more likely they will support regional institutions and policy.	YES	Supports the research objective to determine opportunities for regional cooperation.
POLICY LEGITIMISATION¹⁰⁰ THEORY	The stronger the support for the policy the more likely the enforcement.	YES	Supports the research objective to determine opportunities to increase enforcement levels.

⁹⁷ See James D Fearon, 'Bargaining, Enforcement, and International Cooperation' International Organisation (Spring 1998) the MIT press 52, 2 at 269-305; David Parker and Colin Kirkpatrick, 'Measuring Regulatory Policy: The Economic Impact of Regulatory Policy: A Literature Review of the Quantitative Evidence (Expert paper 3) (OECD 2012); A. Mitchell Polinsky, and Steven Shavell, 'The economic theory of public enforcement of law.' (2000) 38 JEC

⁹⁸ See David F. Victor, Kal Raustiala and Eugene B. Skolnikoff, *The implementation and effectiveness of international environmental commitments: Theory and practice* (MIT press, 1998) at 52-53; Tallberg, supra note 72, Tallberg supra note 72 at 613; Chayes and Chayes cited in Oran R. Young, *Compliance and Public Authority: A Theory with International Implications* JHUP, Baltimore 1979) at 1830; Andrew T. Guzman, 'A compliance-based theory of international law' (2002) *Calif. L. Rev.* 90 1823

⁹⁹ See Mike Moffatt, 'The logic of collective action: special interests and economic policy' < on http://economics.about.com/cs/macroeconomics/a/logic_of_action.htm > accessed on 2 August 2020; M. Olson, *the logic of collective action: Public goods and the theory of groups* (CMHU, 1965) at 6 – 7; Young, supra note 98 at 1834

¹⁰⁰ Consent-base theory and legitimacy theory- See Oran supra note 98 at 1833-1834, Paul supra note 49

3.2.1 Theoretical framework and hypotheses

Three hypotheses were selected applicable to the research objectives which showed potential to account for the area of interest. These are itemized below:

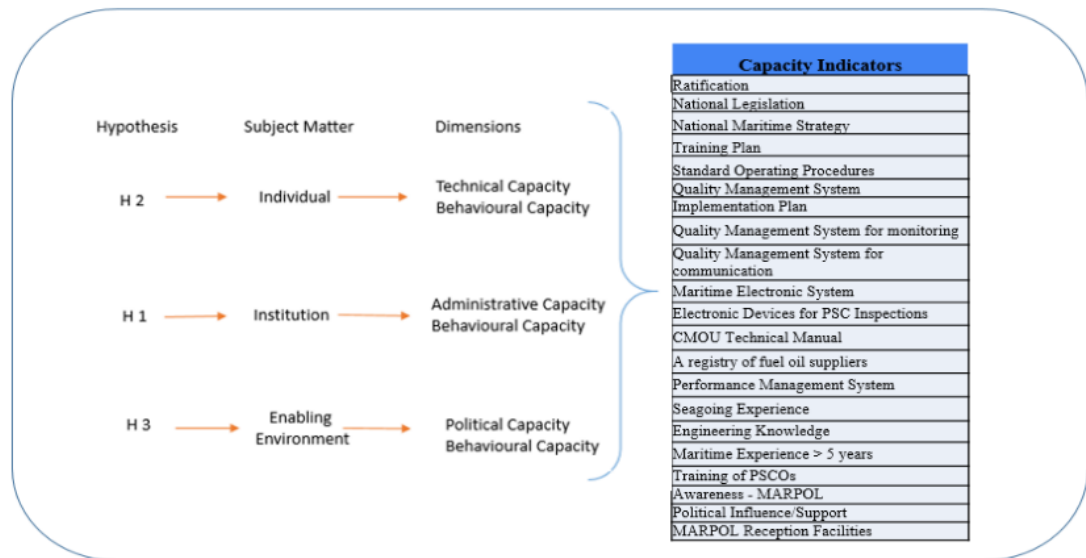
Objective 1- To measure the Caribbean's PSC capacity levels and the effect on the enforcement level of MARPOL. (Hypothesis) – Higher capacity in States should result in higher enforcement levels (inspections).

Objective 2- To assess national, regional and international support through capacity building efforts in the Caribbean's PSC institutions effect on the level enforcement of the MARPOL Convention. (Hypothesis) – Higher levels of capacity building programs should result in higher levels of enforcement.

Objective 3- Assess whether regional cooperation can assist in supporting full enforcement of MARPOL in the Caribbean region. (Hypothesis) – The higher the support for the policy and supporting institutions the higher the level of enforcement through regional cooperation.

Given the fact that the research was x-centred; theories were used to develop labels to examine and present the research findings. Research data from the literature and the respondents' data formed the capacity elements in figure 3.

Figure 3 Research study conceptual framework



Source: Author concept based on theories, literature and data gathered from respondents

3.3 Method of data collection

Qualitative methods were used to empirically examine the plausibility of hypotheses in order to answer the research questions. These included both structured and open-ended interviews. The qualitative research methods were selected based on the research design.¹⁰¹ Qualitative research self-administered structured surveys were developed to yield conversational type responses from the participants. The literature review informed

¹⁰¹ Panke, supra note 91 at 123

the questions. The interview instrument was administered to five past and present students of WMU from the Caribbean region with knowledge of the research area to determine potential weaknesses within the design.

3.3.1 Questionnaires

Questionnaires were administrated by email using Google Form to PSCOs and four (4) MA PSC divisions (see table 3 below) in the Caribbean¹⁰². This resulted in detailed qualitative data (numerical and conceptual) that allowed the researcher to examine related themes in relation to capacity factors to gain a sense of possible linkage between capacity levels and implementation levels of MARPOL. Moreover, the discussion based questionnaire, though somewhat controlled, provided pertinent insight into the organisational settings created for the process of implementation.

3.3.2 Interviews

Additionally, qualitative data was obtained from interviews conducted with 5 officials associated with PSC organisations or the maritime field. Further qualitative data was obtained from careful examination of organisational documents and training programs of various maritime and PSC institutions within and outside the region.

¹⁰² Completed questionnaires were received from PSCOs and PSC Divisions located in the following Caribbean States: Grenada, Bahamas, Belize, SVG, Jamaica, Guyana and T&T.

3.3.3 Preliminary analysis

The researcher conducted qualitative thematic analysis on the data gathered through the first round of questioning and interviews. The data was physically scanned for themes and causal relationships based on the research area. For example, if a participant mentioned ‘the lack of resources as having a negative impact on enforcement’ this was placed under a pre-established code; ‘insufficient enforcement resource’. Subsequently, a preliminary report of the initial data was shared with the participants (all personal data was removed) and a second Likert scale questionnaire was developed. The preliminary findings and the second questionnaire were then shared with the participants for a second round of data gathering. The aim was to reach consensus on the most accurate response; this is known as the Delphi method; which is a process of arriving at group consensus.” For this research study there was limited published data and inadequate awareness, hence the Delphi method was applicable.¹⁰³

3.4 Selection of participants

Firstly, nonprobability sampling using the snowballing sample technique was used to select PSCOs. This method was suitable given the size of the PSCOs population in the Caribbean and the type of questions – specific to the work of PSC.

¹⁰³ The Delphi method is an iterative process to collect and distil the anonymous judgments of experts using a series of data collection and analysis techniques interspersed with feedback. The Delphi method is well suited as a research instrument when there is incomplete knowledge about a problem or phenomenon. The Delphi method works especially well when the goal is to improve our understanding of problems, opportunities, solutions, or to develop forecasts. See Gregory J Skulmoski, Francis T. Hartman, and Jennifer Krahn, ‘The Delphi method for graduate research’ (2007) 6 (1) JITE < <https://www.learntechlib.org/p/111405/>> accessed on 2 August 2020

3.4.1 Most different system design

Secondly, States were selected based on the Most Different System Design (MDSD).¹⁰⁴ Thus, selection for the cases studied was based on empirical evidence of the controlled and core hypothesis as indicated below.

Alternative hypotheses:

- ✚ Less developed States are less likely to implement international policies
 - Variable used to operationalised; Gross National Index (GNI) Per Capital
- ✚ States with less involvement in shipping are less likely to implement international policies - Variable used to operationalised; Fleet National Flag (FNF) DWT

Core hypotheses:

- ✚ The more capacities a state has the more likely it is that they will implement international policies - Variable used to operationalised; (Human Asset Index (HAI))

¹⁰⁴ The basic rule for the MDSD selection is that selected case studies must show similarity (as close as possible) concerning core hypothesis and variation in the alternative hypothesis. See Panke, *supra* note 91 at 169-179

Table 2: Values for MDSD State selection

STATES	GNI PER CAPITA (\$) 2018	FLEET NATIONAL FLAG DWT	HAI 2018	HAI 2018 OPERATIONALISED
BAHAMAS	29563	9,810	94	Above Average
ST VINCENT AND THE GRENADINES (SVG)	4747	3,090,000	95	Above Average
JAMAICA	6623	151,000	89	Above Average
GUYANA	4159	43,000	86	Average
TRINIDAD AND TOBAGO (T&T)	17975	18,000	94	Above Average
SURINAME	8394	7,000	89	Average
ANTIGUA AND BARBUDA	12903	3,000	93	Above Average

Source: The information was retrieved from the World Bank 2018 LDC Report and country maritime profile data: <https://www.un.org>.

In table 2 above the GNI was used as an indicator of the States' income and FNF was used as an indicator of the States' level of involvement in shipping to satisfy the alternative hypothesis. Table 3 shows that the GNI and FNF of the States highlighted in blue variables varied significantly. In the case of the core hypothesis which examined non-enforcement as a consequence of insufficient capacities, States measured were comparable. These were the most appropriate States for the research study. However, the researcher was unable to solicit the participation of all the States highlighted in blue. Subsequently, approval to conduct the research was granted by Jamaica, SVG, T&T and Guyana.

3.4.2 Other regional PSC

The researcher also considered an additional PSC division outside the Caribbean based on the following principles:

- ✚ Members of to the PSC MOUs
- ✚ Attainment of the PSC MOU inspection targets
- ✚ The geographical location to gain insight into another regions' PSC division

3.4.3 Maritime practitioner/academia

Further interviews were conducted with maritime executives directly involved in PSC operations, and also academics to gather perceptions into long standing issues related to the research phenomenon. Criteria for section:

- ✚ Perceived comprehensive knowledge of the Port State Control regime
- ✚ Perceived knowledge of maritime policies
- ✚ Regional representation

3.5 Data analysis approach

The preliminary data was assessed through a qualitative method of data analysis using Microsoft Excel. A template analysis was conducted. Template analysis is a type of thematic analysis where a list of priori and emergent codes are constructed.¹⁰⁵ Key issues emerging from previous research literature informed the priori code, while the emergent codes were derived from the data collected.

The process involved a number of steps. Firstly, an initial template was developed with themes based on the researcher's pre-established data collection themes. Secondly, individual responses were extracted from Google Form into a Microsoft Excel worksheet

¹⁰⁵ Jack Caulfield 'How to do Thematic Analysis' (Scribbr, 6 September 2019, rev 4 August 2020) < <https://www.scribbr.com/methodology/thematic-analysis/>> accessed on 12 August 2020

and scanned column by column for related themes. These were then colour coded and placed in the template. Secondly 'ctrl find' was used to scan the remaining raw data for themes and connectors. Succeeding themes were then placed under existing or new themes which centered around the following characteristics - repetition, similarities, differences, missing data, or some relevance to the problem being studied. Thirdly themes were amalgamated; using the template approach, into broader thematic categories such as 'PSCO skills and requirements, organisation capacity, policy requirements that represented holistic viewpoints of the participants. From this data a summary report of the findings was produced and shared with the participants for a second round of questioning. Finally, the data gathered from the second round of questioning represented a consensus on the viewpoints of the participants by using a Likert scale for all questions. Therefore, information on these themes were used to analyse what the data portrayed about the existing capacity levels and also, the corresponding bearing on enforcement levels of MARPOL in the Caribbean.

3.6 Research limitations

Obtaining questionnaire responses proved to be a challenge, due to the current world-wide Covid-19 Coronavirus pandemic that resulted in a worldwide slowdown of the human, financial and information flows from March 2020 up to the completion of this research. The researcher collected 60% of the targeted sample (20) PSCOs questionnaires for PSCOs in the Caribbean.

At least three major limitations for this research study were encountered. Firstly, the researcher had hoped to evaluate at least 7 Caribbean States' PSC divisions and 20 PSCOs. This was deemed as a suitable sample size to cover a wider spectrum of PSC in the Caribbean and increase the research findings reliability. Yet, the researcher was unable to solicit the participation of some States, but not for a lack of trying. Secondly the

researcher had hoped to examine training manuals, notes and feedback from training workshops to assess PSC training programs, yet these were not obtainable. Thirdly, data related to past capacity building programs undertaken by the CMOU and other maritime institutions was not available or limited in details. This also prevented the researcher from conducting practical observations of inspections in two States.

3.7 Ethical conditions of the study

The research was conducted under ethical conditions. Communication was sent to all the participants informing them of the details of the study and information on their personal rights to participate and exit the study. Respondents were then given a consent form to sign. All interviews were recorded with permission.

The research instruments were reviewed and approved by the researcher's supervisor and subsequently the WMU Research Ethics Committee preceding data collection.

All personal interviews for this research were conducted within the guidelines of the WMU Research Ethics Committee Protocol and data was handled in confidentiality (PIN hard drive). Upon completion of the research, the data was discarded.

CHAPTER 4

4.0 Assessing PSC in the Caribbean enforcement and capacity levels in respect of MARPOL

This section presents and discusses the data gathered to determine whether the enabling environment ¹⁰⁶, institutional (MAs/PSC divisions) and HR (PSCOs) capacity levels have a bearing on the enforcement levels of MARPOL in the Caribbean. This research focused on PSC in the Caribbean exercising their right to inspect and control foreign vessels converging and departing States' territorial seas under MARPOL. Features such as ratification, national law and support in the context of the enabling environment along with the States' PSC divisions and PSCOs capabilities to administer their commitments under MARPOL were assessed. The results are presented and discussed below.

4.1 Profile of the participants

Based on the criteria specified in the methodology the research instruments were sent to participants. Figure 4 below displays the profiles of the 28 participants interviewed for this research.

¹⁰⁶ Enabling environment in this sense means that MARPOL provisions are fully incorporated in legislative Acts and that governance practices support enforcement and compliance actions.

Figure 4: Participants Profile

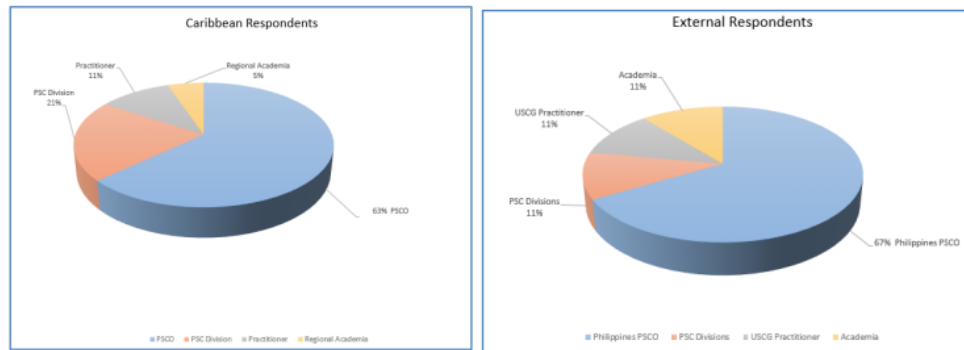


Table 3 Respondents information

Profile Information of the Respondents		No.
Job Function	Direct PSC Inspections	24
	Indirect PSC Inspections	4
		28
Respondent Work Location	Bahamas	1
	Belize	2
	Grenada	2
	Guyana	2
	Jamaica	4
	SVG	3
	T&T	5
	USA	1
	Sweden	1
	Philippines	7
		28
Working Experience	<5years	7
	5-10years	5
	11-20years	7
	>20years	9
		28

Source : Author's compilation from respondents' profile data

4.2 MARPOL legislative support and enforcement actions - Analyses

Enforcement MARPOL Convention is twofold. Firstly, States must have domestic laws in accordance with the Convention and secondly, set measures in place to effect compliance in alignment with international standards.

4.2.1 Ratification and domestication levels of MARPOL

Analysis of the data indicates that overall implementation of the Convention in the Caribbean is not favourable. On average 86% of the Caribbean States ratified the MARPOL Convention fully, however only 26% have supplementing domestic legislation to fully enforce and operationalise the Convention.¹⁰⁷ While there is a notion that the high level of ratification can be qualified as success of the Conventions¹⁰⁸, most of the PSCOs interviewed made mention of the need for enabling legislative provisions to fully enforce MARPOL. The CMOU's inspections data shows that the total deficiencies recorded under MARPOL annually by its member States remains low; commonly at 6%.¹⁰⁹ It can be assumed that given the heavy maritime traffic in the region¹¹⁰ and the inability of PSCOs to carry out inspections due to the absence of national law and the low rate of deficiencies recorded under MARPOL, that deficiencies and illegal dumping of waste may be

¹⁰⁷ IMO, Status of Conventions - Comprehensive information including Signatories, Contracting States, declarations, reservations, objections and amendments, <
<http://www.imo.org/en/About/Conventions/StatusOfConventions/Documents/Status%20-%202020%20August.pdf>> accessed on 7 August 2020

¹⁰⁸ Asha, supra note 2 at 82

¹⁰⁹ CMOU, supra note 32 at 16, CMOU: Caribbean Memorandum of Understanding on Port State Control (annual report 2017) at 16, CMOU: Caribbean Memorandum of Understanding on Port State Control (annual report 2019) at 16

¹¹⁰ ACS, supra note 15 at para 3

undetected. In essence, enforcement of MARPOL is only lawful if States have enacted legislation in accordance with the Convention.¹¹¹

From examination of the data it appears that States in the Caribbean are more likely to support legislation/projects that promotes the Sea for commercial use as opposed to marine preservation, unless as indicated in the introduction of this paper, they are incentivised. Two recent commerce/environment battles in the Caribbean which resulted in the termination of plans against tourism projects in ecologically sensitive areas in T&T and Grand Cayman illustrate this viewpoint.¹¹² Considering the above, there may be an absence of strong governmental support in creating an enabling environment to operationalised MARPOL.

¹¹¹ Molenaar, *supra* note 3 at 244

¹¹² The researcher pointed out that the recent plan by the government of T&T to construct a hotel in Tobago directly adjacent to the Buccoo Reef was a good example of the government's view on the ocean as "good business" verses the need for preservation. Khalil Hassanali "CARICOM and the blue economy- Multiple understandings and their implications for global engagement" (2020) ML 120 at 3, One of the mostly hotly debated and most contentious cruise terminals anywhere in the Caribbean – maybe the world tough battleground with entrenched positions on both sides of the argument as commerce meets environmentalism head on in what could prove to be a blueprint for other Caribbean islands facing a similar choice between development and conservation, CSA "Grand Cayman Battle lines harden" (Caribbean maritime 39, 2020) < <https://www.caribbean-maritime.com/images/downloads/Caribbean-Maritime-Issue-39.pdf>> accessed on 9 August 2020

4.2.2 Consideration of the national law provisions

Table 4 MARPOL Annexes ratification and domestication

STATE	MARPOL 73/78 (ANNEX I/II)	MARPOL 73/78 (ANNEX III)	MARPOL 73/78 (ANNEX IV)	MARPOL 73/78 (ANNEX V)	MARPOL PROTOCOL 97 (ANNEX VI)	SUPPORTING NATIONAL LEGISLATION
GUYANA	X	X	X	X	X	
T&T	X	X	X	X	X	
JAMAICA	X	X	X	X	X	X
SVG	X	X	X	X	X	X

Source: IMO Status of Convention by State

From table 3 it can be seen that all 4 States have ratified all the MARPOL Annexes. However only Jamaica and SVG have national regulations covering aspects of the Convention. Jamaica's Shipping Act – last amended 2000 has provisions covering hazard goods which supports MARPOL Annex III, however no provisions related to the other Annexes were found.¹¹³ In a recent media release the Minister of Transport and Mining in Jamaica announced plans to enact a number of shipping legislation, one of them being the incorporation of MARPOL into Jamaica's national law, with increase penalties, all aimed at reducing ship-source pollution in the State's maritime area.¹¹⁴ Respondents remarks asserted that Jamaica's current legislation was inadequate to fully enforce MARPOL. Inadequate maritime legislation was also outlined as an area of needed improvement in "Vision 2030 Jamaica".¹¹⁵ Similarly, SVG government recently enacted the "Marine

¹¹³ Ministry of Justice: Shipping Act (last amended 200) < <https://moj.gov.jm/laws/shipping-act#:~:text=An%20Act%20to%20make%20better,to%20make%20provision%20for%20matters> > accessed on 9 September, 2020 at 288-292

¹¹⁴ Angus L. Garfield 'Maritime Law Coming' (2020) Jamaica Information Services (Jamaica, 4 June 2020)

¹¹⁵ Jamaica 'Vision 2030 Jamaica National Development Plan 2016' at 111

Pollution Prevention Act 2019” incorporating the MARPOL provisions along with stringent penalties for non-compliant actions. Prior to 2019 no provisions were found in SVG national law related to MARPOL even though they ratified the Convention over a decade. T&T and Guyana had no specific shipping regulations linked to MARPOL. Interviewees’ remarks suggest that these States are currently at the discussion point concerning MARPOL, and a need for greater governmental support to advance onward. Particularly in Guyana, a lack of governmental initiative to incorporate PSC measures and MARPOL provisions in their national law was cited by respondents as barriers to implementation.

4.2.3 IMO voluntary member state audit scheme (VIMSAS)

And emergent code from the study was the IMO VIMSAS. All respondents from the States PSC divisions and practitioners made mention to the IMO regulatory monitoring policy tool aimed at addressing implementation problems in MAs. Some comments from the data are stated below.

“... we have sign the Convention, so the IMO will force governments to formulate national legislation and implement plans to create uniformity and standardisation.” ...well through the audits.” (R 15)

“We have to complete it before the next audit.” (R 7)

“Well honestly I feel..., is only when the IMO comes down on the government they begin to move” (R 5)

The VIMSAS seems to be one of the driving forces behind the recent moves to assess and enforce MARPOL in States. It was found that in SVG a corrective action plan was initiated with support from the Commonwealth Fund for Technical Cooperation after SVG’s 2016 VIMSAS, to address the findings. One outcome from this project was the above-

mentioned newly enacted SVG pollution regulation.¹¹⁶ Also, this may be the reason for the recent active determinations in T&T and Jamaica to revise their Shipping Acts with considerations to incorporate MARPOL. All 4 States have completed their initial audits. Supervisory policy tools and strategies may be essential in influencing governmental support for MARPOL.

4.2.3 PSC inspection levels and performances

Table 5 States PSC inspections 2015-2019

States	Inspections					% change 2018 to 2019
	2015	2016	2017	2018	2019	
Jamaica	200	102	97	100	126	26%
Guyana	0	0	1	9	2	-78%
T&T	140	129	104	143	143	0%
SVG	0	0	7	5	10	50%

Source: CMOU Annual Report 2015- 2019

Variance in the PSC data on vessel inspections in the Caribbean was noted. Two important features underscore PSC inspections frequency in the Caribbean; the topographical configuration of the region, and the large number of non-convention size vessels operations. However, members are expected to inspect at least 15% of the merchant ships in accordance with the respective international agreements, and inspections as outlined in the CCSS. It was noticed, that for the period 2017 to 2019 only T&T and Curacao achieved

¹¹⁶Commonwealth Secretariat 'Strengthening of maritime and ocean affairs in St. Vincent and the Grenadines' (The Commonwealth) < <https://thecommonwealth.org/project/strengthening-maritime-and-ocean-affairs-stvincent-and-grenadines>> assessed 9 September, 2020

the 15% targeted inspections.¹¹⁷ Analyses indicated that although Jamaica had a total of 3239 vessel calls in 2019 they recorded 126 inspections for the same period. Statements surrendered during this study indicated that Jamaica has both the capacity and the legislation to conduct inspections. On the other hand, T&T does not have supporting legislation for many of the IMO's Conventions and has on average 66% less vessel calls annually¹¹⁸ than Jamaica, yet the data in table 5 above shows that T&T from 2016 to 2019 on average conducted 20 to 25 percent more inspections than Jamaica. Jamaica's low rate of inspections may suggest that inspections are not vigorously conducted. Respondents from Jamaica highlighted competing priorities as one reason for low inspection rates. Jamaica is prominent in shipping, and shipping contributes significantly to its economy.¹¹⁹ In regard to SVG and Guyana, inspections were considerably low as seen in table 5. Interviewees' from SVG comments divulged that inspections are scarcely carried out at some of their ports, because of the location and the distance that needs to be covered by PSCOs to inspect vessels. This lax approach by the SVG PSC division in carrying out enforcement is reinforced by the fact that SVG' is one of the States which has frequently appeared on several other PSC regimes' black and grey lists as high to very high risk flag.¹²⁰ In the case of Guyana, insufficiencies in capacity and laws were mentioned. There

¹¹⁷ CMOU, supra note 44 at 2017-13, 2018-13, 2019-13

¹¹⁸ MTBS, supra note at 20

¹¹⁹ MTBS supra note 6 at 22

¹²⁰ IMO, 'Regional Co-Operation On Port State Control: Flag States targeted by the Paris MoU, Tokyo MoU and the United States Coast Guard: Submitted by the United Kingdom1, Japan2, New Zealand2: Submitted by the United States' (24 February 2004) FSI 12/INF.3/Rev.1; IMO, 'Harmonization of Port State Control Activities: Flag States targeted by the Paris MoU, Tokyo MoU and the United States Coast Guard: Submitted by the Paris MoU and the Tokyo MoU (30 March 2006) FSI 14/INF.3; TOKYO MOU: Annual Report on Port State Control in the Asia-Pacific Region (2018) at 17; PMOU on Port State Control: Annual Report (2018) at 30

may be a lack of willingness by States which depend heavily on shipping to forcefully enforce MARPOL.¹²¹

4.3 Examination of the factors affecting enforcement levels of MARPOL

4.3.1 Political succession

Respondents submitted that the constitutionally determined legislative system delayed amendments to their Shipping Act and other measures to enforce MARPOL. Some respondents pointed specifically to the turnover rate of governments. Examination of official published documents revealed proactive measures in some States' MAs to operationalise the Convention. These included ongoing engagements such as amendment of Shipping Act in; Suriname, T&T and Barbados and strategic approaches to enhance the governance of the maritime sector namely: current moves to implement national maritime strategy and establish dedicated maritime Authorities (T&T and Suriname), and the operation of e-maritime vessel reporting and monitoring systems (Suriname and Trinidad and Tobago). However, respondents commented that some of these are prolonged attempts; some have been sustained for over two decades. This shows that even though governments and the MAs may have acceded to put the necessary measures in place to enforce MARPOL they may be constrained by legislative or bureaucratic hurdles within the governmental framework. Government systems that encourage long policy cycles risk diminishing political interest, weak enforcement measures or non-implementation.¹²² Singh¹²³ made this claim about governance in the Caribbean in an analysis on enforcement measures in response to maritime issues and further mentioned, that a paradigm shift of

¹²¹ This point can be supported by information on "port of conveniences" indicated by Molenaar, *supra* note 3 under chapter 2 of this paper - heading Enforcement Theory MARPOL Implementation and Enforcement

¹²² Hudson et al, *supra* note 79 at 4

¹²³ Singh, *supra* note 2

the governance model in the Caribbean is needed to support enforcement of maritime regulation.

4.3.2 A lack of committed actions

The study shows an expanded agenda in the Caribbean toward implementation and enforcement of MARPOL but with limited actions. Governments and regional bodies have put forward a number of plans and commitments related to their intention to regulate maritime activities and develop sustainable infrastructure to support ship-source pollution. However many of the plans have not been transferred into actions.¹²⁴ For example the conference held in Cayman 2017 by The North American Marine Environment Protection Association (NAMEPA) and Women International Shipping Trade Association (WISTA) was geared towards advancing efforts to implementation and enforcement MARPOL in the Caribbean. Delegates committed to supporting efforts towards the establishment of port reception facilities¹²⁵ and efforts to conduct an examination of the Caribbean CMOU. However, no data was found indicating that these plans among others were advanced. Former CARICOM Secretary-General Irwin La Rocque at a heads of government meeting in 2012, commented that the region's lack of action is the main issue for policy failure.¹²⁶ Additionally, comments highlighted during the study by respondents further supported the point that efforts in the Caribbean seem to be lacking actions as stated below:

¹²⁴ Diez et al, supra note 1 at 59-61

¹²⁵ NAMEPA 'Implementing MARPOL in the Caribbean' Conference by NAMEPA and WISTA (8 May 2017)

¹²⁶ The Secretary-General said that "we" (presumably heads of government) "set over ambitious and unrealistic targets" and he describes this as a "mistake". But, surely the mistake was not setting ambitious targets; the mistake was not taking action to achieve them. Sir Ronal Sanders 'CARICOM Failures not too much Ambition' (2 March 2012) <http://www.sirronaldsanders.com/viewarticle.aspx?ID=294> accessed on 12 August 2020)

“The region’s governments must drive this and be serious about taking actions to put the legislation in place.” (R 1)

“...all countries have their own financial constraints, that's a real issue, but it doesn't mean that you can't implement certain strategies that are within your financial constraints. But it will take real effort” (R 2)

All the respondents from the PSC divisions, further reiterated this lack of support for PSC by their governments and a lack of committable actions to enforce MARPOL. Two comments from the study further support this point as stated below.

“There's a pressure on one end from the international community saying listen, this is a real issue and you agree that it's a real issue, then come forward and take action. So the ministers give the go-ahead to ratify but then it's left up to you to implement these measures, without the relevant legislation. We need to get serious” (R 4)

“...with regards to hindrances...we lack governmental and legislative support” (R 14)

The issue of lacking committable actions seems to severely impact implementation of regulations in the Caribbean. This was also shown in the WBG assessment of implementation of regional regulations and strategies. While the lack of political will was put forward as a key reason for the above,¹²⁷ it is suggested that political inaction is almost always multi-causal and therefore political will must be examined in the broader context of supporting or opposing political systems.¹²⁸ States decision to comply with

¹²⁷ Diez et al, supra note 1 at 59 -61

¹²⁸ Bob Hudson, David Hunter and Stephen Packham, ‘Policy failure and the policy-implementation gap: can policy support programs help?’ (2019) 2 (1) PDP

MARPOL may be a question of priority, especially where compliance means using scarce resources or require high financial investments. Respondent 1 stated that their government understands the importance of the Convention but the main problem was a lack of resources. Other respondents emphasised that their divisions' challenge was not so much insufficient resources but that MARPOL was not high on their governments' agenda. The respondents' remarks as indicated below suggest that none prioritizing of the maritime industry can also negatively impact implementation and enforcement abilities in the Caribbean.

"I believe that for us it's not so much a lack of resources, but it's not seen as a priority..." (R 18)

"... we have been trying to amend the Shipping Act.... we hired a consultant, he did all the changes and it's just I don't know like the government move in geologic time, the Shipping Act is before the Parliament and it has taken five (5) years to review. History has shown once the shipping Act is before the Parliament and government change, it takes another 5 years to review, and now we have an upcoming election.... Take for example, Guyana, I think Guyana ratified about 20 Conventions recently because of their oil and gas find. Now the maritime industry seems to be on the very top of their legislative agenda. So it's a matter of priority."
(R 5)

A recent press release by the Ministry of Public Works in Guyana supports the above claim by practitioner 5.¹²⁹

¹²⁹ Ministry of Public Works 'MARAD is being realigned, repositioned and restructured to facilitate Guyana's transformation and development; more particularly with the advent of oil and gas' (MPW, 2 September, 2020) < <https://dpi.gov.gy/marad-is-being-realigned-repositioned-and-restructured-to->

4.3.3 Administrative capacity constraints

A great majority of the respondents generally agreed that the legislative systems in the region were similar and resource scarcity undermines issues on their legislative agenda. From examination of the data, the following capacity constraints in figure 6 below were repeatedly identified by a large majority of the participants, these were also highlighted in some documents and publications on MARPOL in the Caribbean.¹³⁰

[facilitate-guyanas-transformation-and-development-more-particularly-with-the-advent-of-oil-and-gas/>](#)
accessed on 12 September 2020

¹³⁰ Supra, note 23; Rambarath-Parasram et al, supra note 32

Figure 5: Capacity constraints identified in the study which prevent States from domesticating and enforcing MARPOL



Source: Author compilation based on data gathered during the study

Based on the capacity constraints they identified in figure 5 respondents were asked to comment on why States which suffer from severe capacity shortage willingly ratify the MARPOL Convention. A total of 85.7% of the participants' remarks pointed to a genuine willingness by the States to comply and implement the Conventions. One respondent commented that States saw the importance of increasing the frequency of multiple inspections and the involvement of multiple regional inspection authorities to reduce the casualty numbers particularly in regard to oil spills. He stated "we [Our PSC] may not discover every single substandard vessel but hopefully one of the other PSC will, and every time one has been discovered whether by us or whoever, the probability of having significant marine casualty or major pollution incident is reduced..." Also another respondent indicated States that lack capacity will transmit the information on unseaworthy vessels to them, so they can detain the vessel. Despite the above assertions

14.3 % of the respondents felt that their governments are pressured to sign these Conventions by international regulators.

In a recent study done by the MTCC Caribbean on the Caribbean States' readiness to adopt technology for MARPOL Annex VI, stakeholders reported numerous capacity constraints to comply. This can be seen in table 6 below.

Table 6 Barriers to implementing technology to support MARPOL VI



Barriers	Maritime Administrations	Owners & Operators	Technology Providers	Ports	Overall
Lack of Finance	Significant	Medium	Major	Major	Significant
Lack of Incentives	Medium	Moderate	Medium	Significant	Medium
Technology Feasibility	Significant	Medium	Medium	Medium	Medium
No Guarantee on Return on Investment	Medium	Medium	Significant	Medium	Medium
No Regulatory Requirements	Major	Significant	Significant	Medium	Significant
High Investment Cost	Major	Medium	Major	Major	Major

The Project is Funded by the European Union and implemented by the Caribbean Maritime Centre (MTCC)

Source: MTCC Caribbean regional workshop presentation

The above information shows that lack of finance and the high cost of the investment required to comply with MARPOL VI presented significant constraints for shipping sector participants surveyed. Given the aforesaid, enforcement of MARPOL may be considered too costly for the States. Decisions to ratify and enforce MARPOL in developing States and SIDS may be made on the basis of perceived financial and technical support to enforce Conventions. Comments from a respondent as stated below further accentuate this point.

“...Through these treaties they probably get promises to help operationalize these treaties, so they expect that to be forthcoming if they sign these treaties. Then in

other cases, in order to get other aid like loans and grants from international donors, it might be a prerequisite for them to be signed on to these treaties.” (R 1)

4.3.4 Inadequate waste reception facilities

A summary of the respective States waste reception facilities (WRF) with the exception of Guyana is outlined in appendix IV. The data shows that none of the States had dedicated WRF in accordance with MARPOL residues and wastes requirements in their respective ports. However, a number of private services were offered for the collection of sewage and oily substances. Garbage collections in the States are generally offered by a national waste management authority. It seems that the assignments of responsibilities regarding waste collection were not clearly defined. Given that Jamaica has one of the highest vessel calls annually in the Caribbean, and T&T is a significant exporter of oil and gas, necessitate the need for adequate WRF to prevent ship waste discharges into the sea. Participants indicated that WRF are rarely used by many ship operators, suggesting cost and possibly lack of convenience as reasons.

There is an urgent need to assess and develop more adequate solutions to waste disposal in the Caribbean. Governments have acknowledged the need for preventative measures to curb ship-source pollution as this was highlighted in several of their maritime national development plans and strategies. However, many of these plans are in the embryonic phase.¹³¹ In recent times, a private firm in the Bahamas initiated an agreement with the Bahamas government authorising them to develop sustainable waste management

¹³¹ T&T, 'Vision 2030 The National Development Strategy of Trinidad and Tobago 2016 - 2030'; Jamaica 'Vision 2030 Jamaica National Development Plan 2016' at 133

solutions to address ship-source pollution. The company has recently signed a financing agreement with the IDB to develop a marine waste reception and processing facility.¹³² This shows that governments in the region can leverage private-partnership to develop solutions for WRF, given the high cost and operational complexity.

4.4 Assessment of the responsible organisations for PSC

Four (4) PSC divisions in the Caribbean were surveyed to assess the organisational setting in which MARPOL must be enforced and these were Guyana, SVG, T&T and Jamaica. See Appendix V for background information of the PSC divisions.

4.4.1 PSC divisions areas assessed

The human resource and structural capacity of the PSC divisions were examined to determine their organizational capabilities to enforce MARPOL.

4.4.1.1 Human resource capacity

Participants were asked a series of human resource questions to understand the extent to which the PSC divisions' current capacity levels impacted compliance with the Convention, particularly related to the PSC vessel inspection function.

¹³² IDB, 'Announces approval of the first Caribbean marine waste reception and processing facility' (IDB, 22 July 2019)< <https://bidlab.org/en/news/1385/idb-announces-approval-first-caribbean-marine-waste-reception-and-processing-facility>> accessed 9 September 2020

4.4.1.1.1 PSC divisions HR capacity levels and the impact on PSC inspections

It was noted that the Philippines PSC division functions with 6 PSCOs and conducts 3000 inspections annually on average in the Asia-Pacific region.¹³³ Therefore the researcher used 6 PSCOs as a benchmark for adequate HR levels. From the data gathered PSC divisions from Jamaica and T&T had adequate PSCOs while both SVG and Guyana had insufficient PSCOs to carry out inspections. The data as shown in table 7 revealed that only T&T met the CMOU 15% inspection target in 2018 and 2019.

Table 7: Representation of PSC HR capacities and inspection levels

PSC STATE DIVISION	# OF PSC INSPECTORS	HR IMPACT ON INSPECTIONS	PSC INSPECTION TARGET (18/19)	# PSC TRAINING (2019)	INSPECTIONS 2018	INSPECTIONS 2019
SVG	2	Minimal	No	0	5	10
GUYANA	2	Major	No	3	9	2
T&T	6	None	Yes	2	143	143
JAMAICA	6	None	No	2	100	126

Source: data gathered from participants and the CMOU reports (2018/2019)

Participants were asked to comment on their ability/inability to meet the CMOU inspections target to determine the factors attributed to their performance. Data gathered from the respondents indicated the following:

- ✚ T&T – had a dedicated unit for PSC which operates within the remit of the CMOU inspection target and PSCOs had higher levels of prerequisite skills and

¹³³ TOKYO MOU: Annual Report on Port State Control in the Asia-Pacific Region (2018) at16

competencies. It must be noted that T&T is one of the MAs in the Caribbean which is housed under a Ministry.

- ✚ Jamaica data suggested a lack of leadership support from policy-makers and competing priorities. Difference and disagreement among respondents from Jamaica was observed from the responses.
- ✚ Guyana had insufficient PSCOs to carry out inspections. This was also highlighted by Guyana at the recent MTCC second regional work.
- ✚ SVG relied on neighbouring States to perform vessel inspections, and the distance of some of their ports hindered inspections.

Disparities among PSC divisions exist and should be taken into consideration. It seems that while PSC divisions in T&T and Jamaica had comparable PSCOs, Jamaica is not presently meeting its obligations under the CMOU. Jamaica's 2030 vision plan seems to largely stressed the need for stronger institutional building towards performance within its public sector institutions.¹³⁴ Guyana from the period 2012-2016 according to the CMOU's data registered no inspections. This may seem to suggest deficiencies in human capacity but longstanding HR issues can be more of an institutional capacity problem. Organisations should be able to appraise and advance their staffing demands over time. The fact that Guyana only registered 2 inspections for 2019, even with 2 PSCOs appears to signify deeply rooted capacity issues as opposed to PSCOs and training. While SVG is not currently meeting the CMOU's target, data shows an endeavour to step up inspections. It was revealed that ongoing governmental efforts towards effective supervision and regulation of maritime affairs contributed to the 2019 increase and not additional PSCOs or training. This shows that governmental support can influence inspection. The comment

¹³⁴ Jamaica 'Vision 2030 Jamaica National Development Plan 2016' at 133

below further highlights the need for greater support from policy-makers in their approach towards PSC.

“Outside of us as a group coming together and discussing issues and doing our own research there is no real engagement. There is a disconnect between the policy makers and the work force. They would attend conferences but there is no feedback or sharing of information with the inspectors.” (R 19)

The aforesaid findings appear to indicate the urgent need for a strategic approach to capacity building in the PSC divisions in the Caribbean.

4.4.1.1.2 PSCO in-house training program

Three of the divisions reported providing training for PSCOs in 2019, while one expressed no training was offered for quite some time. Participants were asked to specify the last two internal trainings done, and their influence on performance. Both participants in T&T and Jamaica named specific training programs including Anti-fouling, IMO training seminar, IBIA Bunker training seminar, specialized training in PSC in Iran. Respondents from T&T and Jamaica mentioned that the programs added additional staff and increased their inspections. The data showed a 26% increase in inspections for Jamaica but no increase for T&T for 2019, however T&T continues to consistently meet the CMOU 15% target. Guyana indicated that three (3) training sessions were done in 2019 and these contributed to increase in inspections, yet, for 2019 the data showed a decline of inspections from 9 to 2 inspections. A fresh press release by the Ministry of Public Works in Guyana titled “MARAD is being realigned, repositioned and restructured...” emphasised the need for an assessment of the barriers which hinder performance in this MAs. An extract is highlighted below.

“The immediate task of the administration in that within the next 10 days to conduct a review of all its systems, functions and to assess the capacity and skill sets of its employees.”¹³⁵

It appears that the divisions do not have structured internal training programs and systems for evaluating and refreshing the technical capacity within the divisions. While there are some institutions in the States that provide maritime training, it seems that PSC training does not form part of these institutions’ curriculum. This may be because PSC training is considered highly technical and specialised. In other regional PSC MOUs, dedicated PSC training is offered through a number of educational institutes to facilitate a higher degree of professional knowledge and harmonisation of more complex PSC issues and procedures.¹³⁶ The data showed high dependency by all States on external PSC training programs administered on a regional or international basis. They also seem to be largely funded by the CMOU, IMO and other regional MOUs, and not the individual States. Given that periodic training is a key necessity outlined in the procedures for PSC; “...Administrations shall endeavour to train PSCOs, maintain PSCO competence, and conform to the CMOU competence procedures through training programmes ...”, it can be articulated that enforcement of the Convention may be frustrated by a lack of qualified PSCOs in the Caribbean due to the apparent absence of training mechanisms which was highlighted as a major factor that influences inspections.¹³⁷

¹³⁵ Ministry of Public Works, *supra* note 130

¹³⁶ See generally, Paris MOU on Port States Control ‘Port State Progression; Detention Rate (9 July 2020); TOKYO MOU *supra* note 125; USCG *supra* note 142; Armando *supra* note 69 at 221

¹³⁷ Yuan et al, *supra* note 37

4.4.1.2 Structural capacity

The participants were asked a series of questions to understand what systems and processes were in place within the PSC divisions for effective enforcement of the MARPOL provisions. The information presented in table 8 represents analysis of the information gathered from PSC divisions as well as the PSCOs. See Appendix for the complete data gathered.

Table 8 : PSC divisions systems and processes

Capacity Indicators	SVG PSC Div	Guyana PSC Div	T&T PSC Div	Jamaica PSC Div
National maritime strategy	Negative	Negative	Negative	Negative
Training plan	Negative	Negative	Negative	Negative
Standard operating procedures	Positive	Positive	Positive	Positive
Quality management system	Negative	Neutral	Negative	Negative
Strategic Action Plan	Positive	Neutral	Neutral	Neutral
Quality management system for monitoring, communicating and reporting	Neutral	Neutral	Neutral	Neutral
Maritime electronic system	Negative	Neutral	Positive	Positive
Electronic devices	Negative	Negative	Negative	Negative
CMOU technical manual	Positive	Positive	Positive	Positive
A registry of fuel oil suppliers	Positive	Negative	Negative	Negative
Performance management system	Positive	Negative	Positive	Positive
Indicators Key	Positive - Evidence point to existence of the indicator from the data gathered			
	Neutral - No evidence, the indicator remain undefined			
	Negative - Evidence point to non-existence of the indicator			

Source – responses gathered from the participants together with the data found in official documents were used to populate TABLE 8 – See appendix VI for complete data.

Analyses of the indicators in table 8 seem to suggest that the PSC divisions have limited structured systems and processes (according to the IMO III Code, PSC procedures and managerial concepts) to exercise their rights and obligations under MARPOL. Firstly, it appears that none of the States under study had instituted national maritime strategy, this

was also highlighted at a regional workshop by other States in the Caribbean.¹³⁸ It must be appreciated that adoption and enactment of legislation in accordance with international maritime agreement should be preceded by maritime policy, “which is then transferred into law”¹³⁹ Maritime policies set the stage for adoption, and ensures effective implementation and enforcement of international agreements. A national maritime strategy will allow the MAs to set clear objectives and performance indicators to ensure effective implementation and enforcement of MARPOL. Presently some States seem to have recognise the need to institute a maritime policy framework as data revealed plans to establish national maritime policy are now entrained in some States.¹⁴⁰ The absence of a maritime policy in most States provides a great opportunity to foster collaboration between the States for the purpose of resource pooling, knowledge transfer and capacity building towards a more harmonise approach to maritime strategies and legislation within the Caribbean.

Secondly, while respondents highlighted a number of mechanisms within each agency to carry out PSC inspections, mechanisms and systems to support organised and harmonised inspections among the States seemed to be limited. Respondents indicated use of the CMOU Caribbean Maritime Information System (CMIS), which facilitates the recording of inspections and information sharing. However, it was noted that information on members’ inspections commitment seem not to be registered or not published. Information on members’ anticipated inspections collected and published by the CMOU would be helpful to determine compliance levels of the States. Also, there appears to be a need for collaborative mechanisms/initiatives to monitor, measure and expose ship operators who engage in non-compliance practices. A number of stakeholders in the shipping industry

¹³⁸ MTCC, *supra* note 22 at 85-104

¹³⁹ Mukherjee and Brownrigg, *supra* note 20 at 174

¹⁴⁰ SVG, T&T, Barbados, Suriname

rely on information to make decisions about ship operators performance.¹⁴¹ Programs similar to the Concentrated Inspection Campaigns, QUALSHIP 21 and Black-White and Grey list¹⁴² can help to expose ship operators who engage in non-compliance practices and also encourage continuous quality operations and reward high-quality ships. The need for harmonization of PSC activities within the Caribbean was one of the key issues discussed at the IMO's 7th Meeting of the Implementation of IMO Instruments (III) in 2019.

Thirdly, the responses from the respondents seem to suggest that in most cases the divisions' internal arrangements reflected unstructured systems and undocumented processes. A majority (67%) of the PSCOs interviewed indicated their divisions have not established formal targets and QMS to support reporting and communication among the stakeholders, 59% indicated they did not use performance review mechanisms in respect of exercising its PSC activities and 75% indicated that meetings addressing periodic reviews and performance evaluations are rarely or never held. Based on the analyses of the data submitted by the divisions the issue of unstructured systems and procedure was found largely among Guyana and SVG. It must be noted however that SVG seemed to be making improvements to address these issues, given the recent maritime projects.¹⁴³

Stakeholder communication approach varied considerably among divisions. These included; stakeholders meeting, shipping notices, one on one communicating and an e-maritime system. It was evident from the data that QMS was needed to buttress

¹⁴¹ Flag and port States, government agencies, charterers, insurers and classification societies are continuously looking for data and information on ship operators.

¹⁴² See generally, Paris MOU on Port States Control 'Port State Progression; Detention Rate (9 July 2020); TOKYO MOU supra note 125; USCG supra note 142;

¹⁴³ See supra note 107

coordination and communication among entities and stakeholders involved in the implementation and enforcement of MARPOL.

The absence of QMS and the lack of mechanisms for continuous review of overall performance and capability was a key area to be addressed in all of the divisions.

4.5 Caribbean PSCOs profile

4.5.1 Professional skills and experience

Figures 6 to 7 reflect data gathered from responses of 12 PSCOs spread across 7 PSC divisions throughout the Caribbean, and from 6 PSCOs in the Philippines. Questions pertain to their professional background and experience. Generally, the combined skills and experience from the PSCOs in the Philippines reflected higher degrees in most areas, this was only from one PSC division as compared to 7 PSC divisions from the Caribbean.

Figure 6: Caribbean PSCOs experience

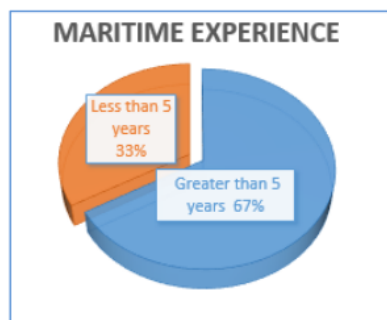


Figure 7: Philippines PSCOs experience

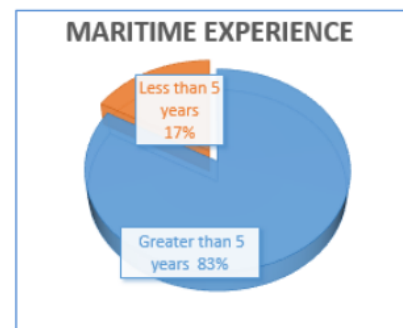


Figure 8: Caribbean PSCOs seafaring experience

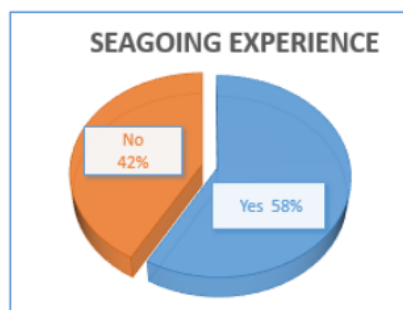


Figure 9: Philippines PSCOs seafaring experience

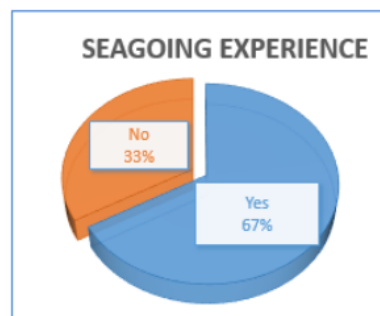


Figure 10: Caribbean PSCOs Education

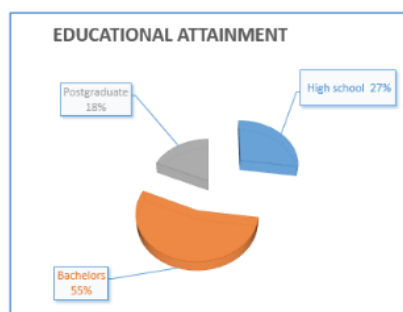


Figure 11: Philippines PSCOs Education



PSCO background can influence detention during inspections.¹⁴⁴ None of the PSCOs interviewed in the Caribbean had an engineering background and only 5 of the respondents indicated they had seafaring experience. PSC inspections can be highly subjected to the background and training of officers given the technical complexity of ships. 71% of the respondents indicated that engineering and seafaring should form a key part of PSCO recruitment and development.

¹⁴⁴ A study done on PSCOs influence of inspections and detention concluded that PSCOs from PMOU engineering and seafaring background and high knowledge of PSC contributed to the success of this MOU in regards to inspections and detentions. Graziano et al, supra note 73

Respondents outlined the need for both technical skills and behavioural skills to be developed on an ongoing basis for officers. Technical skills mentioned included: technical aspects of ships, understanding of the PSC function and the Conventions, or seafaring experience. Behavioural skills such as communication, honesty, professional judgement, or respect were also identified by the respondents. 87% of the respondents asserted that behavioural training rarely forms part of the PSC training programs. This was also observed in examination of the syllabus of the 2018 Caribbean Ship Inspector Training (CASIT) course held by the IMO for new officers. It is indisputable though, that in any industry behavioural training is critical to improve the quality and expertise of the human resource capacity, more so the maritime industry, given its internationalised nature. Maritime respondent 2 asserted that behavioural training should form a main part of the PSC training programs given the need to use professional judgement during inspections.

4.5.2 Role and duties

Respondents were asked to answer a series of questions related to their approach with vessel inspections. In terms of inspections frequency, 75% of the respondents mentioned that regular inspections were performed based on SOPs. 25% stated rarely or never done. However only 50% of this 75% group performed follow-up actions to ensure that previous vessel inspections deficiencies were rectified. Participants stated their failure to verify deficiencies stemmed from insufficient resources. Insufficient equipment for

inspections and other resources were also identified as a major issue among other regions' PSCOs.¹⁴⁵

4.5.3 Awareness

To determine the participants' awareness of guidelines governing the PSC function a series of questions were asked. The greater majority of the PSCOs in the Caribbean (67%) specified high levels of awareness in relation to the CMOU's governing procedures, the MARPOL Convention and the PSC procedures. 23% were either moderately or slightly aware. Comparatively all of PSCOs from the Philippines seem to be fully aware of all the guidelines within their jurisdiction. Lack of understanding of the overarching procedures of their job function can inevitably affect their performance.

4.6 PSC capacity building in the Caribbean

The CMOU is the responsible institution for coordinating all the PSC activities in the Caribbean. Capacity building is a main part of the MOUs institutions responsibilities. From 2003 to date they have sponsored a number of PSCOs in the Caribbean to attend several training initiatives regionally and internationally. Also in 2009 they held their first PSC seminar, which has been ongoing ever since. Furthermore, the Caribbean PSC divisions have received a significant amount of support from the IMO and other international PSC institutions such as the United States Coast Guard (USCG), the Paris MOU and the Tokyo MOU to build and develop their PSCOs capacities. Most of the training programs were focused on increasing PSCO knowledge in areas of the

¹⁴⁵ Chien-Chung Yuan, Rong-Her Chiu and Cunqiang Cai, 'Important Factors Influencing the Implementation of Independent PSC Regimes' (2020) 8(9) JMSE at 4

international instruments, or practical application. Also the data gathered from the participants seem to suggest that programs were more geared towards updating present officers' knowledge as opposed to providing training for new officers. This was the main reason indicated by R 5 for the failure of the past capacity building programs to improve the region's inspection rate. He stated that the region needed a structure that can offer courses such as the IMO's CASIT course on a continual basis to ensure sustained capacity building of the PSC divisions. This was a key feature found in the other regional MOUs. Most of the successful MOUs have dedicated training institutions which in some cases necessitate extensive training and qualification to qualify PSCOs.

Respondents were asked to comment of whether the capacity building programs offered by the CMOU and other bodies were sufficient. Most of the respondents mentioned some level of usefulness towards performing inspections, however the general perception from respondents was that most of the programs were not specifically aligned with the specific needs within their PSC divisions. Reasons submitted for this claim were, the duration of these programs, the loaded curriculum, little collaboration between donors and recipients, and the lack of follow-up support. Capacity building donor funded programs should be implemented in such a way they enhance the State's ability to solve its problems and build its own capabilities and from the donor's perspective, projects should be evaluated based on the positive impacts of the project on the organisation or sector.¹⁴⁶ R4 stated that most of the programs in the Caribbean met the objectives of the donors, but did not have much of an impact on helping States' build competences which impacted their performance. Consider the viewpoint of one respondent in the paragraph below.

¹⁴⁶ Donella H Meadows, *Thinking in Systems* (First pub Earthscan 2009) at 135

“I participated in a regional workshop on the implementation of the IMO model course on energy efficiency operation of ships. It was a good work shop, but it was a two-day workshop. That is the first issue I see with these capacity building programs; the length of time. This was a two-day exercise to introduce a new course on a new area in the maritime environment. There is no way after two days, an institution which is expected to train and certify persons in this area can learn to do so over a two-day period” (R 4)

Many of the IMO’s donor funded programs are provided on a short-term basis with the expectations of continuation of the program by local governments., A study done by the United States Free Trade Commission and the Antitrust Division of the Department of Justice to assess the effectiveness of development programs which were implemented discovered two main findings. Firstly, a need for greater collaboration between provider and the recipient at the planning stage and secondly, the need for long-term engagement assistance. Many of the participants agreed that greater support and collaboration among the region’s governments is needed to build their own capacity programs to develop both the PSC divisions and the officers.

CHAPTER 5

5.0 Summary discussion and opportunities

5.1 Summary discussion of the hypotheses and objectives

Chapter 4 set out to answer research questions 1 to 3 as outlined in chapter one of this paper. From the investigation and discussion of the findings, the following conclusions were gathered.

- ✚ Ratification and domestication were used as indicators for support as a possible influencer on PSC enforcement (inspections), thereby satisfying hypothesis 1. The findings revealed that while the requirements of ratification and national legislation were met in the case of SVG and Jamaica their inspections were much lower than T&T where many of the Conventions have not been transposed. A policy that is successfully ratified and placed into national law but not enforced cannot be considered effective. Therefore, from the view of the States under study neither ratification nor domestication constituted support or offered compelling explanations that any of the above may increase enforcement levels of MARPOL in the Caribbean. Using the insights gathered from chapter 2 under enforcement theory, these compliance anomalies may indicate States ratification/domestication act is quite different from their willingness to comply

with the Convention.¹⁴⁷ Furthermore, if in fact the IMO VIMSAS was the driving force of the recent efforts to enforce MARPOL in some States then regulatory enforcement mechanisms such as monitoring which encourages supervision, rule-conforming behaviours and strategies to enhance capacity may prove to be more meaningful in the efforts to increase enforcement levels of MARPOL.

📖 It appears that governmental influence/support towards increasing enforcement of MARPOL is better measured through themes such as priority, committable actions, initiation, feedback, training and resources allocation. These themes represented 64% of the overall themes coded from data gathered from respondents. A study published at the writing of this paper by Chien-Chung demonstrated that factors underlining administrative support was considered the second largest influencer on PSC inspections.¹⁴⁸ However, for this study, it appears that the administrative capacity of the States government was identified as having the highest impact on enforcement levels of MARPOL. However, these themes were exceedingly difficult to quantify and rank. The difference of effect on the States was also noticeable. Non-prioritisation of maritime related matters was frequently discussed among respondents and the need for heightened awareness of the maritime sector.

📖 Low levels of institutional capacity within the PSC divisions in the Caribbean seemed to be a major problem. Some Caribbean MAs and PSC divisions appear to be inundated with protracted forms of incapacity. Assessment of recruitment,

¹⁴⁷ Tallberg, *supra* note 70

¹⁴⁸ Yuan et al, *supra* note 145 at 13

selection and development methods of PSCOs within the divisions suggest an absence of adequate human resource planning which directly impacts the divisions' performance and ability to improve inspection rates. Furthermore, the need for systems geared towards performance objectives and PSCOs development was also apparent.

📊 Capacity building programs contributed marginally to develop the PSCs capabilities to improve their performance. The findings revealed that programs offered by the IMO and other regional and international bodies may have ignored issues of structure, processes, relationships and legitimacy. Any capacity development program for PSC done through a one-size fit all approach, may be counterproductive or the level of success can be expected to lessen. Therefore, capacity building programs should be tailored to the uniqueness of the Caribbean States' PSC divisions since their attitudes varied towards enforcement.

📊 There was overwhelming support (87.7%) by respondents for regional initiatives to increase implementation and compliance with MARPOL. Respondents had a very optimistic outlook towards the CMOU. This suggests a high probability of building capacity and increasing compliance with MARPOL through regional initiatives.

5.2 Potential for increased enforcement levels of MARPOL

Participants were asked to share their views on increasing implementation and enforcement levels of MARPOL in the Caribbean. Viewpoints represented a divergence of opinions- a small percentage (15%) seemed to favour stringent regulatory measures, a

greater majority (65%) stated some form of capacity building measure, and 20% mentioned international intervention.

To further assess the support for full implementation of the MARPOL in the Caribbean, the researcher inquired whether the participants felt that the MARPOL was a burden on the Caribbean, and also whether substandard shipping was an issue for the Caribbean. A clear majority of respondents (87%) supported full implementation of the MARPOL Convention. A small percentage though, felt that the Convention was inadequate or repetitious. Their comments are highlighted below.

“Yes, it is a burden to the policy-makers” (R 11)

“Yes, the Caribbean nations are not as wealthy to uphold the laws put in place by the leading countries.” (R 17)

“I believe some of them only due to the fact the vessels in the Caribbean fleet are not subject to some of the newer policies.” (R 14)

“Yes, I agree. This is due to the fact that most Caribbean States lack the financial capabilities and in some cases legislative support” (R 7)

A great majority (93%) of the respondents agreed that reducing substandard shipping in the Caribbean should be given priority, while 7% disagreed. Moreover, the data showed a high awareness overall for climate related problems.

5.3 Opportunities to improve PSC in the Caribbean

5.3.1 Regional cooperation

The success of the PMOU regime in reducing substandard shipping in their region has been largely attributed “to the increased use of coordinated and harmonised ship

inspections efforts.”¹⁴⁹ PMOU proves that regional cooperation to combat substandard vessels allows for the rational and efficient use of resources. Factors attributed to the success of this region’s cooperative efforts include: delegation of power to act through the EU supranational system, mechanisms for pooling and sharing resources and political support from the individual States.¹⁵⁰ Collective efforts have led to an array of PSC tools such as targeting database systems, online learning programs, and inspection support software among others. The PMOU has also been able to leverage resources and support from various EU bodies such as European Maritime Safety Agency (EMSA) and the EU Commission to enlarge their capabilities to ensure consistent compliance by ships with the IMO/ILO Conventions. Tallberg asserted that regional frameworks such as the EU are difficult to replicate on a short-term basis, however what it can illustrate is the key role of States delegating power to a regional body.¹⁵¹

Establishing similar types of arrangements in the Caribbean can be useful in Caribbean developing strong regional frameworks, which facilitates the pooling of resources to harmonise efforts for greater compliance with MARPOL. Such frameworks would allow for robust monitoring, reporting and verifications under PSC, given the regions’ limited resources. Furthermore, with these frameworks and desired outcomes in place funding from other States beyond the Caribbean region is likely to intensify.

5.1.2 United States Coast Guard (USCG)

In the United States, PSC falls under the USCG, also being independent of the IMO’s regional PSC regimes. This type of regime lends itself to added compliance, not just

¹⁴⁹ Graziano et al, *supra* note 69 at 217

¹⁵⁰ Tallberg, *supra* note 70 at 637

¹⁵¹ Tallberg, *supra* note 140

externally but also internally. The USCG has established a number of policies, standards and programs in the application of their PSC right. For example, they have a targeted program focus on exposing ship operators who engage in non-compliance practices. Additionally, there is an incentive program called QUALSHIP 21 which aims to encourage continuous quality operations and reward high-quality ships. In terms of enforcement, the USCG has a very rigid program for recruiting and enhancing the skills of PSCOs in the application of the PSC procedures. This involves a dedicated institution for training known as the Marine Inspection and Investigation School Training Centre which has developed several robust performance qualification standards (PQS), inclusive of the Tactics, Techniques, and Procedures (TTP) examiner program for PSC assessment. The TTP program was designed to ensure PSC's exams cover a variety of ship related activities to ensure compliance with applicable international standards and U.S. requirements. One of the main techniques used is role-play simulations. This is used to identify substandard vessels and impose controls until the substandard conditions are improved and the vessels brought into compliance.¹⁵²

Programs like this can offer a great starting point for other regions' maritime and PSC institutions to develop standardise training and examination procedures for recruiting, training and examining PSCOs. Standardised PQS can increase uniformity among the Caribbean States application of the PSC procedures. Furthermore, uniform development programs like these can allow for the exchange of technical resources throughout the region to fill temporary capacity shortage.

¹⁵² Department of Homeland Security United States Coast Guard 'Port State Control in the US: Annual report 2019' at 3; Department of Homeland Security United States Coast Guard 'Port State Control Examiner Tactics, Techniques, and Procedures (TTP)' (September 2019)

5.1.3 Communities of practice (COP)

COP promotes collective learning and is particularly advantageous when the goal is a moving target¹⁵³ as is the case in the shipping industry. Many of the problems faced by MAs in the Caribbean are not independent of other stakeholders. MAs are surrounded by a network of well-informed stakeholders that can provide a repository of knowledge and ideas to create a paradigm shift towards increasing capacity to meet the ever-changing requirements of the maritime industry.

CHAPTER 6

6.0 Recommendation and Conclusions

¹⁵³ Etienne and Beverly Wenger-Trayner, Etienne. "Communities of Practice: A Brief Introduction." (2011) presented at the University of Oregon STEP Leadership Workshop 20 October 201. See Scholar's Bank < <https://scholarsbank.uoregon.edu/xmlui/handle/1794/11736>> accessed on 16 August 2020

6.1 Conclusions

The research study examined whether capacity building of the PSC regime in the Caribbean can influence enforcement levels of MARPOL. Based on forgoing discussions it was clear that insufficient political, institutional and PSCO capacities hindered the enforcement levels of MARPOL in the Caribbean.

Firstly, the study demonstrated that major source of the problem seemed to be political support and influence which as entrenched within the political systems, and possibly States' reluctance to comply and enforce MARPOL. While ratification and domestication were considered as imperatives to increase enforcement levels, the data showed that the aforesaid did not improve some States position in performing inspections. Additional resources and technical support to improve PSC enforcement levels may only be advantageous if States within the Caribbean are willing to accept their non-binding right to execute PSC over their provincial seas, or perhaps through authoritative compliance methods.

Secondly, from the data it was revealed that PSC divisions' which are positioned under MAs did not have most of the necessary systems in place to carry out their duties effectively. National maritime strategies, training plans, performance evaluation systems and QMS for monitoring, reporting and communicating all form part of the PSC system, however these were limited in all States. Also, the development and welfare of the PSCOs in the region was a key issue affecting enforcement levels. The background of the PSCOs may suggest a major lack of capacity to exercise PSC among the States, given that Chien-

Chung highlighted this as a major factor that influences inspection results. In other MOUs, navigation and ship engineering are prerequisite for PSCO recruitment¹⁵⁴

Thirdly, most of CB initiatives for PSC in the Caribbean seemed to be largely sponsored by the CMOU, IMO and other regional MOUs. These were largely geared towards expanding or updating current PSCO knowledge. However, the data revealed there were no training institutions in the region to train and certify new PSCOs. This was a major issue which contributed to the shortage of PSCOs in the Caribbean, and can be expected to persist given that 3 of the PSCOs interviewed were over the age of 60. With the assistance of the IMO the Caribbean has recently trained a new complement of PSCOs to inspect smaller vessels. However, if the region is to employ PSC as a safety mechanism against ship-source pollution the focus needs to be geared towards developing sustainable solutions for the recruitment and development of PSCOs.

Fourthly, regional cooperation was the most favourable option chosen by the respondents to enhance the region's abilities to improve inspection rates. The annual training seminars offered by the CMOU and other regional MOUs can be used to strengthen the region's effort to build their own programs. Enhanced regional and international cooperation on capacity building programs can address capacity constraints. Collaborations can foster increased awareness of local conditions and emerging problems and challenges¹⁵⁵ while building on the experiences of others.

¹⁵⁴ Yuan et al, supra note 145 at 4, 7

¹⁵⁵ Ansell et al, supra note 53

6.2 Recommendations

The unique challenges faced by the Caribbean, do not excuse them from enforcing MARPOL at the minimal established standards, especially since they are the most exposed. Moreover, many other well-developed PSC regimes are strengthening regulatory influence on ships to comply with maritime regulations in their regions. As such, there is a high possibility that a lax approach to PSC enforcement in the Caribbean can result in a transfer of substandard ships to this region.

By and large, regional cooperation may be the only real solution for the Caribbean States to combat substandard shipping and marine pollution given the proximity of the States, the shared seas and shipping activities important contributions to the States' economies. Environmental sustainability practices are driving the maritime industry today, with inherent comparative advantages of economic prospects as well as potential negative impacts on maritime trade and States' economic growth. As such national approaches to PSC enforcement in the region might be disadvantages for the States.

Against the aforementioned the following below points are submitted as recommendations to advance PSC regional cooperation, build capacities, increase enforcement levels of MARPOL, so to enhance the region's agenda towards sustainable shipping.

- 🚧 Reorganise and strengthen the regional strategy on PSC and the CMOU- The CMOU provides a great framework to increase support and marshal efforts for full implementation and effective enforcement of MARPOL in the Caribbean as evidenced by the successes of the PMOU and TOKYO MOU. However, the prevailing structure and arrangement appears to lack the strength to increase PSC inspections. Reorganising the CMOU can allow for new innovative apparatuses and approaches in line with the components highlighted in this paper under regional cooperation. Generally institutional reforms are possible where there is

decided political efforts and when changes to a sector are designed and implemented by capable planners and managers.¹⁵⁶ Therefore, to be successful, governments in the Caribbean should commit to an authoritative agreement granting supervisory powers to the CMOU.

✚ Improve approach to capacity building for PSC divisions- Capacity building efforts should be directed towards PSC divisions. Collaboration among Governments, MAs and donors is needed to understand the capacity needs within the PSC divisions. The IMO VIMSAS provides a baseline to assess areas within the MAs PSC divisions that require improved systems and structures. If the States' VIMSA can be shared with the CMOU it may be a step in the right direction. The approach should include: efficient indicators to determine level of support and readiness, clear time-bound objective strategies and performance indicators aligned to proposed capacity building initiatives. Tools such as the ECDPM '5Cs' framework (see appendix VII) can support this approach.

✚ Established regional training/career development programs for PSC in the Caribbean – PSC should be promoted in the region as a career option for students pursuing higher education. PSC training and professional maritime development/qualifications should be akin to undergraduate and postgraduate level programs. The Caribbean Maritime University holds great prospects given their ongoing involvement in maritime training. Funding will need to be agreed

¹⁵⁶ Cerna, Lucie. 'The nature of policy change and implementation: A review of different theoretical approaches' (2013) *OECD* at 15

upon by the CMOU member States. Notwithstanding, external experts provide support through curriculum and examination development, lecturing, workshops, information exchange and other sponsored CB initiatives.

- ✚ Leverage the stakeholder community of government, industry and educational organizations involved in shipping to enhance and build capacity. Public-private partnerships can strengthen resource capacities and promote research capabilities and knowledge enlargements inside public organisations such as MAs. A strong network of stakeholders such as shipping agencies, custom brokers, ship operators, ports, freight forwarders, MAs and regional bodies such as the Women in Maritime Association Caribbean, MTCC Caribbean, Caribbean Shipping Association, among others can reinforce governmental lobbying efforts to improve policy implementation and enforcement in the Caribbean. This can help to progress the agenda of MAs/PSC divisions to properly govern the region seas against substandard ship operations and pollution and also, provide benefits such as adequate waste management solutions for ships, increased efficiencies in some maritime business areas, and possibly cost savings for the private shipping sector.

6.3 Contribution, limitation and future research

This research demonstrated that the capacity constraints experienced by PSC in the Caribbean are seriously ingrained within the governance and institutional frameworks, which may be beyond the reach of international efforts, without decided governmental support. This maybe the reason why various donor funded projects to build capacity in

some of these areas may have been unsuccessful in demonstrating substantial improvement of implementation and enforcement levels of MARPOL and other IMO/ILO Conventions in the Caribbean. The limitations of this study emerged due to the small number of participants (PSC Divisions and PSCOs) from the Caribbean. The significant findings however, warrant the potential to further expand this study by including more States, inspection observations and a deeper assessment of PSCOs behavioural capacity from seafarers' perspectives.

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Appendices

Appendix I – PSCO questionnaire

This questionnaire should be administered to - Port State Control Officers

You are invited to participate in this interview which aim is to determine the current capacity (human resource) level of the PSCOs in the Caribbean region to effectively implement and enforce the obligations of the MARPOL convention. Your participation is completely voluntary and without any payment. Your responses will be treated in the strictest confidence and anonymised. You are welcome to withdraw from the research at any time. Thank you for your participation.

Nationality_____ Age_____Organization (Optional):

Occupation: _____Number of years in Maritime Industry:

Highest Education level_____ Institution_____

Highest Professional Qualification_____ Institution_____

Do you have seagoing experience? - Yes or No. If yes, how many years_____

Please choose the appropriate response to the list of statements below

I AM FULLY AWARE OF THE PROVISIONS IN THE MARPOL CONVENTION	NOT AT ALL AWARE	SLIGHTLY AWARE	MODERATELY AWARE	VERY AWARE	EXTREMELY AWARE
I routinely attend PSC training	Never	Rarely	Sometimes	Often	Always
I routinely attend communication training	Never	Rarely	Sometimes	Often	Always

I routinely attend conflict resolution training	Never	Rarely	Sometime	Often	Always
I routinely attend leadership training	Never	Rarely	Sometimes	Often	Always
I attend weekly meetings in my department to discuss PSC concerns and inspections	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
I carry out inspections on all required ships coming to a port	Never	Rarely	Sometimes	Often	Always
I have the resources I need to carry out inspections	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
My organisation has established formal targets for my unit	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
I am familiar with the CMOU's inspection target	Not at all familiar	Slightly familiar	Moderately familiar	Very familiar	Extremely familiar
It is very important to reduce the operation of sub-standard ships in the Caribbean	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree

Which of the following do you use regularly?

Word processing_____ excel of other spread sheet_____ email/internet____ other (please specify)

Please indicate if you utilise the following tools in your organisation to perform your daily duties.

- a) Standard Operating Procedures (SOPs) Yes _____ No _____
- b) Quality Management System (QMS) for communicating, monitoring and recording of information. Yes _____ No _____
- c) Single Electronic Platform for sharing information among agencies. Yes _____ No _____
- d) Electronic devices (tablets) to carry out inspections. Yes _____ No _____
- e) CMOU Technical Manual. Yes _____ No _____
- f) A registry of fuel oil suppliers Yes _____ No _____
- g) Performance review platform/mechanism in respect of the PSC obligations. Yes _____ No _____

Discussion Questions

- 1. Give a brief description of your most recent training.
 - a. Did it help with your ability to perform your duties more effectively? Yes, or No
- 2. In your opinion, what is the most critical skills needed for carrying out inspections successfully?
- 3. How often do you conduct inspections?
- 4. What is the main reason for the frequency of inspections carried out?
- 5. How often do you verify that outstanding deficiency from previous PSC inspections has been rectified?
- 6. In your opinion, which major factor/s impede PSC officers from effectively meeting the obligations under the MARPOL convention? (eg. lack of technical capacity, sufficient policy, resources or others).
- 7. Do you think that the IMO's instruments is a burden to Caribbean States? Yes, or No
- 8. Do you see shipping activities in the Caribbean as an imminent threat to the region?

Appendix II – PSCO division questionnaire

Discussion-Oriented Organizational Assessment of the Maritime Organisation re: Port State Control

I. HUMAN RESOURCE MANAGEMENT

1. How many PSCOs are there in your division?
 - a. To what extent is the number of officers carrying out PSC functions sufficient with the demands of the workload?
 - b. To what extent PSCOs, as a group, have the requisite skills to carry out their functions?
2. Over the last 12 months, how many training events has your organisation held for PSCO?
3. Has your organisation ever participated in a PSC exchange of officers' program in the Caribbean Region?

We routinely offer PSC training	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
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4. How has your most recent PSC training (last two), contributed to improvements in PSCOs overall performance?
 - a. How were the areas of improved performance applicable to your human resource needs?
 - b. How did these training events of the PSCOs contribute to your planned organisational objectives?

II. ORGANISATIONAL

1. To what extent does the organisational structure aid or hinder effective implementation of the IMO's instruments?
2. To what extent does your organisation lack technical capacity, financial and other resources to effectively enforce the IMO's instruments?
3. What management systems your organisation has in place to achieve the following outcomes:
 - a. Regular application of the provisions in the MARPOL convention.
 - b. Recording, monitoring and reporting of information to relevant agencies.
 - c. Information Sharing and Communication with agencies, stakeholders and other PSC divisions.
4. How have the systems identified above aid in the success of the PSC function?
5. To what extent based on your evaluation and analysis is the PSC unit meeting its targets and achieving intended impact?

III. REGULATORY

1. What polices are required to support implementation and enforcement of the MARPOL convention?
2. A strategy based on regional cooperation among Caribbean States may be more advantageous to ensure enforcement and mandatory compliance with the MARPOL convention. Do you agree with this statement? Please specify a reason for your response.

Appendix III– Interview Instrument

Interview Questions

1. Is non-enforcement/non-compliance of international regulations in the Caribbean a result of deliberate actions and intentions to violate treaties? – follow-up with (why do government sign the Conventions based on the what you just stated?)
2. Why are so many PSC division in the Caribbean not exercising their “PSC right”?

- a.** should FSI and PSC activities form a major part of an overall region maritime development strategy?
- 3.** How do you rate the success of past capacity building initiatives implemented in the Caribbean to develop PSC competences and to implement/enforce policies?
 - a.** IMO programs and programs implemented through the UNEP – what has changes?
 - b.** Is there a regional training strategy for PSC officer development?
 - c.** What is the selection criteria for sending PSCOs on trainings?
- 4.** What core qualifications / competencies do you think maritime institutions in the Caribbean require for effective implementation of MARPOL?
- 5.** How are policies toward climate change and other environmental hazards viewed in the context of the societal ideals in the Caribbean?
- 6.** Do you see shipping activities in the Caribbean as an imminent threat to the region?
- 7.** What can be done to increase support in the Caribbean for regional and international maritime regulations.
- 8.** What can be done to build capacity in PSC divisions in the Caribbean, given the financial constraints of the region's States?

Appendix IV – States waste reception facilities provided

Jamaica WRF

Type of Waste	Can waste be received? Yes/No/Limited	Type of Reception facility (Fixed, Floating, Barge, Road)	Owner / Service Provider
Oily Tankers: washing or ballast water	No	None	
Oily bilge water, lube oils	Yes	Road	Private
Chemical tankers	No	None	
Sewage	No	None	
Garbage Domestic vessels	Yes	Road	National Solid Waste Management Authority
Garbage International Vessels	Yes	Road	National Solid Waste Management Authority
Ozone depleting substances	No	None	
Exhaust gas cleaning system residues	No	None	

T&T WRF

Type of Waste	Can waste be received? Yes/No/Limited	Type of Reception facility (Fixed, Floating, Barge, Road)	Owner / Service Provider
Oily Tankers: washing or ballast water	No ballast water	Road	Private
Oily bilge water, lube oils	Yes	Road	Private
Chemical tankers	Yes	Road	Private
Sewage	Yes	Road	Private
Garbage Domestic vessels	Yes	Road	Private or T&T Solid Waste Management Company (SWMCOL)
Garbage International Vessels	Yes	Road	Private or T&T Solid Waste Management Company (SWMCOL)
Ozone depleting substances	No	None	
Exhaust gas cleaning system residues	No	None	

SVG WRF

Type of Waste	Can waste be received? Yes/No/Limited	Type of Reception facility (Fixed, Floating, Barge, Road)	Owner / Service Provider
Oily Tankers: washing or ballast water	No	None	
Oily bilge water, lube oils	No	None	
Chemical tankers	No	None	
Sewage	No	None	
Garbage Domestic vessels	Yes	Road	Central Water and Sewage Authority
Garbage International Vessels	Yes	Road	Central Water and Sewage Authority
Ozone depleting substances	No	None	
Exhaust gas cleaning system residues	No	None	

Appendix V – Background information of the PSC divisions

1. Maritime Administration Guyana – The Administration was established according to the 1998 Shipping Act, Section 4, which states “There shall be a Maritime Administration Department herein after referred to as the “Department” and is responsible for all administrative duties on all maritime-related matters (Maritime Administration Guyana, N/A).

2. SVG Maritime Administration – The Administration was appointed by Cabinet in accordance with the Shipping Act, 2004 to carry out administrative duties on all maritime-related matters. (Saint Vincent and the Grenadines, 2017).
3. Maritime Service Division of T&T – A Division of the Ministry of Works and Transport with responsibility for maritime administration for Trinidad and Tobago, acting as the implementation, monitoring and compliance authority for most of the state's obligations in respect of international maritime instruments (MWOT, N/A).
4. Maritime Authority of Jamaica – The Shipping Act of 1998, therefore, created the legal regime to govern maritime affairs in Jamaica and provided for the establishment of a maritime administration (MAJ) to administer and enforce its provisions. (Maritime Authority of Jamaica, N/A).

Appendix VI – Findings on PSC divisions

Data gathered on SVG PSC Division

SYSTEM/PROCEDURES	COMMENT
MARITIME STRATEGY	No data found indicating there is a maritime strategy establishing an institutional, regulatory and administrative framework. This was also confirmed by participants.
IMPLEMENTATION PLAN	Currently implementing a corrective action plan from the findings of the IMO VIMSAS.

STANDARD OPERATING PRACTICES	YES
QUALITY MANAGEMENT SYSTEM FOR MONITORING AND COMMUNICATION	No data found indicating the use QMS for enforcing monitoring and reporting. Participants' comments indicated an unsystematic approach.
MARITIME ELECTRONIC SYSTEM	No
ELECTRONIC DEVICES	No
CMOU TECHNICAL MANUAL	YES
A REGISTRY OF FUEL OIL SUPPLIERS	YES
PMS	Limited Version. One participant indicated they have use one.
IN-HOUSE PSC TRAINING PROGRAMME	Participants stated no PSC training have been provided for quite some time.

Data gathered on Guyana PSC division

SYSTEM/PROCEDURES	COMMENT
MARITIME STRATEGY	No specifics were shared on a national maritime strategy. However, a review of the data has shown that an established institutional, regulatory and administrative framework has not been clearly defined.

IMPLEMENTATION PLAN	No data found indicating there is an implementation plan. Participants' responded 'Yes" however when asked for specifics responses were generic.
STANDARD OPERATING PRACTICES	No data found indicating the use SOP for internal and external communication. Participants' responded 'Yes" however when asked for specifics responses were generic.
QUALITY MANAGEMENT SYSTEM FOR MONITORING AND COMMUNICATION	Inter-agency meetings and shared data based systems with relevant agencies
MARITIME ELECTRONIC SYSTEM	No
ELECTRONIC DEVICES	Yes
CMOU TECHNICAL MANUAL	Yes
A REGISTRY OF FUEL OIL SUPPLIERS	No
PMS	No data found indicating the use of PMS. This was also confirmed by participants
IN-HOUSE PSC TRAINING PROGRAMME	Participants stated the organisation does in-house trainings however this could not be verified.

Data gathered on T&T PSC division

SYSTEM/PROCEDURES	COMMENT
MARITIME STRATEGY	Data found indicating a draft establishing institutional, regulatory and administrative framework for the country. Participants also confirmed
IMPLEMENTATION PLAN	No data found indicating there is an implementation plan. Participants also indicated that plans are awaiting approval.
STANDARD OPERATING PRACTICES	Information indicated the use SOP for internal and external communication. Participants' responded 'Yes' and made reference to specifics aspects of their SOP.
QUALITY MANAGEMENT SYSTEM FOR MONITORING AND COMMUNICATION	No data found indicating the use QMS for enforcing monitoring and reporting. Participants mentioned CMIS and TTBIZ Link Shipping Notices
MARITIME ELECTRONIC SYSTEM	Data indicated that there is a SEW platform, however participants indicated that they did not use one for sharing information among the agencies.
ELECTRONIC DEVICES	NO
CMOU TECHNICAL MANUAL	Yes
A REGISTRY OF FUEL OIL SUPPLIERS	No

PMS	Information indicated the use PMS for to evaluate performance. Participants' responded 'Yes" and made reference to specifics aspects of their PMS.
IN-HOUSE PSC TRAINING PROGRAMME	Participants indicated that most trainings are done by external bodies.

Data gathered on Jamaica PSC division

SYSTEM/PROCEDURES	COMMENT
MARITIME STRATEGY	No data found indicating an establishing institutional, regulatory and administrative framework. This was also confirmed by participants
IMPLEMENTATION PLAN	No data found indicating there is an implementation plan. This was also confirmed by participants
SOP	YES
QMS	No data found indicating the use QMS for enforcing monitoring and reporting. Participants mentioned the CMIS and TTBiz Link systems
SEW (E-MODULE)	No
ELECTRONIC DEVICES	No
CMOU TECHNICAL MANUAL	Yes

A REGISTRY OF FUEL OIL SUPPLIERS	No
PMS	No data found indicating the use of PMS. This was also confirmed by participants
IN-HOUSE PSC TRAINING PROGRAMME	Participants stated the organisation does not do any form of internal training

Appendix VII – European Centre for Development Policy Management (ECDPM) ‘5Cs’ Model

ECDPM ‘5Cs’ model envisions capacity as multidimensional concepts and places focus on the internal organisation and its contextual environment.¹⁵⁷ Albeit this model places greater focus on understanding the intangible aspects of the organisation. The ECDPM model is founded against the backdrop of two principles, firstly, a systematic understanding of a multi-stakeholder approach and varying visions and strategies. Secondly, it defines five core capabilities that every organisation/system must have to achieve its development success. These include:

- ✚ The capability to act and commit - deals with an organisation’s planning, decision-making and action oriented ability.

¹⁵⁷ (Baser and Morgan 2008).

- ✚ The capability to deliver on development objectives and produce outcomes.
- ✚ The capability for adaptation and self-renew – a learning organism which is flexible and adaptive.
- ✚ The capability to relate to external stakeholders- building and maintaining networks with external actors.
- ✚ The capability to achieve coherence - strength of an organizations' identity, self-awareness and discipline.
- ✚

This model can be used as a point of reference to determine current gaps in the PSC divisions' capabilities.