Effects of the standards of training, certification and watchkeeping for seafarers (STCW) 78 convention, as amended, on Kenya's maritime education and training (MET)

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EFFECTS OF THE STANDARDS OF TRAINING, CERTIFICATION AND WATCHKEEPING FOR SEAFARERS (STCW) 78 CONVENTION, AS AMENDED, ON KENYA’S MARITIME EDUCATION AND TRAINING (MET)

By

WANGA MICHELLE HELLENA

Kenya

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

MASTER OF SCIENCE

In

MARITIME AFFAIRS

(MARITIME EDUCATION AND TRAINING)

2015

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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.
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Institution/organisation: European Maritime Safety Agency
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To my beloved mum and family, thank you for your massive support, reassurance and prayers throughout my studies. To Reynir Harðarson, thank you for your cheer and immense support. Most importantly, I give all tribute to the Almighty God for being my beacon, guide and strength.
Abstract

**Title of Dissertation:** The effects of the Standards of Training, Certification and Watchkeeping for Seafarers (STCW) 78 Convention, as amended, on Kenya’s Maritime Education and Training (MET)

**Degree:** MSc

The dissertation is a study of the effects of the STCW 78, as amended, on Kenya’s MET. In this regard, it takes into consideration the recent requirements of the 2010 Manila amendments to the said Convention, and the set International Maritime Organization (IMO) deadline for Governments to comply with the mentioned provisions.

Sequentially, the work examines the effects of the Convention, as amended, on Kenya’s Maritime Education and Training (MET) by initially exploring the historical and contemporary status of the country’s MET. Furthermore, it delivers a comparative analysis of Kenya’s strategies in the execution of the STCW 78, as amended, with those of the Philippines, Japan, Egypt and the Netherlands, in order to provide a platform for Kenya to appraise itself and benefit from the experiences of other IMO States, as well as draw lessons for its MET. The study also seeks to envisage the future of Kenya’s MET.

Thus, the findings from the study’s data analyses demonstrate that the Convention, as amended, has influenced Kenya’s MET. However, it also identifies certain challenges in the country’s endeavours to comply with the STCW 78, as amended. Additionally, the work also recognizes the significance of strategy use in the implementation of the amended Convention. In conclusion, the study suggests how Kenya can benefit from other nations’ experiences of implementing the STCW 78, as amended, and draws lessons for its MET. If considered, these responses could reinforce Kenya’s STCW compliance efforts and play a vital role in the progress of its future MET.

**KEYWORDS:** STCW 78, as amended, 2010 Manila amendments, Convention, Competence, MET (Maritime Education and Training), IMO, States (or member States), Strategy
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<th>Description</th>
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<tbody>
<tr>
<td>AASTMT</td>
<td>Arab Academy for Science, Technology and Maritime Transport</td>
</tr>
<tr>
<td>EAMS</td>
<td>Egyptian Authority for Maritime Safety</td>
</tr>
<tr>
<td>EEZ</td>
<td>Exclusive Economic Zone</td>
</tr>
<tr>
<td>EMSA</td>
<td>European Maritime Safety Agency</td>
</tr>
<tr>
<td>Et.al</td>
<td>And others</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>IMO</td>
<td>International Maritime Organization</td>
</tr>
<tr>
<td>JICA</td>
<td>Japan International Cooperation Agency</td>
</tr>
<tr>
<td>JCUAT</td>
<td>Jomo Kenyatta University of Agriculture and Technology</td>
</tr>
<tr>
<td>KICD</td>
<td>Kenya Institute of Curriculum Development</td>
</tr>
<tr>
<td>KMA</td>
<td>Kenya Maritime Authority</td>
</tr>
<tr>
<td>KPA</td>
<td>Kenya Ports Authority</td>
</tr>
<tr>
<td>MARINA</td>
<td>Maritime Industry Authority</td>
</tr>
<tr>
<td>MET</td>
<td>Maritime Education and Training</td>
</tr>
<tr>
<td>MLIT</td>
<td>Ministry of Land, Infrastructure, Transport and Tourism</td>
</tr>
<tr>
<td>MTC</td>
<td>Maritime Training Council</td>
</tr>
<tr>
<td>OECD</td>
<td>The Organization for Economic Co-operation and Development</td>
</tr>
<tr>
<td>STCW</td>
<td>Standards of Training, Certification and Watchkeeping for Seafarers</td>
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CHAPTER ONE

1.0 Introduction

1.1 Background

About 75% - 96% of marine accidents which result to loss of lives and maritime pollution are triggered by human error (Popa, 2015; Jorgens, 2012; Yongxing, 2006). Zhu (2006) relates the above-mentioned faults to mariners’ incompetency and lack of requisite proficiency among others. According to Yongxing (2006), this situation can be resolved by generating competent seafarers which in turn will translate to safer shipping practices, cleaner oceans and limited economic risks for the maritime sector. This is also reiterated by Davy and Noh (2011) who affirm that Maritime Education and Training (MET) is pertinent in boosting sea safety.

Likewise, Alop (2004) highlights that ships are only as good as the officers who are able to operate them correctly. Thus, the need for proficient seafarers seems to be a key global concern for present-day maritime effectiveness, especially in the wake of shifting shipping trends, heightened ship automation and technologies, modification of ship size and speed (larger and faster), increasing cargo capacity as well as the pressing seafarer demand issues, with the requirement for skilled officers projected at 38,500 by end of 2018 (Drewry Maritime Research, 2014; Yongxing, 2006).

For this reason, the United Nations Economic and Social Council’s (2009) Africa Review on Transport established that transport safety and security is an area of
critical concern in Africa considering that its maritime transport is the principal mode for moving cargo from and to Africa and responsible for over 92 per cent of Africa’s exterior trade. The aforesaid report identified an inadequately skilled workforce and lack of institutional capacity to regulate and enforce policies, and regulations, as some of the restraints to the development of sustainable transport systems in the continent (United Nations Economic and Social Council, 2009). Noticeably, the abovementioned observation on African transport systems in the United Nations Economic and Social Council’s (2009) Africa Review on Transport encompassed the maritime sector. It therefore suggests that the generation of competent sea crew and enactment of relevant regulations, intended to boost the performance of maritime transport in Africa, may be a challenge.

Consequently, this is probably the reason why the African Union (AU) has demonstrated its interest in developing Africa’s maritime sector by addressing Maritime Education and Training (MET) among other issues in the adopted Revised African Maritime Transport Charter (African Union, 2010). Article 8 on Maritime training institutions advocates for party states to strengthen national, regional maritime education, training and research institutions as well as to promote the provision of maritime training at all levels (African Union, 2010).

From the foregoing, it appears that the global maritime industry is facing challenging times and concerns that may stimulate it to reinvent itself from the inside out or vice versa. It is possibly because of concerns like those cited above, that the International Maritime Organization (IMO) endorsed ‘Maritime Education and Training’ as the theme for World Maritime Day 2015 (International Maritime Organization, 2014b).
Subsequently, during the 112th session of the IMO Council meeting, the IMO Secretary General, Mr. Koji Sekimizu highlighted that, “Effective standards of training remain the bedrock of a safe and secure shipping industry, which needs to preserve the quality, practical skills and competence of qualified human resources” (International Maritime Organization, 2014a, para. 3).

Furthermore, he accentuated that:

The 1978 STCW Convention and Code, as amended, has set the international benchmark for the training and education of seafarers. While compliance with its standards is essential for serving on board ships, the skills and competence of seafarers, and indeed, the human element ashore, can only be adequately underpinned, updated and maintained through effective maritime education and training (International Maritime Organization, 2014a, para. 4).

Nonetheless, the 2010 Manila amendments have placed fresh burdens on Maritime Education and Training (MET) and indeed, on all IMO member states that ratified the Convention and are obliged to attain its full compliance by 1st January, 2017 (International Maritime Organization, 2011). Kenya, which ratified the Convention in 1993 and domesticated it into its national laws in 2009 (Kenya Maritime Authority, 2015), finds itself with the yoke of implementing the Manila amendments and effecting its requirements before the IMO set deadline.

In this regard, past researches on Kenya’s Maritime Education and Training (MET) observe that although Kenya has been committed to matters relating to Maritime Education and Training (MET), the Manila 2010 amendments have challenged it to review its MET further (Mabuti, 2013; Musa, 2000). According
to Mabuti (2013), Kenya is aligning its MET with the requirements of the STCW 78, as amended (as it relates to the 2010 Manila amendments), despite the setbacks it is facing in doing so.

Therefore, the study is opportune because it sets to explore the effects of the STCW 78, as amended, on Kenya’s MET. It thus, offers a good platform for Kenya to keep track of itself in terms of where it is now and which direction it should take in matters of the implementation of the STCW 78, as amended, as the IMO deadline for execution of the Manila amendments approaches.

In addition, the work is particularly essential for augmenting Kenya’s maturity in matters of self-audit, which is encouraged by the IMO through the IMO Instruments Implementation Code (III Code) (International Maritime Organization, 2013). Further, it also allows Kenya to strategically progress with its Maritime Education and Training (MET). Additionally, this study is relevant to inform other IMO States about Kenya’s STCW 78, as amended, implementation journey and the effect this is having on Kenya’s MET.

Moreover, the research’s timeliness is pegged on the optimism that the evaluation and comparative analysis of Kenya’s strategies with those of a number of selected States in implementing the Convention, as amended, offers valuable learning lessons to draw from; not only for Kenya, but also for other IMO States. For instance, the work may be useful for States in addressing their challenges of fulfilling the provisions of the STCW 78, as amended, and ultimately, in the further progression of their Maritime Education and Training.
1.2 Statement of the Problem

The STCW 78, as amended, was ratified by the Government of Kenya and domesticated through the enactment of the Merchant Shipping Act, 2009 (Kenya Maritime Authority, 2015). In this case, all parties to the STCW 78, as amended, are obliged to uphold safety of life and property at sea as well as the protection of the marine environment by meeting the stipulations of the Convention (International Maritime Organization, 2011).

Furthermore, as stipulated in Article 1 of the Convention’s general obligations, States in which the STCW 78 has entered into force are obliged to implement the provisions of the Convention and its annexes in order to ensure that seafarers on board ships are qualified and fit for their duties (International Maritime Organization, 2011).

Moreover, Resolution A.1070 (28) of the IMO instruments Implementation Code (III Code), highlights that through the ratification process, parties to international conventions consent to their responsibilities to implement the laws to which they are party to and can only realize the benefits of being part of those conventions by fully enforcing the said regulations (International Maritime Organization, 2013).

Likewise, all states that ratified and are party to the STCW 78 Convention, as amended, are obliged to achieve full compliance of the Manila amendments by 1 January, 2017 (International Maritime Organization, 2011).

From the foregoing, Kenya as a State that has ratified the STCW 78, as amended, must meet and prove that it has fulfilled its obligations under the Convention before IMO’s set deadline of attaining full compliance of the Manila 2010
amendments. Conversely, complying with the STCW 78, as amended, is challenging for Kenya considering that it has to do it concurrently with the development of its Maritime Education and Training (MET), which is still at its foundation stage (Mabuti, 2013).

Hence, Kenya ought to evaluate itself to ensure that it is on track to attaining compliance of the Convention, as amended, as well as assess how its implementation efforts are affecting its MET. The need therefore, arises to study the effects of the STCW 78 Convention, as amended, on Kenya’s Maritime Education and Training (MET).

1.3 Purpose and objectives of the study
The study is exploratory and is purposed to explore the effects of the STCW 78, as amended, on Kenya’s Maritime Education and Training (MET). In doing so, it intends to provide a comparative analysis of Kenya’s strategies in implementing the STCW 78 Convention, as amended, with those of a number of selected States, recommend how Kenya’s MET can benefit from other countries’ experiences of fulfilling the STCW 78, as amended, and envision what the future holds for Kenya’s MET. Therefore, the specific objectives of the study are:

i. To examine the historical and contemporary status of Kenya’s MET.

ii. To evaluate Kenya’s strategies in implementing the STCW 78, as amended.

iii. To analyse comparatively, Kenya’s strategies and those of a number of selected States in implementing the STCW 78, as amended.

iv. To analyse the current effect of the STCW 78, as amended, on Kenya’s MET.
1.4 **Research questions**

Based on the dissertation’s objectives, the study’s research questions are:

i. How has Kenya’s MET evolved to its present status?

ii. What are the strategies Kenya has developed to implement the STCW 78, as amended, and how can these be compared or distinguished from those of other States?

iii. How has the implementation of the STCW 78, as amended, influenced Kenya’s MET?

iv. How can Kenya’s MET benefit from other countries’ experiences of implementing the STCW 78, as amended?

v. Based on an analysis of the answers to the above questions; what does the future entail for Kenya’s MET?

1.5 **Significance of the study**

The research aims to assess the effects of the STCW 78, as amended, on Kenya’s Maritime Education and Training (MET). Few studies have been conducted on Kenya’s MET, and none has focused on the effects of the Convention, as amended, on Kenya’s MET (Kilungu, 1994; Hassan, 2000; Mabuti, 2013). Thus, the study aims to increase knowledge in the area of the Convention, as amended, as well as explore how compliance with the STCW 78, as amended, affects MET.

As a result, it intends to be insightful not only to Kenya, but also to other IMO States, maritime practitioners, academics, researchers, maritime investors, policy makers and strategists, maritime administrators and administrations.

1.6 **Expected results**

The dissertation anticipates to highlight the effects of the STCW 78 as amended, on Kenya’s Maritime Education and Training (MET) as well as, fill the gaps left
by past researches carried out in the area of MET in Kenya. In this case, it expects to provide insight into the following:

i. How Kenya’s MET has evolved to its contemporary status.

ii. Kenya’s strategies in the implementation of the STCW 1978 Convention, as amended, and how these can be compared or distinguished from other countries’ strategies.

iii. The influence of the STCW 1978 Convention, as amended, on Kenya’s MET.

iv. Based on the above, provide recommendations on how Kenya’s MET can benefit from other countries’ experiences of implementing the STCW 78 Convention, as amended, and forecast what the future entails for Kenya's MET.

1.7 Assumptions
The study’s assumption is that the STCW 78, as amended, is optimum and has influenced Kenya’s Maritime Education and Training.

1.8 Scope
The scope of the research is delineated by the theme of the dissertation, geographic regions (countries) and time phases considered by the study.

In respect to the dissertation’s theme, though the area of the international regulatory framework of Maritime Education and Training (MET) is broad, the study focusses on the STCW 78, as amended, as it relates to the requirements of the Manila 2010 amendments. This is important because the Manila amendments present new demands for IMO member States (Kenya being no exception) to fulfil before January 1, 2017 (International Maritime Organization, 2011).
Moreover, while the concept of Maritime Education and Training (MET) may connote education and training for sea and shore careers, the research focuses on the training of seafarers in line with the stipulations of the STCW 78, as amended. Additionally, it concentrates on the effects of the Convention, as amended on Kenya’s MET and utilizes the States of Philippines, Japan, Egypt and Netherlands for comparative analysis in order to draw valuable lessons for Kenya. This is significant as it allows the evaluation of how the Convention, as amended, has affected Kenya’s MET and provides prospects for improvement. According to Fisher and Muirhead (2013), the complete impact of the Convention, as amended, can only be recognized when the required changes are implemented.

In view of the geographic regions considered in the study, four countries as noted above, will be considered for analytical comparison with Kenya. Firstly, the choice of Philippines relates to it being the top supplier of seafarers for the maritime labour market. According to the Drewry Manning report (2014), statistics on the seafarer supply by country between the years 2000-2014, places Philippines as the lead provider of seafarers to the international fleet, accounting for approximately 20% of the world’s seafarers. Noticeably, Kenya endeavours to make its MET globally competitive as suggested by its Maritime Strategic Plan 2013-2018 (Kenya Maritime Authority, 2013b). For these reasons, Philippines is expected to offer a strategic and valuable comparison for Kenya in terms of its implementation strategies for the Convention, as amended, and how this is reflected in its MET.

Secondly, the selection of Japan for analytical comparison in the study revolves around it being a major source of seafarers from the OECD (Organisation for Economic Co-operation and Development) countries (International Chamber of
Shipping, 2015). Additionally, Japan has been chosen based upon its accomplishments in aligning its MET with the Convention, as amended. For instance, this is demonstrated by its sea cadet education and training, its recognition of other nations’ challenges in fulfilling the provisions of the STCW 78, as amended, and in its cooperation programmes with other countries in Africa, Middle East and near East to strengthen their MET (National Institute for Sea Training, 2014; Mokhtar, 2003; Japan International Cooperation Agency, 2000).

Thirdly, Egypt is a choice for analytical comparison in the research because of the progress it has made in its MET in Africa, in accordance with the IMO’s objectives through the Arab Academy for Science, Technology and Maritime Transport (AASTM) (Mokhtar, 2003). Additionally, Kenya continues to refer a number of its upcoming mariners to pursue maritime education and training in Egypt (Mghenyi, 2014).

Fourthly, the Netherlands has been selected for the study’s analytical comparison on the basis of it being a country in Europe with a rich seafaring tradition and due to its Government’s sustenance of its MET, in line with the Convention, as amended (Mabuti, 2013; Ministry of Infrastructure & the Environment, 2012). Additionally its MET is integrated into the country’s educational system and offers various alternatives for upcoming sailors (Ministry of Infrastructure & the Environment, 2012).

Furthermore, the dissertation also considers the time phases of early development of MET in Kenya (historical) to date, initial implementation of the Convention (pre-2010), as well as the periods within which Kenya began implementing the STCW 78, as amended (post 2010). Besides, the study also takes account of the
deadline for conforming to the Manila 2010 amendments (International Maritime Organization, 2011).

1.10 Potential limitations and delimitations
The limitations of the study may arise from its nature which uses only respondents from Kenya’s maritime industry for the questionnaires and interviewees from selected countries.

On the other hand, the study’s delimitations constitute: Firstly, that it aims to focus primarily on two variables; STCW 78, as amended (independent variable) and Kenya’s Maritime Education and Training (MET) (dependent variable) and on possible intervening variables. In addition, the relationship between the aforesaid variables will be studied by using only respondents from the Kenyan maritime sector.

Secondly, the study utilizes only four IMO member states, as stated previously, for its comparative analysis. Nevertheless the findings of this research may be used for further comparison with other maritime states and may only be generalized with States that have similar circumstances as those of Kenya.

To sum up, the research aims to minimise limitations that may arise from tools of data collection and research methods by using triangulation and mixed methods approaches as well as by safeguarding anonymity, informed consent and confidentiality of respondents (Creswell, 2014; Patton, 2015).

1.11 Operational Definition of key terms
The following are the definitions of terms used in the study:
**Convention**: Denotes the Standards of Training, Certification and Watchkeeping for Seafarers (STCW 78), as amended (International Maritime Organization, 2011).

**Party**: Means a State for which the Convention has entered into force or a State that has ratified the Convention (International Maritime Organization, 2011).


**MET**: Used as an alternative to Maritime Education and Training.

### 1.12 Dissertation outline

This dissertation is presented in six chapters. Chapter one introduces the topic of study by providing the background to the study, defining the statement of the problem, the purpose, objectives, research questions, and the significance of the work. Additionally, it outlines the expected results, assumptions, scope, potential limitations and delimitations as well as the operational definitions of key terms.

Furthermore, chapter two presents the literature review, chapter three the methodology applied, chapter four the data analysis and presentation, while chapter five delivers a logical discussion of answers to the research questions. Finally, chapter six concludes the work and determines whether the study accomplished its set goals as noted in the introductory chapter.
CHAPTER TWO

2.0 Literature Review

2.1 Introduction

This chapter provides a rationale for the study by reviewing various relevant literature which illuminate the research problem and questions. Specifically, it expounds on the historical and contemporary status of Kenya’s MET, the STCW 78, as amended, and its implications for MET as well as on strategy in the implementation of the STCW 78, as amended. Finally, it provides a summary of the chapter.

2.2 The historical and contemporary status of Kenya’s Maritime Education and Training (MET)

2.2.1 Kenya’s maritime history

Kenya’s participation in maritime activities possibly dates back to the 15th century when Chinese, Turkish, Portuguese and Arabic vessels called at the ancient ports of Lamu, Malindi and Mombasa (Boivin, Crowther, Helm & Fuller, 2013; Kenya Maritime Authority, 2013a; Levy, 2015).

Additionally, Kenya (an East-African nation), also lies on one of the busiest international shipping lanes in the world with a 200 nautical mile exclusive economic zone (EEZ) and a coastline measuring over 600 kilometres (from Tanzania in the South to Somalia in the North)( Kenya Maritime Authority, 2013a; Schofield, 2008).
Subsequently, Kenya’s coastline has developed into a significant gateway to East and Central Africa with merchant vessels from different parts of the world utilizing its fairways and ports. For this reason, its main port, based in Mombasa, plays an important role in servicing the international trade needs of its neighbouring landlocked countries Uganda, Eastern Democratic Republic of Congo, Rwanda, Burundi and Southern Sudan, as well as those of North Eastern Tanzania, Ethiopia and Somalia.

Notably, Kenya has embarked upon the construction of a second international port in Lamu (Kenya Maritime Authority, 2013a). The said port is forecasted to handle about 24 million tonnes of cargo in volume per annum by year 2030 (Kasuku, 2013). Additionally, it is anticipated to have major implications on the geopolitical investments in the East African region and later, on Central and West Africa (Kenya Maritime Authority, 2013a). On the other hand, approximately 60% of Kenya’s vessels are found within its own inland waters (Kenya Maritime Authority, 2013a).

In view of the above background, Kenya has the need and prospective of investing in quality MET and generating competent seafarers. Furthermore, its compliance to the STCW 78, as amended, is crucial.

2.2.2 Historical status of Kenya’s MET - (Before 2004)
 Initially, Kenya did not have an established maritime policy that could enable it to develop a viable MET system (Musa, 2000). However, the nation’s interest in maritime education was manifested by its establishment of a Marine Training School in Kisumu in 1957 with the aim of training mariners from the East African countries of Kenya, Tanzania and Uganda (Musa, 2000). Contrariwise, according to Musa (2000), the school was unsuccessful and did not progress
further. Probably, its closure was largely related to the lack of an established maritime policy in Kenya at that time to provide the essential bearing and support that it possibly required to develop.

Subsequently in the 1960s, Kenya began training its seafarers in the United Kingdom (due to its colonial ties with Britain) in order to develop qualified mariners to work for the then East African Shipping Line and the ports shared by the three East African countries mentioned above (Kiplimo & Nthia, 2015; Musa, 2000). The aforesaid nations were then members of the East African Community (Adar, 2011; Kiplimo & Nthia, 2015). Moreover, it appears that during this phase, Kenya’s MET issues were being governed by the Merchant Shipping office of the Kenya Ports Authority (KPA) (Musa, 2000). Further, it seems that Kenya had also begun employing a national policy for its maritime activities, the Merchant Shipping Act, 1967; a replica of the British Merchant Shipping Act, 1894 (Musa, 2000).

Whereas Kenya’s aforesaid program of sending its seamen to the United Kingdom seemed positive, Musa (2000) posits that it was marred by the failure of the trainees to return to serve the region as earlier projected, possibly because of non-existent policies and unfavourable incentives. Additionally, the mentioned program was aborted due to the collapse of the East African Community (Adar, 2011; Kiplimo & Nthia, 2015).

Despite the abovementioned difficulties in establishing its MET and training its seafarers, Kenya began sending its aspiring sailors to obtain Maritime Education and Training at the Dar-es- salaam Maritime Training Institute in Tanzania (Kiplimo & Nthia, 2015; Musa, 2000). This occurred after the Dar-es- salaam Maritime Training Institute’s successful establishment in 1991 (Kiplimo &
Nthia, 2015; Musa, 2000). In this regard, most aspiring Kenyan seamen sought maritime education at the said institute due to the regional ties and culture shared by the two nations, as well as its proximity to Kenya, which made maritime education in Tanzania more economical than in Europe.

Contrariwise, while Kenyans sought maritime education in Dar-es-salaam, another maritime training institution had been established in Kenya during the 1980s; the Bandari college (Kenya Ports Authority, 2009; Musa, 2000). However, the said maritime training school was founded by the Kenya Ports Authority (KPA) to exclusively train its employees to operate and maintain its marine craft (Musa, 2000).

Consequently, Kenya Maritime Authority (2015b) highlights that Kenya ratified the STCW 78 in 1993. However, it appears that Kenya did not have any tangible established maritime training institution dedicated for its seafarers at that time. Besides, Kenya National Assembly Official Record (2009) observes that Kenya’s implementation of the STCW 78 was hindered because the said regulation had not yet been amalgamated into the country’s national laws.

Later on, when Kenya first made an application to enter the IMO ‘white list’ in 2001, it did not qualify because of its inability to prove compliance to the STCW 78 as amended (in 1995). In this case, it was observed that Kenya’s ineligibility for the IMO ‘white list’ was due to “…no structures on the ground substantially corresponding with the submission made” and “…no legal framework in place to enforce the provisions of the Convention” (Kenya Maritime Authority, 2010, p. 40). Subsequently, this barred Kenya’s sailors from accessing employment at sea.
From the foregoing, it seems that the early stages of Kenya’s MET was problematic, although the nation’s vision for its seafarers was evident. Furthermore, Kenya appears to have initially aspired to provide Maritime Education and Training to its mariners so that they could serve in its domestic and regional fleet. However, its interest later shifted to the delivery of maritime education with the intent of equipping its seafarers for employment on international vessels, evident by its first application to the IMO ‘white list’. Moreover, Kenya’s MET was formerly governed under an archaic maritime national policy that had been inherited from its former colony and was inept to aid it in addressing its maritime ambitions then.

Improbably, the nation’s MET system then, was accountable to the nation’s Ports Authority which had designated a department to handle STCW issues. In this case, port and STCW regulatory functions are both extensive and almost mismatched if being handled by the same organization. The risk would be for such an organization to either tend to concentrate more on garnering profits from the ports commercial business or split its attention for both. In either case, progression may be stalled.

In addition, the delay in ratifying the STCW 78 and the absence of an operative national maritime law that would have enabled the nation to effect the said Convention satisfactorily after its endorsement, may have also delayed the development of Kenya’s MET at its preliminary periods.

2.2.3 Contemporary status of Kenya’s MET (After 2004- phase 1)
In this respect, a significant shift for Kenya’s MET may have started in 2004 when the Kenya Maritime Authority (KMA) was established through a Presidential order to “regulate, coordinate and oversee maritime affairs” (Kenya
Maritime Authority, 2015c, p. 2). During this time, all the STCW functions of the previously mentioned Merchant Shipping Department of the Kenya Ports Authority (KPA) were transferred to KMA (Kenya Maritime Authority, 2013a). Accordingly, KMA became legitimately operational in 2006 (Kenya Maritime Authority, 2013a).

Consequently, some of the responsibilities that were delegated to KMA included: i) the enforcement of maritime legislation, ii) the supervision of training, recruitment and welfare of seafarers and iii) the planning, monitoring and evaluation of training programmes to ensure conformity with the stipulated provisions in international maritime conventions (Kenya Maritime Authority, 2015c). Indeed, the foregoing suggests that the Government of Kenya had begun to build a solid framework upon which the nation’s MET could be advanced.

Consecutively, according to Kenya Maritime Authority (2013a), the Merchant Shipping Act, 2009 was endorsed to enable Kenya to effect the international maritime conventions it had previously ratified. In this case, the domestication of the STCW 78, as amended, into Kenyan legislation sanctioned the country to strengthen its compliance to the said Convention and further improve its MET.

Correspondingly, Kenya qualified for inclusion into the IMO ‘white list’ in 2010 (Kenya Maritime Authority, 2010; Mabuti, 2013). According to International Shipping Federation (2011b), the ‘white list’ of nations comprised of countries considered to have conformed to the provisions of the STCW Convention. Noticeably, Kenya’s attained ‘white list’ status was predicted to positively influence the nation’s MET. According to Kenya Maritime Authority (2010), the benefits to be secured through Kenya’s ‘white listing’ included the following:
i. Kenyan seafarers who previously had to obtain their certificates of competency in other countries would attain them in Kenya,

ii. Kenyans would be able to access maritime training in local training institutions,

iii. Kenya would train numerous seafarers for the international maritime labour market and be a potential source of mariners for crewing agencies,

iv. Kenya’s MET would be a gateway to sea careers and thus boost employment opportunities for the nation’s youth,

v. MET in Kenya would produce a skilful manpower source for the nation and increase the country’s participation in the maritime domain, and

vi. Seagoing careers would have the prospective of making vital contributions to the nation’s educational, economic and social development.

In view of the above, Musa’s (2000) dissertation generally predicted the said benefits for Kenya’s MET. Conversely, he linked the aforesaid gains to Kenya’s establishment of a model maritime institution. However, Kenya’s ability to develop any kind of model maritime institution requires it to be hinged on its capacity to implement the STCW Convention, as amended. Nonetheless, Musa’s (2000) forecast was apt bearing in mind Kenya’s previous unsuccessful attempts to establish viable MET institutions.

2.2.4 **Kenya’s current MET (After 2004- phase 2)**

In this respect, the Kenya Maritime Authority (KMA) developed a national maritime curriculum for training Kenyan seafarers in line with the Convention, as amended, and IMO model courses 6.09 and 3.12, and is presently developing teaching guides and student manuals to ensure uniformity of MET in the country (Kenya Maritime Authority, 2015e). Accordingly, this has been done in collaboration with the Kenya Institute of Curriculum Development (KICD) and the Jomo Kenyatta University of Agriculture and Technology (JKUAT) among others (Kenya Maritime Authority, 2015d; Kenya Maritime Authority, 2013a).
Consequently, the aforesaid curriculum allows maritime training to be conducted in line with the Convention, as amended, from the artisan level to the university level (as illustrated in Figure 2.1) with the intent of producing qualified seafarers for the global maritime industry (Kenya Maritime Authority, 2015e). Specifically, the aforesaid curriculum encompasses artisan courses, craft in marine engineering and nautical sciences, diploma in marine engineering and nautical sciences, degree in marine engineering as well as mandatory and advanced STCW courses (Kenya Maritime Authority, 2015e).

![Figure 2.1: Kenyan MET levels](source: Author)
Hence, Kenya’s MET curriculum can be considered as being well-timed since, according to Shuo (2014), the future recruitment of ship officers and ratings is likely to originate from Africa, Asia, Eastern Europe and Latin America due to the high labour cost in traditional maritime countries. However, the said curriculum appears to have placed much emphasis on training for ratings rather than officers. Moreover, this observation is also manifested in the type of maritime institutions obtainable in Kenya (as shown in Table 2.1).

Table 2.1: Maritime institutions in Kenya  
Source: (Kiplimo & Nthia, 2015)

<table>
<thead>
<tr>
<th>No.</th>
<th>Maritime institution</th>
<th>Courses offered</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bandari College</td>
<td>Artisan and craft certificates in marine and nautical studies, Diploma in nautical studies and marine engineering, STCW mandatory and advanced courses for ratings</td>
</tr>
<tr>
<td>2</td>
<td>Mombasa Technical Training Institute</td>
<td>Artisan and craft certificates in marine engineering and nautical studies</td>
</tr>
<tr>
<td>3</td>
<td>Technical University of Mombasa</td>
<td>Diploma in marine engineering and nautical studies</td>
</tr>
<tr>
<td>4</td>
<td>Marine Training School (Kisumu)</td>
<td>Professional mandatory courses (to be launched)</td>
</tr>
<tr>
<td>5</td>
<td>Jomo Kenyatta University of Agriculture and Technology (JKUAT)</td>
<td>Bachelor of Science in Marine engineering</td>
</tr>
</tbody>
</table>

Presently, there are five maritime institutes as previously illustrated in Table 2.1. Out of these five, only one (JKUAT), appears focussed on generating officers for
the industry. This may be a worthwhile area for Kenya’s further reflection and upgrading, particularly taking account of the outcomes of the Bimco/ISF Survey (2010), the Drewry Manning Report (2014), as well as the on-going research concerning unmanned vessels (Rodseth & Burmeister, 2012).

In view of the above, the Bimco/ISF Survey (2010) highlighted that prevailing shortages of seafarers would upsurge in the maritime industry unless measures were adopted to guarantee a sustained swift growth of competent seafarers, especially for officers. Additionally, the Drewry Manning Report (2014) observed that ratings are over-supplied although a demand for them still exists due to increasing fleet numbers. The report further noted that almost 40,000 officers will be needed by the end of 2018.

Regarding the aforementioned research about unmanned vessels, its aim is to propose to the European Union (EU) possible models of autonomous ships that might boost ship efficiency and sustainability of maritime transport within the spheres of economic, ecological and social sustainability (Rodseth & Burmeister, 2012). Thus, considering the futuristic trend in shipping and Kenya’s aspiration to generate seafarers for the global maritime labour market, it may be useful for its curriculum and existing maritime institutions to reflect a comprehensive perspective, while still upholding compliance with the STCW 78, as amended.

Furthermore, for Kenya to realise its aspirations of becoming a source of competent seafarers for the international maritime industry, it is essential that its MET becomes fully aligned with the provisions of the Convention, as amended. According to Veiga and Udrea (2015), a nation’s seafarers can only be eligible for employment aboard the European Union’s (EU) ships if its MET processes are aligned with the STCW 78, as amended.
Subsequently, such a country would have to undergo systematic inspections carried out by the European Maritime Safety Agency (EMSA). According to Veiga and Udrea (2015), some of a country’s MET processes that are audited by EMSA include: i) quality management, ii) course design, review and approval, iii) qualification and training of assessors, iv) instructors and supervisors, v) monitoring and supervision of training, vi) training facilities, vii) use of simulators, viii) examination and ix) admission of students and issue of documentary evidence. In this regard, EMSA’s audit processes are fitting since they incorporate the provisions of the Convention, as amended. Thus, a country that satisfactorily complies with the STCW 78, as amended, ought not to fret about EMSA’s evaluations.

According to Kenya Maritime Authority (2015a), a framework for accreditation and monitoring of the country’s existing and upcoming training schools has also been established to enhance quality of maritime education and promote recognition of its seafarers internationally. While this is reassuring, it is vital for the study to validate this within the realm of the Convention, as amended.

Furthermore, the outlook of Kenyan society towards MET presently, seems to be transforming positively. This is attributed to IMO’s “Go to sea campaign” in 2008 and the keen and continued implementation of the campaign by Kenya Maritime Authority (IMO, 2015; Mabuti; 2013). Additionally, Mabuti (2013) observes that conventionally seafaring skills in Kenya were believed to be attained through informal apprenticeship and thus required no academic qualifications. Besides, there seemed to be a lack of interest in maritime careers among Kenyans compared to conservative professions in medicine, law and education sectors which were typically promoted to younger generations.
Although Kenya’s MET is still considered to be at a foundational stage (Kiplimo & Nthia, 2015; Mabuti, 2013), the nation’s apparent efforts in fulfilling the provisions of the Convention, as amended, and in developing its MET has occurred at an opportune time when its citizens’ perspectives towards MET have also evolved as noted previously. Therefore, this suggests that the country and its citizens are now ready to elevate MET to its next progressive period.

Conversely, Mabuti (2013) and Musa (2000) in their dissertations observed that the anticipated progressive period for Kenya’s MET may be impeded by insufficient funding, qualified personnel, and technical capacities (such as training ship). In this case, the study anticipates to validate this against the background of the country’s implementation of the STCW 78, as amended, and the effects of the said compliance on Kenya’s MET.

### 2.3 The STCW 78, as amended, and its implications for Maritime Education and Training (MET)

“The competence of seafarers is the most critical factor in the safe and efficient operation of ships, and has a direct impact on the safety of life at sea and the protection of the marine environment” (International Chamber of Shipping & International Shipping Federation, 2011, p.1).

Competence or competency denotes the ability of seafarers to execute their duties aboard ships in line with the stipulations of the Convention, as amended, by incorporating specified levels of knowledge, understanding and demonstrated skills (Fisher & Muirhead, 2013; International Shipping Federation, 2011).
Thus, the above assertion tends to suggest that most accidents at sea can be prevented by ensuring that ships are manned by proficient crews. Besides, it also prompts reflection and awakens interrogations on the quality of mariners’ education and training; what is the requisite degree of competency and can this be attained equally or equitably by all IMO States?

In this regard, Visan (2009) argues that seafarers’ competency ought to be imparted alongside a framework of a safety culture. Furthermore, she maintained that though the quality and effectiveness of seafarers’ training can instil both competency and a safety culture, the shipping industry also has the responsibility of inculcating a safety culture attitude amongst mariners (Visan, 2009). As a result, a safe and secure shipping may only be realistic when compliance to given regulations, keenness to seafarers’ Maritime Education and Training, as well as mentorship of mariners (to indoctrinate in them a safety culture and attitude), is observed simultaneously.

In contrast, Popa (2015) claims that seafarers’ competence also depends on their aptitude (ability to absorb knowledge and to comprehend) and further notes that accident investigations seldom cite crew incompetence as a cause. Although aptitude may be a factor that enhances competency, the emphasis should be on the premise that competency is ultimately attained by seafarers. Additionally, much literature, including that mentioned above and previously in this study, suggest crew incompetency to be a key factor in marine accidents.

On the whole, the answer to mariners’ competency, and whether it can be attained equally or equitably by IMO States, possibly lies within the STCW 78, as amended. In this case, the Convention, as amended, is presumed to regulate the training, certification and watchkeeping arrangements aboard ships for
seafarers and to establish the foundation for standards of crew competence that are applied worldwide (International Shipping Federation, 2007; International Shipping Federation, 2011; International Maritime Organization, 2011). However, the understanding of the STCW 78, as amended, and its implications on MET can only be comprehensive against the backdrop of its earlier and latest revisions.

2.3.1 STCW 78

Before the adoption of STCW 78, maritime nations had different systems of training and certification that were informed by their own national educational and vocational approaches, leading to diverse maritime training procedures (Ashmawy, 2006; Morrison, 1997). Although, this indicated a noble start, it may have not been ideal for the global nature of shipping and its altering needs that required a more unified maritime educational and training approach. Thus, the STCW 78 was first adopted on 7th July, 1978, with the goal of developing international standards of maritime education, training and certification and boosting professional standards of seafaring globally (International Maritime Organization, 2011; International Transport Workers’ Federation, 2013).

Contrariwise, International Transport Workers’ Federation (2013) posits that the STCW 78 tended to focus mainly on improving mariners’ knowledge. Whereas the attainment of knowledge by seafarers is crucial, it is also essential that they demonstrate their adeptness in what they learn. Additionally, it seems that the adoption of STCW 78 was centred on ideals rather than realistic expectations hence, the likely reason for the detection of its insufficiencies by IMO member States.
2.3.2 STCW 95

Ironically, it appears that the STCW 78 did not resolve all the obstacles of achieving the needed universality in MET and imparting professionalism in seafaring as anticipated. Consequently, it was revised considerably in 1995 with the intention of solving the inadequacies of the initial STCW by accentuating practical skills and competence, hinged on theoretical knowledge and minimum required standards of competency (International Transport Workers’ Federation, 2013; Jorgens, 2012).

In addition, according to Jorgens (2012), the 1995 changes were also made against the backdrop that the STCW 78 comprised numerous ambiguous statements that led to varied interpretations by IMO member States. Furthermore, International Shipping Federation (2007) affirms that the STCW 78 was regarded as a compromise between countries desiring high standards and those concerned about their ability to effect its provisions.

Although the reasons for the revision of the STCW 95 were warranted, it discloses the challenges of formulating ‘universal’ laws, particularly as it relates to the IMO, which may arise due to issues of national boundaries, sovereignty, availability of resources or technical expertise, subjective interests and diverse levels of comprehension. Hence, it may be unreasonable to expect that the STCW would be flawless at any given time. Additionally, it may also be illogical to expect its equal implementation by nations. Yet still, calculated compromise and contemplated added value may have guided consensus to the amendments.
2.3.3  **STCW 2010**

Conversely, despite the well-intended purpose of the STCW 95, it appears that it was still insufficient to address the emergent developments within the maritime sector. As a result, the latest of the aforesaid revisions, are the 2010 amendments, also known as the “Manila amendments” (International Maritime Organization, 2011, p. 6).

In this regard, the 2010 amendments were intended to improve on the STCW, as amended in 1995, by addressing recent technology, discrepancies, interpretations and out-of-date provisions (International Chamber of Shipping & International Shipping Federation, 2011; International Transport Workers’ Federation, 2013; Jorgens, 2012).

Therefore, the Manila amendments emphasize seafarers’ competency and a competence based approach to the training of seafarers (Fisher & Muirhead, 2013; International Shipping Federation, 2011). Noticeably, the Manila amendments address some of the recommendations of the BIMCO/ISF survey (2010). For instance, the BIMCO/ISF survey (2010) highlighted:

> The industry requires well qualified and high calibre seafarers capable of adapting to change and handling the wide range of tasks now required of them. Any training programme provided must ensure quality is not compromised in the quest for increasing quantity. (p. 5)

In a sense, the 2010 Manila amendments seem to demand that seafarers prove their capabilities before they are officially employed aboard ships. This is logical considering the current prominence given to safe and secure shipping practices within the maritime domain. Besides, with about 90% of the world’s total trade of goods in tons being transported by sea (Shuo, 2014) and the potential risks sea
disasters pose to human life, the environment and global economies, it seems crucial to have competent mariners aboard ships.

2.3.4 Manila amendment requirements

Subsequently, the 2010 amendments: i) updated the standards of competency vital in addressing emerging technologies, ii) introduced new training and certification requirements and methodologies, iii) augmented mechanisms for enforcement of its provisions and iv) revised requirements on hours of work and rest, prevention of drug and alcohol abuse and medical fitness standards for seafarers (International Maritime Organization, 2011).

More specifically, the Drewry Maritime Research (2014), the International Chamber of Shipping and the International Shipping Federation (2011), note that the Manila amendments comprise the following new training requirements:

i. Improved procedures to deter fraudulent practices linked with certificates of competency and a reinforcement of the evaluation process (monitoring of parties’ compliance with the Convention),

ii. Revised requirements on hours of work and rest and new requirements for the prevention of drug and alcohol abuse, as well as updated standards relating to medical fitness standards for seafarers,

iii. New certification requirements for able seafarers,

iv. New requirements relating to training in modern technology such as electronic charts and information systems (ECDIS),

v. New requirements for marine environment awareness training and training in leadership and teamwork,

vi. New training and certification requirements for electro-technical officers,
vii. Updating of competence requirements for personnel serving on board all types of tankers, including new requirements for personnel serving on liquefied gas tankers,
viii. New requirements for security training, as well as provisions to ensure that seafarers are properly trained to cope if their ship comes under attack by pirates,
ix. Introduction of modern training methodology including distance learning and web-based learning,
x. New training guidance for personnel serving on ships operating in polar waters,
xi. New training guidance for personnel operating Dynamic Positioning Systems and,
xii. Refresher training to prove seafarers have continuously maintained their competencies

Regarding the aforementioned requirements, they can be understood as being integrated under two main areas of the STCW 78, as amended, within the framework of this study:

A) Uniform standards of competence

The 2010 amendments are purposed to have reinforced the application of uniform standards of competence by IMO members States (International Shipping Federation, 2011). Notably, the aforesaid amendments are opportune considering Ashmawy’s (2006) observation that the initial STCW did not outline the procedures for the acquisition of competences by IMO countries.

In this regard, the STCW code in the Convention, as amended, comprises competence tables which indicate the minimum standards of competence to be attained by different ranks of seafarers (at the management, operational and
support levels) for definite maritime expertise (International Maritime Organization, 2011; International Shipping Federation, 2011).

In this case, the competence tables illustrated in chapters 2-6 of the STCW code, Part A of the Convention, as amended, are divided into four columns namely: i) competence, ii) knowledge, understanding and proficiency, iii) methods for demonstrating competence and iv) criteria for evaluating competence (International Maritime Organization, 2011). Additionally, the competence tables have integrated the new certification requirements of the Manila amendments illustrated above.

Hence, the foregoing suggests that the competence tables must be adhered to in mariners’ training and certification processes, to guarantee their employability aboard ships in line with the Convention, as amended. While the competence tables serve as a feasible guide for IMO States, the tactics used by nations to implement them may vary, causing dissimilar competency outcomes among seafarers depending on the countries where they undertook their training and certification.

Another indication of the intent of the Convention, as amended, to raise the application of uniform standards of competence exists in the Manila amendments’ provisions for refresher training, revalidation and renewal of mariners’ certificates as stipulated in regulations 1/1 and 1/15 (transitional provisions) of the STCW 78, as amended (International Maritime Organization, 2011). In this case, the said requirements highlight IMO’s resolve to raise proficiency levels among seafarers across nations, perhaps, a calculated effort to hasten the accomplishment of safe shipping practices in this era.
B) Measures to ensure implementation by governments

The 2010 amendments are supposed to have reinforced prevailing control procedures, to enable governments to effectually comply with the Convention, as amended (International Shipping Federation, 2011), particularly it seems, regarding Maritime Education and Training (MET) and its certification.

Firstly, International Shipping Federation (2011) accentuates that compliance with the aforesaid regulation is aimed at ensuring that certificates are only allotted to seafarers who fulfil the requisite minimum competence standards. This is specified in regulations 1/2, 1/5, 1/10, 1/11, 1/14 and 1/15 of the STCW 78, as amended (International Maritime Organization, 2011).

Although this is practicable and well-intended, it seems to have encouraged fraudulent activities within nations’ MET systems to either enable unqualified seafarers to ‘comply’ or enable persons within the said structures to profit illegally from the haste of countries and seafarers alike, to implement the Convention, as amended. This observation is not far-fetched as this has also been noted in reports about fraudulent practices by International Maritime Organization (2014c) and Rojas, Badigannavar, Lane, Bloor, and Maguire (2001). Paradoxically, it appears, that the Convention, as amended, intent to enhance competence and quality of MET, is threatened by its own perimeters.

Secondly, according to International Shipping Federation (2011b), the 2010 amendments intended to augment Parties’ ability to manage proper quality standards systems in order to monitor and appraise MET as stipulated in regulation 1/8 of the Convention, as amended (International Maritime Organization, 2011). Whereas the establishment of quality standards by IMO states is vital, the challenge for MET and indeed the maritime sector, would be in
blending all varied national quality standards to reflect an ‘IMO’ desired quality system that yields comparable outcomes. Arguably, the said predicament may be caused by nations’ different priorities and their varied levels of accessibility to resources fundamental for their STCW implementation initiatives.

Thirdly, the 2010 amendments are aimed at strengthening States’ responsibilities in the prevention of fraud and other corrupt practices in mariners’ certification processes (International Shipping Federation, 2011). In this case, maintenance of registers and systematic seafarers’ certificate verification processes have been illustrated in regulations 1/4 and 1/5 of the Convention, as amended (International Maritime Organization, 2011).

Agreeably, this is well-timed considering the accumulative cases of fraudulent certificates of competency within jurisdictions (International Maritime Organization, 2014; Rojas, Badigannavar, Lane, Bloor & Maguire, 2001). However, it will require extra vigilance, commitment and establishment of workable strategies by IMO States to successfully effect the said provisions of the Convention, as amended. In this case, possibly, assurance for MET’s future, may be restored.

Fourthly, the Manila amendments seem to aim at ensuring governments streamline MET to meet current technological changes, especially relating to training and assessment and the use of simulators as illustrated in regulations 1/6 and 1/12 of the STCW 78, as amended (International Maritime Organization, 2011). Perceptibly, this appears constructive considering the past opinion by Ashmawy (2006) that MET needed to acclimatize to globalization and technological innovations in order to remain relevant. Whereas the 2010 amendments’ intent to reorganize MET to adapt to technical advances has the
potential to revamp and aid it to apposition itself for the probably futuristic future of shipping, its implementation may be hindered by countries’ diverse priorities, capabilities, political and economic situations.

2.3.5 Challenges of compliance presented by the 2010 amendments

Subsequently, the Manila amendments have placed fresh burdens and challenges on Maritime Education and Training (MET) and indeed, for all member states of the IMO that have ratified the Convention and are obliged to attain its full compliance by 1st January, 2017 (International Maritime Organization, 2011). Kenya, which ratified the Convention in 1993 and domesticated it into its national laws in 2009 (Kenya Maritime Authority, 2015), finds itself with the yoke of fulfilling the Manila amendments and meeting its specifications before the set deadline by the IMO.

To begin with, the implementation dates of the 2010 amendments as shown in Figure 2.2, may have overwhelmed a number of developing countries like Kenya, who were still in the course of executing the 1995 amendments; this being the case, despite the IMO giving a five-year transitional period to enable compliance with the aforesaid amendments in stages (International Transport Workers’ Federation, 2013).
Figure 2.2: Implementation dates of the Manila amendments
Source: Irish Maritime Administration (2013)
As stated previously, the STCW 78, as amended, was legally incorporated into Kenya’s regulations in May 2009 (Kenya Maritime Authority, 2015b). Thus, Kenya was unable to duly implement it earlier since there existed no decree in the country that permitted it to do so (Kenya National Assembly Official Record, 2009).

Bearing in mind that the Manila amendments were adopted in 2010 (International Maritime Organization, 2011) and entered into force in 1st January, 2012 (International Shipping Federation, 2011), Kenya was barely three years then into complying with the 1995 amendments.

Successively, on 1 January 2013, governments were then obliged to communicate to IMO the progress they had made in effecting the 2010 amendments in order to remain in the IMO ‘white list’ of nations (International Shipping Federation, 2011). In this case, Kenya had been incorporated into the said ‘white list’ in 2010 (International Transport Workers’ Federation, 2013; Kenya Maritime Authority, 2014).

Moreover, new mariners who embarked on their training after 1 July, 2013, were expected to do so in line with the training and competence standards set by the 2010 amendments (International Shipping Federation, 2011). Furthermore, pending the IMO cut-off date for complying with the Manila amendments (1 January 2017), governments were also obliged to continue renewing and revalidating seafarers’ certificates and endorsements in line with the STCW provisions that applied immediately preceding 1 January 2012 (International Maritime Organization, 2011).
Additionally, administrations were also expected to continue issuing, recognizing and endorsing certificates in accordance with STCW stipulations that applied instantly before 1 January, 2012, for mariners who had begun their training before 1 July 2013 (International Maritime Organization, 2011).

In view of the above demands that the 2010 amendments has placed on IMO member States that have ratified the Convention, as amended, it is plausible that administrations such as Kenya would find themselves overweighed by the requirements of the aforementioned amendments. This is because the said demands may necessitate strategic planning, monetary, human and technical resources which may be complex to address promptly since governments like Kenya may have already committed themselves to resolving other ‘pressing’ national issues.

In this case, the recognition of the challenges presented by the 2010 amendments should not be misconstrued as excuses for non-compliance with the Convention, as amended. Instead, the challenges experienced should be understood as having the possibility of upsetting the speed within which countries effect the provisions of the STCW 78, as amended, and thus, delaying the realization of the benefits that may be associated with compliance to the said Convention, especially where MET is concerned.

2.4 Strategy in the Implementation of the STCW 78 as amended

2.4.1 Significance of strategy

Strategy can be defined either as a plan of action premeditated to achieve a long term or overall aim (Oxford dictionaries, 2015) or a plan for accomplishing a goal (Ruijter & Henk, 2014). Consequently, Ruijter and Henk (2014) assert that strategy can facilitate proactive action before problems became critical. In view
of this, the early development of the STCW Convention as discussed earlier in the work, suggests that its initial adoption was based on countering the varied standards of Maritime Education and Training manifested by IMO States then. Therefore, this would appear as “reactive problem solving” (Ruijter & Henk, 2014, p. 1).

On the other hand, the STCW 78, as amended, with respect to the 2010 amendments, suggests a probable strategic approach, considering its attention to futuristic maritime developments and its goals for safe shipping. Hence, there seems to be a difference between a strategy and problem-solving in the sense that a strategy prepares to address problems before they occur while problem-solving counters problems when they occur.

Subsequently, Ruijter and Henk (2014) argue that problem-solving approaches present the risk of placing entities in problem-solving traps where difficulties are constantly being solved, as well as, encouraging laxity in the sense that action is only taken if research confirms that a problem exists. On the contrary, the said authors note that strategic approaches if embraced, have the prospect of transforming potential future difficulties into challenges and opportunities. In this case, Kenya and indeed other IMO States, could find the adoption of strategic approaches to the implementation of the STCW 78, as amended, more rewarding compared to problem-solving approaches, which may be stressful and unproductive.

Furthermore, according to Driver (2014), strategies direct the generation of outcomes that can possibly benefit environments and societies. In this respect, the adoption of strategy in the implementation of the Convention, as amended,
can be valuable for countries and indeed the maritime domain, especially where Maritime Education and Training is concerned.

Conversely, while the STCW 78, as amended, can be presumed to be a strategic document, it will have insignificant impact unless it is validated, understood and implemented by IMO member states (Kenya not being an exception) (Driver, 2014). This view is partly recapped within the specifics of the IMO Instruments Implementation Code (III Code) (International Maritime Organization, 2013).

Furthermore, Driver (2014) highlights that most strategic documents comprise information which contribute to strategy but which are not the strategy. This observation about strategic documents is manifested in the nature of the STCW 78, as amended, document, particularly in how its provisions are outlined (International Maritime Organization, 2011). In this case, the responsibility for the development of strategies to aid the implementation of the Convention, as amended, remains with individual governments within the IMO.

From the foregoing deliberation, the application of strategy in the implementation of the STCW 78, as amended, is essential if positive outcomes are to be realized from the said Convention. In this case, embracing strategy would also be meaningful for transforming countries’ attitudes towards the Convention, as amended, beyond a ‘mere implementation’ perspective to a goal and results-oriented one.

2.4.2 Common features of strategy стратегических подходов

Accordingly, Driver (2014) accentuates that for strategic approaches to be feasible, they need to be dynamic (cognizant of changes internally and externally) as well as assemble collective intelligence (power in collaboration).
Moreover, Ruijter and Henk (2014) underpin that strategic approaches ought to comprise and consider the following issues as illustrated in Figure 2.3: i) a mission (purpose), ii) prevailing and shifting trends, iii) possible future scenarios, iv) options (alternative plans to deal with situations), v) a shared vision, vi) a roadmap (how do we get from point A to B?), vii) action (doing as opposed to talking) and viii) a sustained monitoring of progress.

Figure 2.3: Strategy in the broad sense
Source: (Ruijter & Henk, 2014).

Whereas the STCW 78, as amended, exhibits the features of a strategy noted above, it is not an end to itself. Its real test as a strategic legislative document resides in the IMO member States’ abilities (Kenya not being an exception), to design their own individual strategies to aid them in fulfilling the stipulations of
the Convention, as amended. Moreover, the features noted above suggest that the designing and implementation of strategy may be complex. Thus, the use of strategy to aid implementation of STCW 78, as amended, ought not only to be understood, but also appreciated when effective.

2.4.3 Strategy: Comparison of Kenya with Philippines, Japan, Egypt and the Netherlands

Kenya yearns to make its MET globally competitive and become the next source for competent seafarers for the maritime labour market (Kenya Maritime Authority, 2013b). Notably, Kenya has approximately 6,000 seafarers (Mabuti, 2013) compared to Philippine’s 400,000 mariners (Dalcanay, 2015). Furthermore, Philippines is presently reputed to be the top supplier of seafarers producing 30% of the world’s total mariners (Dalcanay, 2015) having increased from 20% in 2014 (Drewry Manning Report, 2014).

Thus, bearing in mind Kenya’s aspirations as noted above, it appears that the nation may be employing a number of strategies in its compliance to the STCW 78, as amended. For this reason, Kenya’s strategies in the implementation of the Convention, as amended, can be compared systematically with those of other countries like the Philippines, Japan, Egypt and the Netherlands to draw lessons for its MET and other nations likewise.

Firstly, one of the strategies that Kenya may be utilizing to aid it in fulfilling the provisions of the STCW 78, as amended, is the establishment of a single national body to oversee issues of compliance to the Convention, as amended (Kenya Maritime Authority, 2013a). As noted earlier, the government of Kenya transferred all STCW functions from the Merchant Shipping Department of the Kenya Ports Authority (KPA) to the newly founded Kenya Maritime Authority.
Accordingly, the above-mentioned can be construed as a specialization strategy that allows organizations to concentrate on specific interrelated functions for maximum output rather than on an array of dissimilar responsibilities which may lead to unsatisfactory results. The said specialization strategy is not new within the maritime sector as it has also been practised successfully by shipping companies (Lorange, 2009).

Subsequently, Kenya might not be the only nation applying the aforesaid specialization strategy. For instance, according to Dalcanay (2015), the Government of the Philippines founded the Maritime Industry Authority (MARINA) between July 2014- January 2015, through the Manalo law RA.10635, to undertake STCW Convention implementation tasks. Previously, between 1984-2012, the aforesaid functions had been discharged by the Maritime Authority (KMA) in 2004 (Kenya Maritime Authority, 2013a). Earlier on, KPA had been responsible for managing Kenya’s Port of Mombasa as well as STCW matters, both of which were extensive functions (Musa, 2000).

Hence, it appears that the government of Kenya might have realized that having distinct organizations to handle each of the aforementioned elaborate functions separately would yield better results for either circumstances (port management and STCW matters). Thus, KMA became accountable to the government of Kenya for the enforcement of maritime legislation, ii) the supervision of training, recruitment and welfare of seafarers and iii) the planning, monitoring and evaluation of training programmes to ensure conformity with stipulated provisions in international maritime conventions (Kenya Maritime Authority, 2015c).
Training Council (MTC) in the Philippines, which constituted 11 government agencies and two private sector representatives (Dalcanay, 2015).

In this respect, Dalcanay (2015) notes that the reason for the transfer of the MTC’s STCW responsibilities to the MARINA was due to the council’s composition of several diverse agencies which hindered it from executing its STCW regulatory and administrative functions. Besides, MARINA currently operates an STCW office that focuses on certification matters as it relates to the Convention, as amended (Maritime Industry Authority, 2015).

Similarly, according to Egyptian Authority for Maritime Safety (2015), Egypt has a specific organisation known as the Egyptian Authority for Maritime Safety (EAMS) that was established under a presidential decree 300/2004 to handle STCW matters. Furthermore, Japan’s STCW duties are discharged by the Japan Maritime Bureau which is under the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) (Ministry of Land, Infrastructure, Transport and Tourism, 2013; MLIT, 2014). Moreover, the Netherlands STCW issues are undertaken by the Maritime Shipping Unit which is in the Directorate for Transport and Mobility (under the Ministry of Infrastructure and the Environment) (Government of the Netherlands, 2015; Ministry of Infrastructure & the Environment, 2012).

From the foregoing, it is likely that specialization (creation of single Authorities/units/directorates) could be one of the strategies being employed by the aforesaid four nations to support their compliance with the Convention, as amended. However, as demonstrated above, the application and manifestation of specialization varies from country to country. Thus, the said difference should not be a cause of alarm since strategy, irrespective of how it is applied or
manifested, ultimately aims at maintaining a desired focus and alignment (Jones, 2011) as well as accomplish a particular mission and vision (Ruijter & Henk, 2014).

Secondly, another strategy that Kenya could be applying to assist it effect the provisions of the STCW 78, as amended is the creation and execution of tactical national policies, regulations and plans. As noted previously, the enactment of Kenya’s Merchant Shipping Act 2009 was aimed at enabling the nation incorporate the STCW 78, as amended, among other international laws Kenya had acceded to, into its own legal framework to allow its appropriate implementation (Kenya National Assembly Official Record, 2009).

Furthermore, the Kenya Maritime Authority (KMA) designs a national maritime strategic plan, on behalf of the government of Kenya, every five years to direct and monitor the attainment of its maritime goals (Kenya Maritime Authority, 2013b). In this respect, Kenya’s recent Strategic Plan 2013-2018 has committed to enhance MET in line with the Convention, as amended, as part of its input into the Kenya Vision 2030 (Kenya Maritime Authority, 2013b). This may likely be aimed at boosting the nation’s implementation of the Convention, as amended.

On the other hand, the Kenya Vision 2030 (2007) predicts that the nation’s maritime sector has the prospective for sustaining economic growth of 10% per annum and contributing towards the socio-economic transformation of Kenya. Thus, it is possible that Kenya, like any other maritime nation, desires to continue reaping the full economic benefits of shipping, by investing in the quality of its seafarers through raising its standards of MET (Galic, Lusic, & Pusic, 2012) which may be practicable through compliance with the Convention, as amended.
Therefore, Kenya’s Strategic Plan might have been calculated to among other things, reinforce Kenya’s compliance with the STCW 78, as amended, and enable the country to benefit from the previously stated desired outcomes. Thus, the aforesaid Strategic Plan may be reasonable considering that a strategy should boost proactive actions with the intent of accomplishing desired results that are constructive (Driver, 2014; Jones, 2011; Ruijter & Henk, 2014).

Contrariwise, while literature available to the author did not divulge the use of Strategic Plans by the Philippines, Egypt, Japan and the Netherlands, it did indicate the likely use of national decrees as a strategy to aid in the implementation of the Convention, as amended, by some of the said countries. For instance, according to Dalcanay (2015), the Philippines has the Executive Order (EO) 75 and the Manalo law RA 10635 which established the Maritime Training Council (MTC) initially and later the Maritime Industry Authority (MARINA) to undertake STCW tasks as previously noted.

On the other hand, Egypt and Japan seem to utilize strategies of collaboration uniquely in their implementation of the Convention, as amended. This is evident in the foundation and operations of the Arab Academy for Science, Technology and Maritime Transport (AASTM) in Egypt, through technical collaboration efforts with the Japan International Cooperation Agency (JICA) and the IMO (Japan International Cooperation Agency, 2000; Ashmawy, 2005). According to Mokhtar (2003), the aforesaid maritime academy has availed more than 257,000 maritime training opportunities to citizens of 58 countries from Africa, the Middle East and Asia.
Furthermore, the Japanese government through the National Institute for Sea Training and JICA has also partnered with other governments to provide maritime technical assistance, scholarships and on-board sea training opportunities for cadets (Japan International Cooperation Agency, 2000; Kobe University, 2015; National Institute for Sea Training, 2014). As a result, Egypt and Japan seemingly employ collaborative strategies to help other IMO States meet their STCW 78, as amended, requirements, particularly in terms of Maritime Education and Training (MET).

While the above discussion has illustrated some similarities in strategies utilized by Kenya, the Philippines, Japan, Egypt and the Netherlands, it has also drawn attention to the possible utilization of diverse strategies by countries in their compliance to the STCW 78, as amended.

Accordingly, it shows that IMO member States’ strategies for implementing the Convention, as amended, need not be identical, especially because every country’s enactment phase and needs may be unique if not dissimilar. This seems logical bearing in mind that the STCW 78, as amended, presumed to be a strategic document, has provisions that direct States ‘what to do’, but does not get into the intricacies of ‘how to do it’. Ultimately, what would seem to matter in the use of strategy by countries, is that it leads them to accomplish their STCW objectives and generate positive outcomes (Driver, 2014; Jones, 2011; Ruijter & Henk, 2014).

Furthermore, the possible use of diverse strategies by countries was also reaffirmed by Mabuti (2013) in her dissertation when she observed a varied strategical approach between developed and developing nations in the sense that developed countries were addressing the shortage of officers and assembling
resources to renew their MET contrary to developing countries like Kenya who were amassing their resources to develop MET as a strategy to generate employment opportunities. In this case, the adoption of different strategies by countries in their implementation of the Convention, as amended, should not be perceived as unusual.

Additionally, the foregoing deliberation indicates that it would be unsound to grade and determine which countries’ strategies are superior as it relates to the implementation of the STCW 78, as amended, because as noted earlier, the choice of strategy is country and situation-specific.

Thus, IMO member countries should not feel restricted by the use of strategy in the implementation of the Convention, as amended. Rather, they should be at liberty to collaborate, learn from each other and draw valuable lessons which eventually will prove beneficial to the global maritime domain, particularly, where safety of shipping, quality MET and production of competent seafarers is concerned. Significantly, a strategical approach to the implementation of the STCW 78, as amended, becomes more compelling in contemporary time due to the changing face of shipping (Lorange, 2009).

2.5 Summary
This chapter interrogates issues concerning the historical and contemporary status of Kenya’s MET, the Convention, as amended, the use of strategy in STCW compliance efforts, as well as various literature, previous researches and authors as they relate to the objectives of the study. Specifically, it elucidates the historical and contemporary status of Kenya’s MET. In this respect, it rationalizes the need for Kenya’s compliance to the STCW 78, as amended and the development of its MET by first tracing the country’s maritime history.
Furthermore, the chapter explores the developmental phases of Kenya’s MET, from its historical to its contemporary status, divulging the nation’s efforts, challenges and accomplishments of its MET.

Moreover, the STCW 78, as amended, and its implications for MET are also elaborated in this chapter, with respect to the research problem. Accordingly, the various revisions of the STCW Convention are sequentially deliberated upon. Additionally, the recent 2010 amendments, prevailing requirements and the consequential challenges of compliance they present to IMO member States have been expounded on.

The chapter also elucidates on strategy in the implementation of the Convention, as amended, as it relates to the research question. Hence, it explicates the significance of strategy in the implementation of the STCW 78, as amended, common features of strategy as well as providing an analytical comparison of Kenya’s strategies in effecting the Convention, as amended, with those of the Philippines, Japan, Egypt and the Netherlands. Additionally, the chapter also reflects on the future of Kenya’s MET.

Subsequently, the chapter establishes a foundation for understanding the work’s research objectives and questions. Thus, the following chapter will expound on the study’s research methodology.
CHAPTER THREE

3.0 Research Methodology

3.1 Introduction

This chapter provides details of the methodology applied in the study from the research design to the analysis of data and its presentation.

3.2 Research design and variables

The dissertation is an exploratory study. According to Ayiro (2012), such a study examines the key variables, their relationships and their potential or causal linkages. Furthermore, Patton (2015) highlights that exploratory studies are applicable to policy matters. In this regard, the work seeks to examine the effects of the STCW 78 Convention, as amended, on Kenya’s Maritime Training and Education (MET). Thus, its emphasis is primarily on the link between two variables: STCW 1978, as amended (independent variable) and Kenya’s MET (dependent variable). Nevertheless, as hitherto noted in the work’s introductory chapter, the study does not rule out the possible occurrence of intervening variables.

Consequently, an exploratory research design is required to enable an in-depth understanding of Kenya’s implementation of the Convention, as amended, and illuminate how its compliance to the mentioned Convention is affecting its MET. Moreover, the study’s exploratory design also facilitates Kenya’s analytical comparison with other selected IMO member States and provides a chance for it
3.3 Research methods

The study employs the triangulation and mixed methods research techniques. In this regard, Patton (2015) elucidates that there are four types of triangulation: i) data triangulation (the use of a variety of data sources in a study), ii) investigator triangulation (the use of different researchers or evaluators), iii) theory triangulation (the use of multiple perspectives to interpret a single set of data), and iv) methodological triangulation (the use of multiple methods to study a single problem).

Accordingly, Casey and Murphy (2009) explain that methodological triangulation encompasses the use of two or more research methods in a single study and can be categorized as an ‘across method’ and ‘within method’. Furthermore, the aforesaid authors observe that the ‘across method’ triangulation uses quantitative and qualitative methods of data collection in a single study while the ‘within method’ triangulation uses more than one method of data collection from the same design in a study to measure the same variables.

In this regard, whereas Casey and Murphy (2009) state that methodological triangulation is referred to as mixed methods research, Guthrie (2010) and Patterson (2015) suggest that triangulation is a particular application of mixed methods. In addition, Silvermann (2000) seems to share Casey and Murphy’s (2009) affirmation that triangulation and mixed methods research are comparable, though he uses ‘multiple methods’ in place of mixed methods.

There is a thin line between triangulation and mixed methods research. Thus, they continue to be used interchangeably since a clear-cut difference between the two is still unresolved from existing literature.

From the foregoing discussion, the work employs mixed methods approach from the perspective that both qualitative and quantitative methods of data collection and analysis are considered; qualitative in the sense that the study uses qualitative information gathered from observations from educational field trips to the Philippines, the Netherlands and Portugal (European Maritime Safety Agency-EMSA), the study’s literature review, and unstructured interviews which are presented in a narrative report and intended to answer the dissertation’s research questions (Ayiro, 2012).

Additionally, the quantitative methods applied in the work comprise the use of structured (close-ended) questions in its electronic questionnaires, the Likert rating scale and the use of statistical graphs to represent data, all intended to produce a statistical report with correlations to answer the research questions (Ayiro, 2012). Furthermore, the use of mixed methods approach is also evident in the study’s use of electronic questionnaires, which although being predominantly close-ended, have a few open-ended questions (Patton, 2015).
Moreover, the application of triangulation in the work relates to the gathering and use of data from different sources (data triangulation), such as from observations, audio recordings, literature reviews, electronic questionnaires and from unstructured interviews (Patton, 2015). Consequently, these can also be categorized as mixed methods since the types of data collection methods used to obtain them are both qualitative and quantitative in nature.

Subsequently, the triangulation and mixed methods are used in the study to allow for the assemblage of varied perspectives for representation and analysis, resulting in more comprehensive data to enhance a deeper and clearer understanding of the research objectives and questions (Saldana, 2011; Creswell, 2014; Patton, 2015).

Furthermore, the triangulation and mixed approaches are employed in the work due to their ability to minimize potential limitations in the study (Ayiro, 2012; Casey & Murphy, 2009; Creswell, 2014). In addition, Ayiro (2012) and Casey and Murphy (2009) highlight that the said methods increase the validity and accuracy of information in research. Thus, the triangulation and mixed methods are utilized in the study in order to validate the data amassed for the research.

Additionally, the use of the triangulation and mixed methods is intended to reduce biases that may be likely if one single method is used or when data is collected from one source (Casey & Murphy, 2009). Nevertheless, in the use of the triangulation and mixed approaches, the researcher is cognizant of the limitations that may be caused by the said methods which include, the need for extensive data collection, the lengthy time required to collect and analyse the data, and their complexity. Consequently, to counter these limitations, the
researcher vividly describes how these methods are applied in the study in the above discussions.

Further, the researcher also identifies why the use of the triangulation and mixed methods is significant for the work in terms of their ability to best answer the research questions posed by the study. Moreover, the researcher also illustrates two visual models (as shown in Figures 3.1 and 3.2), to guide the use of the said methods in the study.

Figure 3.1: Mixed methods as used in the study
Source: Author
It is noteworthy that despite the triangulation and mixed methods approaches comprising both quantitative and qualitative characteristics, most literature categorized and discussed these techniques under qualitative methods (Ayiro, 2012; Creswell, 2014; Patton, 2015; Saldana, 2011; Silverman, 2000).

Figure 3.2: Triangulation method as used in the study
Source: Author
3.4 **Population/target population**

The work purposes to obtain the views of respondents from the Kenyan maritime sector (Maritime Authority, Shipping companies, Port authority, MET institutions, cadets or trainees, seafarers, Ministry of Transport among others), as well as those from selected interviewees from selected IMO member States of the Philippines, Japan, the Netherlands and Egypt, in order to answer the study’s research questions and objectives. Thus, the respondents from the Kenyan maritime sector and a selection of respondents from IMO member States of the Philippines, Japan, the Netherlands and Egypt are the target population of the research based on their ability to respond informatively to the study’s research questions and objectives (Yount, 2006).

3.5 **Sampling technique and sample size**

Ayiro (2012) posits that sampling is essential in a study to allow in-depth analysis and accuracy. Therefore, purposeful sampling, also known as purposive sampling, is applied in the research. In this respect, respondents are tactically selected to participate in the study based on their ability to be information-rich and offer edifying data that will be useful in providing an in-depth understanding of the study’s research problem and questions (Patton, 2015).

For that reason, the said sampling method is chosen because it enables the researcher to focus on respondents that are valuable for the study’s analysis, particularly considering that the study’s focus is on the effects of the STCW 78, as amended, on Kenya’s MET. This means that participants used in the investigation are conversant with the Convention, as amended, how it is being implemented in Kenya and the various selected states used for analytical comparison (the Philippines, Japan, the Netherlands and Egypt), as well as, have an understanding of the status of MET in the aforementioned countries.
Accordingly, Patton (2015) posits that the key strengths of a purposeful/purposive sampling technique lie in the focus it creates and the enriching data it generates for research, although in statistical sampling, this could be considered a bias and a weakness.

Furthermore, the work targets a sample size of at least 30 respondents for the electronic questionnaires and at least one respondent from each of the above-mentioned selected states for utilization in analytical comparison. In this case, the choice of the target sample size is guided by Patton’s (2015) proposition of about 30 participants for qualitative designs and his viewpoint that sample size is dependent on what a researcher wants to know, the purpose of the inquiry, what is at stake, what will be useful, what will have credibility and what time and resources are available to the researcher. Further, Patton (2015) asserts that a small number of respondents with comprehensive information can be very valuable to a study.

Additionally, according to Guthrie (2010), a sample of 30 participants is sufficient to provide data for a normal distribution and is feasible especially with exploratory research designs. Moreover, Guthrie (2010) affirms that sample size is affected by the purpose and research design of a study.

3.6 Sources of data
The study utilizes both primary and secondary sources of data (Ayiro, 2012). Consequently, primary data for the research is obtained first-hand from observations during educational trips to the Philippines, the Netherlands and the European Maritime Safety Agency (EMSA) in Portugal. Furthermore, electronic questionnaires and audio recordings of unstructured interviews are also sources of primary data. Subsequently, the researcher utilizes the aforesaid primary
sources of data because they are raw, fresh, dependable and realistic because the researcher obtains them directly from the participants.

In addition, the secondary data sources for the work includes past research, publications, books, journals, newspaper articles, websites, databases of information, e-books, reports, conference and meeting proceedings, lecture readings, IMO documents and the published STCW 78 Convention, as amended. Consequently, the researcher utilizes the aforementioned secondary sources because they provide background information about the study, are valuable in reviewing the study’s literature, revealing gaps that could be explored and addressed further in the work, clarifying issues and concepts in the study, as well as, being reachable.

Moreover, the study also uses secondary data sources because of their potential to add value to the work. According to Blaxter, Tight and Hughes (2010), one may never have enough data, thus secondary data sources have the ability to complement the primary data collected; they confirm, modify or contradict the study’s findings, thereby enabling the carrying out of data analysis and interpretation.

3.7 Data collection instruments and methods
The work uses observations, electronic questionnaires and interview guides for its data collection. They are discussed herebelow.

3.7.1 Observations
The study uses observations during its initial phase. The researcher gathers data for use in the work during educational trips to the Philippines and the Netherlands, which are used for comparative analysis. Consequently,
observations enable the researcher to interrogate the research topic at its early stage, comprehend how the STCW 78, as amended, is being implemented in the aforesaid countries and witness how compliance to the Convention, as amended, is affecting the MET of the Philippines and the Netherlands, thus providing an informed basis for analytical comparison with the mentioned states.

Additionally, observations also enable the researcher to develop questions that are pursued during interviews conducted for the study in order to facilitate resolving of the research objectives and queries. Furthermore, observations during the educational trips also facilitate the researcher to take notes and audio recordings as well as obtain informative material which are purposeful in elucidating and addressing the study’s research questions.

In this respect, according to Patton (2015), observations are beneficial because they provide a desired experience and understanding of the research problem, enable the researcher to discover the unknown, learn about matters that people may be unwilling to mention during interviews, as well as, enable one to experience how things are. Contrariwise, Guthrie (2010) notes that observations may raise concerns of validity and reliability of data. Accordingly, the researcher counters these concerns through employing the triangulation and mixed methods approaches (Ayiro, 2012; Casey & Murphy, 2009; Guthrie, 2010).

3.7.2 Electronic questionnaires
The study employs electronic questionnaires to acquire information from participants in the study about the effects of the amended STCW 78 on Kenya’s MET (Blaxter, Tight & Hughes, 2010; Moore, 2006).
Subsequently, the electronic questionnaires were emailed to several respondents derived from the Kenyan maritime sector who comprised those from the Kenya Maritime Authority, Kenya Ports Authority, the Kenyan Ministry of Transport and Infrastructure, shipping companies, seafarers, cadets and trainees, MET institutions, et al. In this case, cover letters containing the details and contacts of the researcher, topic of research and estimated time required to complete the electronic questionnaires, was also enclosed with the questionnaires in order to increase their response rate and enthuse respondents to provide information (Moore, 2006). It is noteworthy that the electronic questionnaires were pre-tested before-hand to enable their modification and correction, as well as to test their reliability before they were emailed to all respondents (Guthrie, 2010; Moore, 2006). In this regard, the researcher used two respondents from the Kenya Maritime Authority to pre-test the electronic questionnaire.

Furthermore, the electronic questionnaires used in this research are predominantly structured (close-ended), but with a slight facet of open-endedness/unstructuredness (containing a single open-ended question that aims to give respondents the freedom to express their views in their own words). This is strategic for the electronic questionnaires as with their utilization of a combination of question formats presented in multiple choice, Likert scale and open-ended formats (Markel, 2001; Moore, 2006). Accordingly, the aforementioned tactics are applied to the questionnaire due to the triangulation and mixed methods approaches of the study that is aimed at obtaining comprehensive data and increasing the validity of the questionnaire (Saldana, 2011; Creswell, 2014; Patton, 2015).

In addition, the Likert scale is utilized for some of the questions in the electronic questionnaires and presented in a rank of 1-6, in order to elicit valuable and
reliable data for the study (Markel, 2001; Moore, 2006). Consequently, 1 in the rank represents a “strong no”, while 6 represents a “strong yes”. Likewise, 2 represents “no”, 3 signifies “slightly no”, 4 implies “slightly yes” and 5 connotes “yes”.

Moreover, the electronic questionnaires are utilized in the research due to their convenience and efficiency since respondents can complete them at their own time and submit them electronically while the researcher does not have to travel to Kenya to distribute and collect them from the respondents (Blaxter, Tight & Hughes, 2010; Moore, 2006). Further, the said questionnaires are also essential for the work since they are easy to administer and aid in reducing biases (Moore, 2006).

3.7.3 Interview Guides

According to Guthrie (2010), interview guides are branded as semi-structured interviews. In this respect, an interview guide approach is adopted for the research because it acts as a checklist to guide the interviews for consistency and permits flexibility in both probing, prompting and in interviewees’ responses, while still maintaining the required focus on the interview subjects (Moore, 2006; Guthrie, 2010; Patton, 2015).

Additionally, the interview guides augment the all-inclusiveness of the data obtained and enables the data collection for each respondent to be organized. Furthermore, they also enable the researcher to plan and use the available time efficiently to obtain comprehensive data (Patton, 2015). Besides, the interview questions directed to respondents are open-ended (un-structured) to enable the collection of a wider range of views and perspectives from the respondents (Patton, 2015). This is essential in addressing the research objectives and queries.
Furthermore, the researcher uses various ways to conduct the interviews due to distance, availability of interviewees and interviewee preferences. Thus, face to face, telephone and skype interviews are utilized to obtain data for the study.

Additionally, all interview sessions were recorded and purposeful notes taken to enable the preservation of information gathered from the interview sessions for data analysis. In this case, Patton (2015) observes that recording interview sessions does not render taking notes useless. As a result, taking notes was advantageous during the interview sessions because it aided data analyses and provided a backup in case the recorder malfunctioned or the recordings were mistakenly erased (Patton, 2015).

### 3.8 Data analysis and presentation

Since the study uses both qualitative (interviews with open-ended questions) and quantitative instruments of data collection (electronic questionnaires that utilize Likert scale, multiple choices, close-ended questions), both qualitative and quantitative data are generated for the research (Ayiro, 2012; Blaxter, Tight & Hughes, 2010).

Consequently, data is principally analysed qualitatively through the explanation and justification of findings (written text) and quantitatively through the use of descriptive statistics (Ayiro, 2012; Blaxter, Tight & Hughes, 2010; Patton, 2015). However, statistical graphs are utilized to add value to the qualitative text. In this respect, the choice of the above-mentioned methods of analysis is guided by the nature of the research methods, the nature of the data collection instruments and the data gathered, in order to enhance the validity and the reliability of the data.
collected (Ayiro, 2012; Blaxter, Tight & Hughes, 2010; Casey & Murphy, 2009, Patton, 2015).

In addition, the data analysed for the study is presented quantitatively through the use of statistical graphs and pie charts in order to produce a clear statistical report with correlations to answer the research questions (Ayiro, 2012; Blaxter, Tight & Hughes, 2010). This is important because it ensures the validation of the findings of the study (Ayiro, 2012; Blaxter, Tight & Hughes, 2010).

3.9 **Ethical considerations in data collection**

According to Creswell (2014), Guthrie (2010), and Patton (2015), anonymity, informed consent and confidentiality are the key ethical issues that are considered during data collection. In this respect, anonymity is applied in the electronic questionnaires in the sense that the respondents are not required to indicate their names in the said questionnaires in order to protect their identities.

Additionally, informed consent is sought from respondents before interviews are conducted, while confidentiality is assured to respondents for both the electronic questionnaires and the interviews (Guthrie, 2010; Patton, 2015). According to Guthrie (2010), consideration of ethics in data collection is essential since it increases the credibility of research results.

3.10 **Limitations in data collection**

The slow response rate to electronic questionnaires was a limiting factor for the study’s data collection. Nevertheless, this was overcome by sending email reminders to respondents and following up through telephone calls and messages.
Another limiting factor for data collection in the work was the absence of interviewees for scheduled interview appointments due to unforeseen issues. This was however overcome by rescheduling of the interviews.

3.11 Summary
This chapter provides a detailed appraisal of the methods, instruments and the rationale used to conduct the research. Furthermore, it discusses broadly the research design, research methods, target population, sampling techniques, sources of data and data collection instruments utilized in the study. Moreover, it also illuminates how data was analysed and presented, the ethical issues considered in the study, as well as the limitations that are experienced during data collection. The next chapter focusses on the data analysis and presentation.
CHAPTER FOUR

4.0  Data analysis & Presentation

4.1  Introduction

This chapter elucidates findings obtained from the study’s data, examines them and presents them statistically using charts and graphs.

4.2  Outline of the questionnaires

The questionnaires used in the study (see Appendix A) are designed in cognizance of the research problem and objectives. Additionally, they are aimed at eliciting information that would aid in resolving the research questions and exploring the effects of the STCW 78, as amended, on Kenya’s MET.

Specifically, the questionnaires have 23 questions which are divided into three sections A, B and C, in line with the study’s objectives and research questions. In this regard, section A comprises multiple choice questions aimed at eliciting basic information about the respondents’ occupation and knowledge. Furthermore, the questions in the aforementioned section are intended to aid in the scrutiny of the historical and contemporary status of Kenya’s MET.

In addition, section B of the questionnaire is structured using a Likert scale to draw data that would enable the study to evaluate Kenya’s strategies in implementing the STCW 78, as amended.
Moreover, section C of the questionnaire is designed using a Likert scale to elicit information about the current effects of the STCW 78, as amended, on Kenya’s MET. Besides, the aforementioned section also has an open-ended question to prompt respondents to provide their views on the current effects of the STCW 78, as amended, on Kenya’s MET.

4.3 Analysis of the questionnaires

The analysis of the questionnaires (see Appendix A) is provided henceforth according to the following sections:

i. Section A: Questions concentrating on information about respondents and on the historical and contemporary status of Kenya’s MET

ii. Section B: Likert scale statements focussing on Kenya’s strategies in implementing the STCW 78, as amended

iii. Section C: Likert scale statements and an open-ended question focussing on the current effects of the STCW 78, as amended, on Kenya’s MET

4.3.1 Section A: Questions concentrating on basic information about respondents and on the historical and contemporary status of Kenya’s MET

I) What is the nature of your institution/ occupation?

The above question is presented in a multiple question format with the intent of eliciting information about the respondents’ occupation or institution. Bearing in mind that the subject of STCW 78, as amended, is particular to the maritime domain and presumably comprehended by those within the sector, it is important for the study to ascertain that the respondents’ are capable of providing data that would be useful to answer the research problem and questions. Hence, establishing the respondents’ institution and occupation is significant for substantiating the study’s validity and reliability.
Subsequently, the majority of the participants in the study are from Kenya’s maritime administration, followed by the Ports authority, MET institutions, Ministry of Transport, Shipping company, ‘other’ and cadet/trainee as shown in Figure 4.1. However, no response was attained from active Kenyan seafarers, which could be attributed to them still being at sea at the time of the study.

Therefore, the participation of the stated categories of respondents in the study attests the use of the purposive sampling technique as previously noted in the methodology chapter. Furthermore, it also validates that the respondents used in the study were familiar with implementation matters of STCW 78, as amended, in Kenya and thus, the data obtained can be regarded as credible, valid and reliable to resolve the work’s queries.
II) Which organization in Kenya is responsible for implementing the STCW 78 Convention, as amended?

The data obtained for the study, as illustrated in Figure 4.2, divulges that the Kenya Maritime Authority (KMA) is the organization responsible for implementing the Convention, as amended in Kenya. Therefore, the aforesaid data further endorses the information noted previously in the study’s literature review that KMA is mandated by the Government of Kenya to oversee the implementation of the STCW 78, as amended. Moreover, the data also demonstrates that the maritime sector in Kenya is aware of KMA’s STCW responsibilities, and thus is able to appraise Kenya’s STCW compliance efforts and evaluate its effects on Kenya’s MET if prompted to.
Moreover, the responses obtained for the study as illustrated in Figure 4.2, also reveal an either possible overlapping of functions between the Kenya Maritime Authority (KMA), Kenya Ports Authority (KPA) and the Ministry of Transport or a probable misperception of some of the functions of the stated organizations within Kenya’s maritime industry. In view of this, the reason for the possible misunderstanding of the roles of the afore-mentioned maritime organizations may be attributed to the historical transfer of KPA’s STCW responsibilities over to KMA (as noted earlier in the study’s literature review), as well as the contemporary situation where both organizations fall under the Ministry of Transport (Ministry of Transport and Infrastructure, 2014).
III) Has Kenya’s MET improved significantly over the past 10 years? & IV) What do you think has most influenced Kenya’s MET?

The data attained in the work as shown in Figure 4.3 indicates that Kenya’s MET has improved significantly over the past 10 years. Furthermore, gathered data for the study as illustrated in Figure 4.4, reveals that the implementation of the STCW 78, as amended, has influenced Kenya’s MET significantly over the past 10 years.

Moreover, the data obtained for the study as illustrated in Figure 4.4 also indicates the likely existence of other factors that may have influenced the development of Kenya’s MET over the past 10 years. Some of the said factors
comprise Kenya’s national policies, government support, donations, and investor support among others. Accordingly, the aforesaid data also confirms the presence of intervening variables between the study’s independent variable (STCW 78, as amended) and dependent variable (Kenya’s MET) as foreseen earlier in the work’s introduction and methodology chapters.

Figure 4.3: Kenya’s MET improvement
Further analysis of questions (III) and (IV) noted above, using the Microsoft Excel program, divulge the existence of a possible strong correlation as shown in Figures 4.5 and 4.6, between the categorical variables of the said questions: Kenya’s MET improvement (column 1) and what has most influenced Kenya’s MET (column 2). Hence, it is practicable to associate the improvement of Kenya’s MET with the country’s implementation of the STCW 78, as amended, over the past 10 years. Therefore, the said data can be considered as validating and enhancing the information that was discussed previously in the work’s literature review chapter on the historical and contemporary status of Kenya’s MET.
Figure 4.5: Correlation

Figure 4.6: Correlation
4.3.2 Section B: Likert scale statements focussing on Kenya’s strategies in implementing the STCW 78, as amended

As previously noted above and in the methodology chapter, section B of the questionnaire utilizes statements presented in a Likert scale format. Accordingly, the statements are graded between 1 and 6, where 1 implies a “strong no” while 6 implies a “strong yes”. Likewise, 2 represents “no”, 3 signifies “slightly no”, 4 implies “slightly yes” and 5 connotes “yes”.

Subsequently, the data obtained for the study in the said section indicates that Kenya is employing some strategies to aid it in implementing the STCW 78, as amended, as follows:

I) Single administration (specialization) strategy

Gathered data (as shown in Figure 4.7) divulges that Kenya employs a strategy of entrusting the implementation of the Convention, as amended, to a single administration. As previously noted, data attained in the research (illustrated in Figure 4.2) corroborates that the single administration responsible for Kenya’s STCW compliance matters is the Kenya Maritime Authority. Furthermore, obtained data (as shown in Figure 4.7 also discloses that the aforesaid single administration is effectively implementing the STCW 78, as amended.

Conversely, the said data (as shown in Figure 4.7) also reveals a slight gap in the implementation of the Convention, as amended, by Kenya’s single administration responsible for STCW matters.
Although the aforementioned data indorses information in the study’s literature review about the utilization of a single administration to implement STCW matters as a possible strategy by Kenya, it also draws attention to the effectiveness of the said administration as well as the strategy itself. Additionally, though the demonstrated gap in the execution of the Convention, as amended, by Kenya’s aforementioned single administration can be regarded as negligible, it indicates a need for its sustained operative improvement in order to solidify the strategy and render it wholly fruitful.

Figure 4.7: STCW implementation by Kenya’s single administration
II) Information dissemination strategy

The Data attained for the work (as shown in Figure 4.8) divulges that Kenya is employing an information dissemination strategy to aid its compliance with the Convention, as amended. Consequently, the aforesaid data discloses that stakeholders in the maritime sector are often informed about the requirements of the STCW 78, as amended. Therefore, this implies that the said strategic approach is utilized by Kenya to empower stakeholders in the maritime sector to be conversant with the STCW 78, as amended, so that they are able to comply with it. According to Willmott (2010), the afore-mentioned strategy can be used to synchronize the activities of people and agencies with the knowledge they need to be effective.

In contrast, the aforesaid data (as shown in Figure 4.8) also unveils a slight gap in Kenya’s information dissemination strategy as it relates to the country’s execution of the Convention, as amended. Accordingly, the said gap indicates that a fraction of stakeholders in Kenya’s maritime domain do not have access to information about the requirements of the STCW 78, as amended. Therefore, the aforesaid data suggests a likely opening for Kenya to augment its information dissemination strategy as it relates to compliance matters of the Convention, as amended. Likewise, for Kenya to realize the full benefits of the information dissemination strategy, it is vital for it to take cognizance of the limitations of the said strategy (Srinivasa, 2006).
III) **Technical cooperation strategy**

The data gathered for the study (as shown in Figure 4.9) suggests that Kenya employs a strategy of technical cooperation in MET by awarding fellowships and scholarships to qualified candidates. This is a positive indication for the country’s MET particularly in respect to its alignment with the Convention, as amended.

Additionally, the aforementioned data (as shown in Figure 4.9) also divulges that the utilization of technical cooperation in MET by Kenya is slightly above average, thus this indicates a prevailing opportunity for continued enhancement of the strategy for realization of its maximum benefits. Besides, it also denotes that Kenya can explore further technical cooperation initiatives to address setbacks in the use of the aforesaid strategy.
Considering the historical and contemporary status of Kenya’s MET, as previously noted in the work’s literature review, the data obtained for the study (as shown in Figure 4.9) also indicates that Kenya’s sustained use of the said strategy has the prospective of elevating the country’s MET from its current foundational stage.

![Kenya fully supports technical cooperation initiatives in MET by awarding fellowships and scholarships to qualified candidates](image)

**Figure 4.9: Support of technical cooperation initiatives by Kenya**

**IV) Collaborative strategy**

The data acquired for the research (as illustrated in Figure 4.10) suggests that Kenya is strongly using a strategy of collaboration in implementing the STCW 78, as amended within its MET system. In this case, the aforesaid data indicates that Kenya, through the Kenya Maritime Authority (the organization mandated to discharge STCW roles) is working with other national agencies to ensure...
fulfilment of the Convention, as amended and the alignment of its MET with the said Convention. This is a progressive sign bearing in mind that compliance issues such as those of STCW 78, as amended, need to be all-encompassing in order to be productive. Additionally, it would be unfeasible for Kenya’s maritime authority to implement the Convention, as amended, single-handedly within its MET system.

Furthermore, though the aforesaid data (as illustrated in Figure 4.10) signposts a positive utilization of a collaboration strategy in the implementation of the Convention, as amended, within Kenya’s MET system, it also demonstrates that there is still a chance for the enriched use of the said strategy.

**Figure 4.10: KMA’s collaboration with national agencies**
V) **Training strategy**

The data assembled for the study (as shown in Figure 4.11) suggests that Kenya through the Kenya Maritime Authority, employs a robust training strategy to assist it in meeting its STCW 78, as amended, obligations. In this case, the said data reveals that the Kenya Maritime Authority, which is responsible for STCW implementation matters as noted previously, has an active training policy to endow its staff in handling issues of the Convention, as amended. Thus, this may imply that Kenya is investing in skilled staff to strengthen its STCW compliance efforts. Considering the array of STCW matters assigned to the Kenya Maritime Authority by the Government of Kenya, as previously noted in the study’s literature review, the use of the said strategy by Kenya is reasonable.

However, the data (as shown in Figure 4.11) also divulges a minor gap in the said strategy which indicates a likely presence of areas within the training scheme that require further attention and upgrading.
VI) **National regulatory framework strategy**

The data attained for the study (as shown in figure 4.12) indicates that Kenya uses a national regulatory framework as a strategy to aid it to implement the Convention, as amended. In view of this, the aforesaid data strongly suggests that Kenya has sufficient national laws, policies and practices to support its STCW compliance efforts. Additionally, the aforesaid data also certifies the information reviewed in the work’s literature review chapter on the possible utilization of national laws and policies by Kenya to promote its STCW 78, as amended, implementation efforts.

Nevertheless, the aforementioned data (as shown in figure 4.12) also divulges small gaps in the said strategy, revealing that there are possible areas in Kenya’s
national regulatory framework that could be further developed to boost the country’s execution of the STCW 78, as amended.

Kenya has sufficient national laws, policies and practises to support implementation of STCW 78, as amended

Figure 4.12: Kenya’s national laws and policies

VII) MET Governmental funding strategy

The data obtained for the study (as illustrated in Figure 4.13) suggests that Kenya has not been successful in utilizing a strategy that entails the Government funding of MET institutions in Kenya, to enable the said institutions to align themselves with the STCW 78, as amended. Subsequently, this may denote that most MET institutions in Kenya are self-funded, and thus liable to ensure that they conform fully to the requirements of the Convention, as amended.

Furthermore, the aforesaid data (as illustrated in Figure 4.13) possibly heightens the understanding of the challenges encountered in the development of MET
institutions in Kenya as noted earlier in this work’s literature review. Moreover, it possibly illuminates partially why Kenya has a limited number of MET institutions.

Nonetheless, while the aforementioned data (as illustrated in Figure 4.13) suggests that there is some small thought being given to the funding of MET institutions in Kenya by the Government, the adoption of Government funding of MET institutions as a strategic approach to implementing the amended Convention, is a potential area for exploration and growth.

![MET institutions in Kenya are fully funded by the Government](image)

**Figure 4.13: Government funding of MET institutions**
In addition, a further analysis of Section B of the questionnaire (on Kenya’s STCW implementation strategies) using the Microsoft Excel program (as shown in Figures 4.14 and 4.15) divulges a predominantly possible strong positive correlation between categorical variables of strategies utilized by Kenya and the independent variable of STCW 78, as amended. Thus, this may denote that the use of strategies by Kenya in the implementation of the Convention, as amended, is typical and permissible.

![Correlation between variables](image)

**Figure 4.14: Correlation between variables**
4.3.3 Section C: Likert scale statements and an open-ended question focussing on the current effects of the STCW 78, as amended, on Kenya’s MET

As previously noted in this and the methodology chapters, section C of the questionnaire utilizes statements presented in a Likert scale format, as well as one open-ended question to seek the respondents’ views on the current effects of the Convention, as amended on Kenya’s MET. Accordingly, the statements were graded between 1 and 6, where 1 implies a “strong no” while 6 implies a “strong yes”. Likewise, 2 represents “no”, 3 signifies “slightly no”, 4 implies “slightly yes” and 5 connotes “yes”.

Subsequently, the data obtained for the study in this section indicates that the STCW 78, as amended, has had several effects on Kenya’s MET currently, which are analysed as follows:
I) Kenyan seafarers’ certificates are revalidated in line with the transitional requirements of the STCW 78, as amended

The data obtained for the research (as shown in Figure 4.16) suggests that presently Kenyan seafarers’ certificates are revalidated in accordance with the transitional requirements of the Convention, as amended. Thus, this denotes that Kenya’s MET is now realizing IMO’s envisioned outcomes as it relates to regulations 1/11 and 1/15 of the STCW 78, as amended (International Maritime Organization, 2011).

Furthermore, though the aforesaid data (as shown in Figure 4.16) reveals a relatively positive trend in Kenya’s MET now, it does suggest that there is a need for the country to address some prevailing gaps in its STCW compliance efforts in order to sustain and augment the said trend.
II) Seafaring trainees in Kenya have challenges in accessing berths on training ships for their on-board training

Gathered data for the research (as illustrated in Figure 4.17) indicates that despite Kenya effectively implementing the STCW 78, as amended, (as noted in previously analysed data represented in Figure 4.7), cadets in Kenya still have difficulties in getting berths on training ships for their on-board training as stipulated in regulation 1/6 of the Convention as amended (International Maritime Organization, 2011). Furthermore, the aforesaid observation is also reiterated by the respondents’ views presented in the open-ended question of the questionnaire.
In this regard, the aforesaid data (as illustrated in Figure 4.17) can be interrelated to data analysed before in this chapter, which divulged that Kenya’s use of the MET governmental funding strategy is minimal (Figure 4.13) while the country’s utilization of the technical cooperation initiatives in MET is slightly above average (Figure 4.9). Thus, the interrelation of the aforesaid data suggests that one of the possible reasons for the challenges in attaining berths on training ships by Kenyan cadets is because Kenya’s STCW implementation strategies of MET governmental funding and technical cooperation initiatives are still in the evolving phase.
Additionally, the work’s literature review had observed that previous dissertations by Mabuti (2013) and Musa (2000) foretold that financial and technical limitations would possibly hamper Kenya’s efforts in the implementation of the STCW 78, as amended, as well as the consequential progress to the country’s MET. Hence, the data obtained in this research is indicative of the aforesaid prediction noted earlier in the study’s literature review.

In this regard, Kenya can probably consider strengthening its technical cooperation initiatives for MET and develop a practicable governmental funding program for its MET institutions. Furthermore, some of the respondents’ in the questionnaire’s unstructured question also proposed that Kenya could invest in a national training ship for its cadets or increase its collaboration efforts with ship owners to enable the country’s cadets to acquire berths for their sea training. Indeed, these can be incorporated into the strategies of technical cooperation initiatives and the governmental funding program for Kenya’s MET institutions which the data suggests have the capacity to improve (as shown in Figures 4.9 and 4.13).

In this regard, an analysis of respondents’ opinions in the open-ended question of the questionnaire divulges that Kenya has identified its need to increase its investment in MET and improve access to berths on training ships for its cadets. Indeed, this is a positive sign which suggests that the difficulties in gaining access to berths on training ships in Kenya will soon be resolved.
III) Training and assessment of seafarers in Kenya is conducted by highly qualified instructors

The data amassed for the study (as shown in Figure 4.18) reveals that the training and assessment of seafarers in Kenya is presently conducted by highly qualified instructors, though this is marginally above average. Further, this view is also restated by the respondents’ views gathered from the open-ended question of the questionnaire, who stated that there is still a demand for highly qualified instructors in Kenyan MET institutions.

Consequently, the aforesaid data (as shown in Figure 4.18) is indicative of the presence of highly qualified instructors in existing Kenyan MET institutions which can be ascribed to Kenya’s compliance with the Convention, as amended, specifically regulation 1/6 (International Maritime Organization, 2011). Conversely, the data is also suggestive of Kenya’s need for additional highly qualified instructors, especially considering its MET is still at a formative stage and is anticipated to advance.
IV) Seafaring cadets in Kenya have challenges in accessing simulators throughout their MET period

Gathered data for the research (as illustrated in Figure 4.19) signposts that despite Kenya effectively implementing the STCW 78, as amended, (as noted in previously analysed data represented in Figure 4.7), cadets in Kenya still have difficulties in accessing simulators during their MET period as set in regulation 1/12 of the Convention as amended (International Maritime Organization, 2011). Furthermore, the aforesaid observation is also recapped by respondents’ opinions provided in the open-ended questions of the questionnaire.
For that reason, the aforementioned data (as illustrated in Figure 4.19) and observation confirm the study’s previous analysis of Kenya’s strategies in the implementation of the Convention, as amended; that Kenya’s practice of MET governmental funding strategy is minute (Figure 4.13) while the country’s application of the technical cooperation initiatives in MET are slightly above average (Figure 4.9). In this case, the strain in accessing simulators by Kenyan cadets can be linked to the gaps in the aforesaid strategies. Further, the gaps in the aforementioned strategies can be attributed to Kenya’s possible financial confines and commitments.

Therefore, the strengthening of STCW implementation strategies of MET governmental funding and technical cooperation initiatives in MET can possibly transform the simulator issue in Kenya’s MET. Additionally, a collaborative strategy (as previously examined and illustrated by Figure 4.10) between MET institutions in Kenya, in terms of simulator and facilities sharing, can conceivably ease the prevailing simulator situation in Kenya’s MET.

In this respect, an analysis of respondents’ opinions in the open-ended question of the questionnaire discloses that Kenya has acknowledged its necessity to increase its investment in MET and its MET institutions have recognized the significance of teaming up in order to share requisite training facilities and equipment. Undeniably, this is an optimistic indication that the simulator challenges in Kenya will be alleviated shortly.
Figure 4.19: Access to simulators by cadets

V) MET institutions in Kenya are thoroughly monitored according to quality standards

The data obtained for the study (as illustrated in Figure 4.20) is suggestive that the implementation of the Convention, as amended, has caused MET institutions in Kenya to be thoroughly monitored according to quality standards, even though this is still at a standard level. Further, the aforesaid data is reinforced by the respondents’ replies in the unstructured question of the questionnaire in which they recap that compliance to the Convention, as amended, has improved quality standards and synchronized conditions in Kenyan MET institutions.
Thus, this implies that Kenya is actualizing the stipulations of the STCW 78, as amended, as it relates to regulation 1/8 of the Convention (International Maritime Organization, 2011). Indeed, this is a constructive step for Kenya as it strives to advance its MET considering that maintaining quality standards is fundamental in its endeavours.

**Figure 4.20: Monitoring of MET institutions**

VI) **Courses in Kenyan MET institutions in Kenya meet the requirements of the STCW 78, as amended**

The data collected for the research (as illustrated in Figure 4.21) is indicative that Kenya’s implementation of the Convention, as amended, has led to MET institutions in Kenya having courses that fulfil the requirements of the STCW 78, as amended. Further feedback from respondents in the unstructured question of
the questionnaire also endorse the aforementioned data, remarking that courses in Kenyan MET institutions meet internationally prescribed standards due to the prominence being given to achieving quality criteria.

The above observation is logical considering previously examined and divulged data on Kenya’s methodical monitoring of quality standards exemplified by Figure 4.20. Plausibly, this is because when quality criteria are upheld as stipulated by the Convention, as amended, IMO’s envisioned effects for global MET are bound to be experienced in course delivery too.

Contrariwise, the data also unveils that there is a chance for Kenya to improve its configuration of MET courses with the STCW 78, as amended.

![Courses offered in Kenyan MET institutions fully meet requirements of the STCW 78, as amended](image)

**Figure 4.21: Courses in Kenyan MET institutions**
VII) The Kenyan maritime curriculum has been thoroughly revised to fulfil the requirements of the STCW 78, as amended

The data amassed for the study (as illustrated in Figure 4.22) suggest that Kenya’s implementation of the STCW 78, as amended, has resulted in the revision of the Kenyan maritime curriculum so as to accommodate the latest training and certification requirements for seafarers as stipulated in the STCW 78, as amended. Further responses from respondents to the open-ended question of the questionnaire also indorse the aforesaid data. Possibly, this consequence can be ascribed to Kenya’s establishment of quality standards in line with the Convention, as amended as demonstrated previously in Figure 4.20.

Indeed, the above revelation is a positive sign for Kenya’s imminent MET progression passage considering that STCW curriculum development can be an arduous task to accomplish.
Figure 4.2: Kenyan maritime curriculum

VIII) Reliability of Kenyan STCW seafarer certificates

The data gathered for the study (as illustrated in Figures 4.23, 4.24, 4.25) suggests that Kenya’s implementation of the STCW 78, as amended, has improved the reliability of Kenyan STCW seafarer certificates. Firstly, the aforesaid data (shown in Figure 4.23) divulges that all mariners’ certificates in Kenya are issued by a single recognized Authority. In this case, this implies that there are no other organizations in Kenya legalized to issue STCW certificates to seafarers except the Kenya Maritime Authority as previously shown in Figure 4.2. Further, it also suggests that possible cases of duplication of roles and fraud in the Kenyan seafarer certification process are averted.
Secondly, the afore-mentioned data indicates that Kenyan seafarer certificates are only issued to qualified candidates (as shown in Figure 4.23) and are carefully verified for genuineness (as illustrated in Figure 4.24). Indeed, this is suggestive that avenues are being created to stem out potential deceptive practices within the seafarer certification process in Kenya. This is an optimistic sign taking into account that Kenya’s MET is at its formative phase and requires a solid system that can raise it to the next progressive period.

Consequently, the foregoing analysis denotes that Kenyan seafarer certificates can be regarded as reliable. However, it also means that Kenya has to uphold its STCW compliance efforts to ensure the consistency and dependability of its seafarers’ certificates.
STCW certificates in Kenya are only issued to qualified candidates

Figure 4.24: Issuance of STCW certificates to qualified candidates
Figure 4.25: Verification of STCW certificates in Kenya

IX) Kenyan seafarers fulfil the mandatory minimum standards of competency levels required by the STCW 78, as amended

The data assembled for the study (as illustrated in Figure 4.26) suggests that Kenya’s implementation of the STCW 78, as amended, has enabled its seafarers achieve the obligatory minimum standards of competency levels set by the Convention, as amended.

Further, the aforesaid data is reinforced by the respondents’ replies in the unstructured question of the questionnaire in which they remark that due to Kenya’s compliance with the Convention, as amended, Kenyan seafarers are now competent and qualified to be employed aboard international ships. Additionally, the respondents also observe that with improved competency
levels, Kenyan mariners are now competitive for the global maritime labour market since they are as experienced as mariners from the Philippines and other parts of Europe. Indeed, the aforementioned sentiments from the respondents in the open-ended question of the questionnaire can be attributed to Kenya’s mariners attaining the obligatory minimum standards of competency levels stipulated by the STCW 78, as amended, already established by the research’s data (as illustrated in Figure 4.26).

![Figure 4.26: Competencies of Kenyan seafarers](image)

Figure 4.26: Competencies of Kenyan seafarers

Moreover, following the respondents’ views in the open-ended question of the questionnaire, Kenya’s seafarers’ achievement of the obligatory minimum standards of competency levels set by the Convention, as amended, can be ascribed to other outcomes of the country’s compliance to the STCW 78, as
amended. These include the improved quality of instructors and training, and the reviewed maritime curriculum and harmonized MET, effects which have been authenticated by the study’s data earlier on and analysed (as shown in Figures 4.18, 4.20, 4.21, 4.22).

Thus, the above observation is agreeable considering the interconnected nature of provisions in the Convention, as amended, such that if one stipulation is accomplished, it eases the achievement of another. In this way, it is typical to observe correlations among the effects of compliance to the Convention, as amended (as shown in Figure 4.27).

![Graph showing correlations between variables of STCW 78, as amended, effects on Kenya's MET](image)

**Figure 4.27: Correlations between variables**

Finally, while the study’s data disclosure (as illustrated in Figure 4.26) that Kenya’s implementation of the STCW 78, as amended, has enabled its seafarers
to achieve the obligatory minimum standards of competency levels set by the Convention, as amended, it is an optimistic sign for the development of Kenya’s MET but also highlights the need for Kenya to address the challenges being experienced for STCW compliance. The said challenges possibly include the access of Kenyan cadets to training ships and simulators during their MET period of sea training (as hitherto shown in Figures 4.17 and 4.19).

X) **Additional effects of the STCW 78, as amended on Kenya’s MET**

Further data obtained from respondents’ sentiments in the unstructured question of the questionnaire reveals that Kenya’s compliance to the Convention, as amended, has transformed conventional perceptions towards MET in the country resulting to an increased interest in seafaring as well as amplified enrolments in MET institutions. Furthermore, respondents also note that professionalism and human resource capacity in Kenya’s shipping industry has been enhanced.

In addition, the respondents further observe that Kenya’s implementation of the STCW 78, as amended, has improved the quality of MET in the country, generated more employment opportunities for seafarers, promoted foreign exchange earnings, as well as encouraged investment in MET institutions in Kenya. Moreover, the respondents remark that Kenya has enriched policies to improve its MET due to its compliance to the Convention, as amended.

Contrariwise, while most respondents in the open-ended question of the questionnaire agree that Kenya’s implementation of the STCW 78, as amended has had positive effects on Kenya’s MET, they observe that the said constructive outcomes risk being lost if some STCW implementation challenges are not overcome. In this case, some of the challenges outlined by the respondents
include improving cadet’s access to training ships and simulators as well as increasing scholarships to qualified candidates.

Thus, the foregoing analysis of the respondents’ additional views reinforces the study’s literature review material as well as the data amassed from the work’s questionnaire, which was hitherto examined.

4.4 Analysis of the interview guides
Considering that the study employs the triangulation and mixed methods approach, the open-ended interview guides were used in the work to provide further valuable information as well as reinforce data that was collected using questionnaires and observation.

In this respect, the interview guides (see Appendix B) were applied to maritime officials from Kenya, the Philippines, Japan, Egypt and the Netherlands. Furthermore, the interview guides focussed on queries aimed at eliciting more details about the status of Kenya’s MET; how the above-mentioned countries are implementing the STCW 78, as amended, the strategies being employed by the stated nations and their significance.

Consequently, the responses amassed from the study’s interview guides were aimed at providing a context for a comparative analysis of Kenya’s strategies in the implementation of the Convention, as amended, with those of the Philippines, Japan, Egypt and the Netherlands.

4.4.1 Current status of Kenya’s MET
Responses obtained from the open-ended interview indicate that Kenya’s MET has improved within the past 10 years. Further, Kenya’s improved MET is
attributed to the country’s implementation of the STCW 78, as amended. Additionally, the establishment of Kenya Maritime Authority (KMA) to carry out STCW functions, the domestication of the Convention, as amended, into Kenya’s national legislation through the enactment of the Merchant Shipping Act 2009, the establishment of a national maritime curriculum and the Government’s recognition of MET, are mentioned as key headways in the country’s MET.

Subsequently, the above interview feedback reiterates the information about the historical and contemporary status of Kenya’s MET previously discussed in the work’s literature review. Moreover, the aforesaid feedback reinforces the findings of the study’s data on the improvement of Kenya’s MET and the source of that improvement, as analysed earlier in this chapter.

4.4.2 Comparative analysis of Kenya’s strategies in the implementation of the STCW 78, as amended, with those of the Philippines, Japan, Egypt and the Netherlands

Feedback from the interviews suggests that Kenya is employing some strategies to support its implementation of the Convention, as amended. For that reason, Kenya’s strategies can be analysed comparatively with those of the Philippines, Japan, Egypt and the Netherlands.

Firstly, interview responses indicate that Kenya is utilizing a strategy that entails the creation of a national regulatory framework whereby policies are created to aid the country’s implementation of the STCW 78, as amended. In this case, the aforesaid responses reveal that Kenya has established more policies within the maritime sector to support its STCW compliance endeavours.
Similarly, the feedback from the interviews divulge that the Philippines, Japan and Egypt also employ the strategy of establishing national regulatory frameworks upon which state legislation is created and applied to support the countries’ compliance efforts to the STCW 78, as amended.

For instance, interview responses disclose that the Philippines continuously formulates and reviews its maritime legislation, such as the Memorandum Circular and Order, to ensure the nation’s compliance to the latest STCW requirements. Additionally, feedback from the interview also specifies that Japan has two main national laws that aid it to effect the provisions of the Convention, as amended: the Ships officers and Boat operators Act as well as the Mariners Act.

Contrariwise, the respondent’s opinion suggests that the Netherlands does not employ a similar strategy (of national regulation establishment to support compliance with the STCW 78, as amended) as that of Kenya, the Philippines, Japan and Egypt. In this case, the aforesaid respondent’s feedback indicates that the Netherlands regards the Convention, as amended, as ample and clear, thus it is common practice for its MET institutions to incorporate the provisions of the STCW 78, as amended, into their operations.

Remarkably, this suggests that the Netherlands may be employing a strategy of information dissemination. Arguably, the cascading of STCW information to relevant organizations possibly occurs in order for the implementation of the amended Convention to seem common practice within the nation’s MET system.

Secondly, views amassed from the interviews suggest that Kenya is utilizing a publicity or information dissemination strategy to aid its compliance with the
Convention, as amended. Feedback from the interviews revealed that this strategy is being employed to sensitize the public and stakeholders about MET, give prominence to MET and enthuse further Governmental recognition and support for MET initiatives within the country.

Indeed, Kenya is not the only country employing the said strategy as interview responses signpost that Japan is also utilizing it. In this regard, interview feedback reveals that Japan is applying the strategy to attract its youth into a seafaring career since the number of youthful Japanese seafarers working in the country’s national fleet is decreasing. Interestingly, sentiments obtained from the interviews suggest that while the country has sufficient well-equipped maritime schools and training vessels, the dwindling youthful Japanese population is a concern for the nation as it is replicated in its seafaring industry.

Consequently, Kenya and Japan’s use of the dissemination/publicity strategy, evident from the interview responses, is indicative that these countries are employing the said strategies to possibly fulfil resolution 12 (attracting new entrants to, and retaining seafarers in, the maritime profession) of the amended Convention, as amended, among other provisions (International Maritime Organization, 2011). While interview feedback did not determine the use of the dissemination/publicity strategy of the Philippines, Egypt and the Netherlands, the likely use of it by these countries is not rescinded.

Thirdly, interview re-joins reveal the use of a training strategy by Kenya to aid it in compliance with the STCW 78, as amended. For instance, respondents pointed out that the Kenya Maritime Authority (KMA), which is mandated to oversee STCW matters, has an employee training scheme with the intention to build capacity for MET as well as to instil in staff proficiency in STCW matters.
Likewise, the study’s interview returns suggest that the Philippines and Egypt also employ the said training strategy. In this case, the interviews disclose that the Philippines maritime administration responsible for STCW matters, that is, the Maritime Industry Authority (MARINA), sponsors its personnel for further studies in STCW and MET matters as well as regularly training its evaluators to fortify their relevant monitoring skills.

Additionally, the interview responses also divulge that Egypt supports its maritime lecturers from the Arab Academy for Science, Technology and Maritime Transport (AASTMT) to undergo further studies to enhance their skills, thus building capacity for the implementation of the STCW 78, as amended, in the MET institutions. The foregoing is indicative of the significance of the training strategy for IMO States, particularly for edifying the capability of workforces and organizations accountable for managing their countries’ STCW execution processes.

Fourthly, the rejoinders of the research’s interviews disclose another common strategic approach for affecting the Convention, as amended, among Kenya, the Philippines, Japan, Egypt and the Netherlands; that is, quality assurance and quality control. In this regard, the interviews suggest the employing of wide-ranging monitoring and auditing systems by the said countries to fast-track compliance with the STCW 78, as amended. For instance, respondents from the Philippines elucidated a system known as ‘white listing’ of MET institutions in the country which entails the appraising of MET schools against national and international parameters. In this case, the parameters against which these schools are accessed include their performance in competence examinations, ratio of students given access to berths on training ships and their compliance with revised curricula.
Subsequently, the foregoing utilization of the quality assurance and quality control strategies by the above-mentioned countries is fathomable. This is because it possibly aids the countries from having to deal with a backlog of unaccomplished STCW provisions in the future and prepares them to meet the set IMO deadline for compliance with the Convention, as amended.

Fifthly, responses gathered from the study’s interviews disclose that Kenya, the Philippines, Egypt, Japan and the Netherlands employ a single administration (specialization) strategy to aid them in compliance with the Convention, as amended. In this case, respondents’ answers suggest that these countries have designated organizations, authorities, ministries or units that specifically discharge STCW duties. For example, interviewees’ replies suggest that the Kenya Maritime Authority (KMA) in Kenya, the Maritime Industry Authority (MARINA) in the Philippines, the Maritime Safety Administration in Egypt, the Maritime Bureau in Japan and the Ministry of Transport in the Netherlands administer STCW compliance issues. Hence, the foregoing is indicative that specialization as a strategy is not only applicable to shipping firms but also maritime administrations too.

Sixthly, views amassed from the research’s interview divulge the use of collaborative strategies by Kenya, the Philippines, Egypt, Japan and the Netherlands; either to aid the said nations or other nations to comply with the STCW 78, as amended.

In this respect, respondents’ accounts indicate that collaboration with other States in matters of STCW implementation is important; particularly in staying abreast with recent developments and deliberations at the IMO, networking and
exchanging ideas and challenges related to the execution of the Convention, as amended.

Furthermore, discussions with interviewees’ reveal that collaboration with other countries is utilized by Japan, the Netherlands and Egypt to assist fellow IMO member States address specific challenges in their endeavours to fulfil the Convention, as amended. For example, the interview replies suggest that Japan provides on-board training on their training ships for maritime instructors and cadets from other South East Asian countries. Additionally, the respondents’ views indicate that Egypt’s Arab Academy for Science, Technology and Maritime Transport (AASTMT) is one positive outcome of Japan’s technical support to other countries’ MET.

Moreover, interviewees’ responses suggest that Egypt through the AASTMT is also utilizing collaboration to support fellow IMO member states comply with the Convention, as amended. In this case, respondents’ views suggest that Egypt’s AASTMT has retained regional agreements to offer MET and sea experience to cadets from other countries in Africa (like Kenya) and the Middle East. Hence, the foregoing analysis is indicative of an optimistic trend in cooperation among IMO member States; which probably has the prospective of making the fulfilment of the Convention, as amended, a reality for all countries.

Additionally, discussions with interviewees’ from Kenya, the Philippines, Japan, Egypt and the Netherlands divulge that collaboration with other agencies and organizations within countries is essential in the execution of the STCW 78, as amended. In this case, interviewees’ noted that inter-agency collaboration within nations ensured involvement of other organizations within the maritime sector and coordination of STCW implementation processes within those nations. Thus,
the foregoing analysis is indicative that the collaborative strategy can be applied both within nations and with other countries.

On the other hand, responses drawn from the study’s interviews divulge that MET governmental funding as a possible strategy for implementation of the Convention, as amended, is being employed by the Netherlands and Japan. In this regard, the respondents’ views indicate that most MET institutions in the Netherlands are guided, secured and coached by the Government.

Furthermore, respondents also point out that Japan’s MET is reinforced through the establishment of MET institutions by its Government (about 18 in total), the award of scholarships to candidates to pursue seafaring training in the country’s MET institutions, the creation of a scheme where Japan’s MET institutions are cheaper than other universities, the provision of berths on training ships to cadets through Japan’s National Institute of Sea Training and the employment of Japanese seafarers on Japanese ships. Therefore, the above discussion is indicative that the MET governmental funding strategy is feasible if introspection and effort is invested into it.

4.4.3 Significance of strategy use in the implementation of the STCW 78, as amended

Discussions with interviewees from Kenya, the Philippines, Japan, Egypt and the Netherlands suggest that the application of strategy is appreciated and can have positive outcomes for countries in the implementation of the Convention, as amended. However, the ultimate decision of ‘when, how and why’ to employ a specific strategy/strategies in the implementation of the STCW 78, as amended, resides with individual nations.
4.5 Analysis of data collected through observation

In this respect, the researcher participated in academic field studies to the Philippines, the Netherlands and the European Maritime Safety Agency (EMSA) in Portugal. During the aforesaid field studies, the researcher visited various MET institutions (governmental and private) in the Philippines and the Netherlands, the Maritime Industry Authority (MARINA) and other maritime stakeholders in the Philippines, as well as EMSA.

Subsequently, the researcher’s experience as an observer indicates that the Philippines and the Netherlands employ a MET governmental funding strategy which entails the said governments facilitating MET institutions in terms of requisite training equipment and support towards their operations.

Furthermore, her observation divulges the use of a working collaborative strategy by the Philippines which was evident among the MARINA, MET institutions, shipping organizations, Commission for Higher Education (CHED), seafarer unions and the Philippines Overseas Employment Administration (POEA) among others.

Additionally, the researcher’s observation reveals that the aforementioned countries have invested in their country’s MET, especially as it relates to their compliance with the Convention, as amended. Thus, as observed, the these countries’ headway in fulfilling the stipulations of the STCW 78, as amended, was indicative that with commitment and persistence, nations can overcome the prevailing challenges and meet the requirements of the Convention, as amended.

Furthermore, the researcher’s observation and experience at EMSA in Portugal, suggests that states aspiring to have their mariners work aboard international
ships, particularly those plying within the European Union (EU) routes, ought to align their MET with the Convention, as amended.

4.6 Summary
This chapter divulges key findings from data gathered by the study’s research instruments. Furthermore, it examines and construes meaning from the data in order to explore its relevance for the work’s objectives. Additionally, the chapter presents data analysed using pie and scatter charts, as well as bar graphs.

The ensuing chapter will be a discussion seeking to answer the research’s questions based on the work’s literature review and data analysis findings.
CHAPTER FIVE

5.0 Discussion

5.1 Introduction

This chapter seeks to answer the five research questions asked in chapter 1, through a logical discussion that takes cognizance of the study’s literature review and data analysis findings.

5.2 Q. i) How has Kenya’s MET evolved to its present status?

Taking into account the study’s literature review and data analysis findings, Kenya’s MET has evolved positively within the past 10 years and shows signs of continuing to do so. However, the said progress in Kenya’s MET has not been rapid, but steady over these years and through sequential stages that have necessitated diligent exertions.

It would appear from the evidence given here that, Kenya’s MET evolvement expedition comprises a blend of botches and feats; that is, it has undergone periods of trial and error and has transformed from functioning within an immature maritime regulatory framework to operating within an established maritime-governed policy environment. Noticeably, Kenya’s vision for its MET has gone undeterred throughout its nascent years suggesting that the country acknowledges and appreciates Maritime Education and Training.

Furthermore, the nation’s vision for its MET appears to be intensifying as its MET evolves, probably due to its keenness to seize the anticipated opportunities.
of the futuristic maritime industry. Of course, this may seem strange to those realists, who are aware of the challenges that Kenya still has to overcome in general and in its MET, such as the pressure to access berths on training ships for its cadets and places in appropriate simulators. Nonetheless, its vision for its MET is reasonable considering the importance of possessing internal ambitions that direct the accomplishment of goals. Yet still, the country ought to maintain an equilibrium between its vision for its MET and its energies to attain its MET developmental objectives. In this case, it averts the risk of its vision impeding the desired growth of its MET.

Furthermore, considering the study’s literature review and data analysis findings, the evolvement of Kenya’s MET can be attributed mainly to its implementation of the Convention, as amended. Nevertheless, other factors such the country’s policies, governmental support, donations and investor support have contributed to the development of its MET over the years. This does not however, denote that the country’s implementation of the amended Convention is seamless or without hurdles, but indicative that it is a work in progress that has the potential to further advance.

Consequently, the evolvement of Kenya’s MET would be a stimulating topic to explore or develop in further research five or ten years from now. For this reason, it would also be interesting to trace whether the same factors that are attributed to the evolvement of Kenya’s MET now will have persisted or altered course then.
5.3 Q. ii) What are the strategies Kenya has developed to implement the STCW 78, as amended and how can these be compared or distinguished from those of other states?

Evidently from the work’s literature review and analysis of data findings, Kenya has developed and is employing various strategies to aid its implementation of the STCW 78, as amended. Indeed, the use of certain strategies by Kenya such as the single administration (specialization), national regulatory framework, information dissemination, collaboration, technical cooperation and training strategies seem to be more promising than others, such as the use of the MET governmental funding strategy.

In this regard, the Philippines, Japan, Egypt and the Netherlands utilize similar strategies as Kenya, notably the specialization strategy, technical cooperation, collaboration and the quality assurance and quality control strategies. However, their use of similar strategies to aid their compliance to the Convention, as amended, does not connote that these countries carry out the strategies identically.

Contrariwise, each of the afore-mentioned nations employ the same strategies distinctively as previously noted in the data analysis chapter. For instance, the use of ‘white listing’ of MET institutions in the quality assurance and quality control strategy by the Philippines and the utilization of technical cooperation as a technique within the collaboration strategy as applied by Japan, and Egypt are concepts Kenya could contemplate implementing.

Furthermore, while Kenya and Japan both employ the dissemination/publicity strategy, it is obvious from the data analysis chapter that both countries apply it slightly differently. Likewise, this applies for Kenya, Egypt and the Philippines.
in their use of the training strategy, where Egypt and the Philippines also incorporate the training of MET instructors in the said strategy. For that reason, the utilization of similar strategies in diverse ways by countries should not be a source of trepidation for Kenya rather, it should be indicative of available opportunities for the country to enlarge its perspectives and learn from other nations. Nevertheless, in this consciousness, Kenya ought to recall that every country’s experience with the implementation of the amended Convention, is possibly unique and consequently reflects in the choice and manner of strategy practise. As noted in this study’s literature review, the use of strategy in the implementation of the STCW 78, as amended, is country and situation specific.

On the other hand, while it is apparent from the work’s data analysis that Kenya’s use of the MET governmental funding strategy is labouring to take shape, other countries such as Japan and the Philippines are successively employing the strategy and reaping the benefits of its usage. Accordingly, it is indicative that either the thought of using, or the actual usage of the said strategy by Kenya, is not unsurmountable. Considering that Kenya’s MET is still evolving, the use of the MET governmental funding strategy by the country may be an aspect to improve and monitor, way beyond the cut-off date for the implementation of the amended Convention.

5.4 Q. iii) How has the implementation of the STCW 78, as amended, influenced Kenya’s MET?

Manifestly, from the work’s data analysis findings, the implementation of the Convention, as amended, by Kenya, has influenced its MET positively. This is evidenced by the established structures and policies intended to facilitate further progress of MET in the country.
Furthermore, the said constructive influence on Kenya’s MET arising from its compliance to the STCW 78, as amended, is also demonstrated by the presence of qualified instructors in the country to deliver MET, an operational national maritime curriculum, a functioning quality standards system, availability of MET courses and institutions within the country. Additionally, the positive outcome on Kenya’s MET resultant from its compliance to the amended Convention, is also manifested by the existence of operative schemes to prevent fraud in its seafarers’ certification processes and the attempt to keep up-to-date on recent revisions to the STCW 78, as amended, such as the revalidation of seafarers’ certificates in line with the transitional requirements of the said Convention.

Additionally, the effects of Kenya’s compliance to the STCW 78, as amended, is deemed positive since the views from Kenyans within the maritime domain demonstrate that there is an enriched sense of confidence in the quality of Kenya’s MET, in the competence of its seafarers to partake in the global maritime labour market alongside crews of other nationalities, and in the ability of Kenya to share in the benefits accruing from the recognition and participation of its mariners in both the regional and international maritime workforce.

However, the current positive effects being realized from Kenya’s compliance to the STCW 78, as amended, does not infer that the country has impeccably attained its objectives regarding the amended Convention. Conversely, it merely demonstrates that it is making headway and additional effort is essential to thrust it forward. This is particularly crucial where it relates to significant areas in the country’s MET which are wanting, such as access to training berths on ships and proper simulators for the nation’s cadets.
Additionally, since Kenya’s MET is still evolving, what seems sufficient now in terms of accomplished goals in its MET, may seem insufficient in forthcoming years if the nation’s compliance efforts are neither sustained nor enhanced. In this case, this applies to the number of qualified MET instructors and MET institutions in the country.

Notwithstanding, it is obvious from the findings of the work’s data analysis that Kenya’s implementation of the STCW 78, as amended, has added value to the nation’s MET. Still, it will be worthwhile to carry out further research a decade from now to follow up on the further effects on Kenya’s MET resulting from its implementation of the amended Convention. Possibly, the outcomes may surprise us then.

5.5 Q. iv) How can Kenya’s MET benefit from other countries experiences of implementing the STCW 78, as amended?

Bearing in mind that the work’s data analysis does not divulge any 100% scores, as well as, respondents’ views that the implementation challenges of the STCW 78, as amended, need to be overcome for Kenya to sustain the gains attained through its compliance efforts, it is reasonable to presume that Kenya’s MET can benefit from other countries experiences. For that reason, a glimpse of the strategies used to aid compliance to the amended Convention by Kenya, the Philippines, Japan, Egypt and the Netherlands is necessary.

In this regard, Kenya can benefit from the diverse application of comparable strategies such as the collaborative strategy as applied by Japan, Egypt and the Philippines. In this case, Kenya can consider using the collaborative strategy to enhance its technical cooperation prospective and boost access to on-board and simulator training opportunities for its cadets as well as seek capacity building
prospects for its maritime instructors, in addition to its STCW personnel and aspiring mariners.

Additionally, Kenya can draw valuable tips from Japan, the Philippines and the Netherlands in matters of employing a MET governmental funding strategy, as previously analysed in the study’s data findings. Furthermore, the manner in which the Netherlands cultivates an accountable and compliance culture within its MET system is worthy of consideration by Kenya.

From the foregoing, continuous self-appraisal, bench-marking with other States, evaluating what is feasible for Kenya’s circumstances as opposed to replicating, will propel Kenya to benefit from other nation’s experiences of implementing the STCW 78, as amended.

5.6 Q. v) Based on an analysis of the answers to the above questions, what does the future hold for Kenya’s MET?

In regard of the above discussions, the future for Kenya’s MET is optimistic if Kenya stays conscious of the opportunities and threats that exist within its internal and external maritime domain. Furthermore, it is essential for Kenya to continue to sustain and augment its implementation efforts of the amended Convention, in order to assure a favourable future for its MET. Moreover, maintaining a relentless learning disposition blended with informed action has the potential to secure a constructive MET for Kenya’s future.

Nonetheless, Kenya remains the key determinant of the destiny of its MET. In this case, it has the power to propel its MET into the future and beyond. Hence, future research regarding Kenya’s MET is a prudent approach.
5.7 Summary

This chapter synthesizes the work’s literature review and data analysis findings to rationally deliberate on and answer the research questions. The next chapter is a conclusion of the study and a reflection of whether the work accomplishes its set objectives.
CHAPTER SIX

6.0 Conclusion

This study has demonstrated that the implementation of the STCW 78, as amended, by Kenya, has influenced its Maritime Education and Training (MET) positively. Furthermore, it has validated the assumption of the study presented earlier in the work’s introduction; that is, the Convention, as amended, has influenced Kenya’s MET.

In this regard, the results of the research, as analysed and deliberated on in the data analysis and discussion chapters, suggest that most of the effects of Kenya’s compliance to the STCW 78, as amended, have been favourable to the country’s MET. Equally, the findings of the research also confirm the prevailing challenges in Kenya’s STCW compliance efforts which are reflected in the nation’s MET.

In this case, the said confirmation by the study authenticates the prognoses noted in the work’s introductory chapter about Kenya’s possible STCW compliance challenges. Furthermore, as made evident in the discussion chapter, the work recognizes that the alleged challenges are not insurmountable, but can be overcome with appropriate consideration of feasible strategies, learning from other nations’ know-hows and continued compliance to the amended Convention. Indeed, this can only be conceivable if Kenya constantly re-examines itself in matters of compliance to the STCW 78, as amended and its MET.
As stated earlier, one of the reasons the study was regarded as timely in the introductory chapter, was because it presented the prospective of providing a platform for Kenya to appraise itself in terms of its current status in STCW implementation matters, so as to enable it to chart the course it should take for the future. Thus, based on the work’s literature review, data analysis findings and discussion chapters, it seems that the research has accomplished its goal to deliver a platform on which Kenya can assess itself and make all the necessary adjustments to fulfil the current provisions of the Convention before the IMO cut-off date and beyond.

Additionally, considering that the impetus for the study was to explore the effects of the STCW 78, as amended, on Kenya’s MET, and accordingly provide a comparative analysis of Kenya’s strategies in the execution of the updated Convention with those of the Philippines, Japan, Egypt and the Netherlands, and thereafter, recommend how Kenya can benefit from the experiences of other States, it is possible to assert that the work has attained its purpose. This is particularly fitting considering the study’s literature review, data analysis findings and discussion sections.

Moreover, the work also manages to envisage the future of Kenya’s MET as aspired earlier on in the study’s introductory section. Hence, it can be argued that by envisioning the future, the study is indicative that it could still be worthy of further research a decade from now. On the whole, this will only make sense if Kenya’s STCW endeavours, as well as the progression of its MET, is incessant and value-added.

Furthermore, the study demonstrates that the application of strategy in the implementation of the amended Convention is beneficial and can be considered
by member States of the IMO. In addition, the work also recognizes that the proper understanding of strategy is key to reaping whole benefits from its usage. In this case, the study identifies that strategy has the potential to boost States’ STCW compliance efforts if appropriately applied. Contrariwise, because of the nature of strategy (is country and situation-specific), what works for one country may not necessarily work for another. Nonetheless, the work also establishes that the said nature of strategy does not prevent countries from drawing valuable strategic experiences or learning from each other.

Agreeably, it appears that this research has also succeeded in filling some of the gaps left by past researchers as anticipated in its introductory chapter. In this respect, whereas Musa (2000) focussed on a model MET institute in Kenya for the East Africa region, this study determines that the creation of a model MET institution for Kenya in this era is satisfactorily attainable primarily by compliance with the STCW 78, as amended. On the other hand, while Mabuti (2013) observed the likelihood of Kenya experiencing some setbacks in effecting the Convention, as amended, in respect to the 2010 Manila amendments, this study’s literature review, data analysis findings and discussion chapters validates her view.

Furthermore, as anticipated in the work’s introduction, the delineation of its scope in terms of the variables, selected countries for comparative analysis, concept of MET (relating to seafarers) and time phases considered, has enabled the study to maintain its desired focus, and possibly add value to the research problem(s). Moreover, as previously intended in the study’s introduction, the research managed to minimize the limitations arising from its tools of data collection and research methods by utilizing the triangulation and mixed method approaches as well as by preserving anonymity, informed consent and the
confidentiality of the respondents. Hence, the results of this research strongly suggest that the work is all-encompassing and relevant.

In conclusion, the study’s research questions have been addressed, as evident in the work’s literature review, data analysis findings and discussions in the prior chapters. Indeed, this may be contentious but also worth extensive reflection. In contemporary times where the competency of seafarers is crucial, it is not sufficient to be in a rat race of implementing the provisions of the STCW 78, as amended. Contrariwise, it is more crucial that our compliance efforts are matched with an equal measure of self-evaluations that help us all to monitor our Maritime Education and Training systems to ensure that they are accomplishing the desired outcomes, consequently, to be reflected in the quality of seafarers generated and mentored to man the wide array of ships that ply our global sea routes.
References


Appendices
Appendix A

Questionnaire on the Effects of the Standards of Training, Certification and Watchkeeping for Seafarers (STCW) 78 Convention, as amended, on Kenya's Maritime Education and Training (MET)

My name is Michelle Wanga and I am a Kenyan student studying for a MSc degree in Maritime Affairs at the World Maritime University in Malmo, Sweden. I am undertaking a dissertation on the above topic and respectfully request you to kindly answer the questions herebelow to enable the collection of data for my research. Information provided in this questionnaire will be used solely for academic purposes. Your identity and responses will be treated with utmost confidentiality.

This questionnaire has three (3) sections; A, B and C. Please answer all questions in all sections.

* Required

Section A

What is the nature of your institution/ occupation? *

- [ ] Maritime administration
- [ ] Shipping company
- [ ] Port authority
- [ ] Maritime education and training institution
- [ ] Cadet/trainee
- [ ] Seafarer
- [ ] Ministry of transport
- [ ] Other (Please state)....................................

Which organisation in Kenya is responsible for implementing the STCW 78 Convention, as amended, (Standards of Training, Certification and Watchkeeping for Seafarers)? *

- [ ] Kenya Ports Authority
- [ ] Kenya Maritime Authority
- [ ] Ministry of Transport
Has Kenya's Maritime Education and Training improved significantly over the past 10 years? *

- [ ] No
- [ ] Yes
- [ ] Not sure
- [ ] Other (Please state)

What do you think has most influenced Kenya's Maritime Education and Training over the past 10 years? *

- [ ] Politics
- [ ] Implementation of the Standards of Training, Certification and Watchkeeping for Seafarers (STCW) Convention 78, as amended by Kenya
- [ ] Investor support
- [ ] Donations
- [ ] National policies
- [ ] Government support
- [ ] Not sure
- [ ] Other (Please state)
- [ ] Other:

Section B

Rank statements (5–11) below between 1 and 6.

Kenya's single administration effectively implements the STCW 78 Convention, as amended *

1 2 3 4 5 6
Stakeholders are often informed about the requirements of the STCW 78 Convention, as amended *

| 1 | 2 | 3 | 4 | 5 | 6 |

Kenya fully supports technical cooperation initiatives in Maritime Education and Training by awarding fellowships and scholarships to qualified candidates *

| 1 | 2 | 3 | 4 | 5 | 6 |

The Kenya Maritime Authority is fully active in collaborating with other national agencies in implementing the requirements of the STCW 78 Convention, as amended, within its Maritime Education and Training system *

| 1 | 2 | 3 | 4 | 5 | 6 |

The Kenya Maritime Authority has an active training policy to ensure its staff are properly qualified to deal with all matters of the STCW 78 Convention, as amended *

| 1 | 2 | 3 | 4 | 5 | 6 |

In Kenya, there are sufficient national laws, policies and practices to fully support the implementation of the STCW 78 Convention, as amended *

| 1 | 2 | 3 | 4 | 5 | 6 |

Maritime Education and Training institutions in Kenya are fully funded by the Government *

| 1 | 2 | 3 | 4 | 5 | 6 |

Strong no ☐ ☐ ☐ ☐ ☐ ☐ Strong yes

| 1 | 2 | 3 | 4 | 5 | 6 |

Strong no ☐ ☐ ☐ ☐ ☐ ☐ Strong yes

| 1 | 2 | 3 | 4 | 5 | 6 |

Strong no ☐ ☐ ☐ ☐ ☐ ☐ Strong yes

| 1 | 2 | 3 | 4 | 5 | 6 |

Strong no ☐ ☐ ☐ ☐ ☐ ☐ Strong yes

| 1 | 2 | 3 | 4 | 5 | 6 |
Section C

Rank statements (12-22) below between 1 and 6. For question (23), please write down your views.

The revalidation of certificates for Kenyan seafarers is done fully in line with the transitional requirements of the STCW 78 Convention, as amended *

1 2 3 4 5 6
Strong no Strong yes

All seafaring trainees in Kenya have easy access to training ships for their onboard training *

1 2 3 4 5 6
Strong no Strong yes

All training and assessment of seafarers in Kenya is conducted by highly qualified instructors *

1 2 3 4 5 6
Strong no Strong yes

All seafaring cadets in Kenya have full access to simulators throughout their Maritime Education and Training period *

1 2 3 4 5 6
Strong no Strong yes

All Maritime Education and Training institutions in Kenya are thoroughly monitored according to quality standards *

1 2 3 4 5 6
Strong no Strong yes

All courses offered in Kenyan Maritime Education and Training institutions fully meet the requirements of the STCW 78 Convention, as amended *
The Kenyan maritime curriculum has been thoroughly revised to fulfill the latest training and certification requirements for seafarers in line with the STCW 78 Convention, as amended *

All STCW seafarer certificates are only issued to qualified candidates *

All STCW seafarer certificates are issued by a single recognized Authority *

All STCW seafarer certificates are thoroughly verified for genuineness *

All Kenyan seafarers fulfil the mandatory minimum standards of competency levels required by the STCW 78 Convention, as amended *

In your view, how has the STCW 1978 Convention, as amended, affected Kenya's Maritime Education and Training? *

Please list your comments in the space provided
Never submit passwords through Google Forms.
Interview guide 1: Effects of the Standards of Training, Certification and Watchkeeping for Seafarers (STCW) 78 Convention, as amended, on Kenya's Maritime Education and Training (MET)

I am an MSc in Maritime Affairs student at the World Maritime University in Malmo, Sweden, undertaking a dissertation on the above topic and respectfully request you to kindly answer the interview questions here below to enable collection of data for my research. Information provided for this interview will be used solely for academic purposes. Your identity and responses will be treated with utmost confidentiality.

* Required

How is your country implementing the Standards of Training, Certification and Watchkeeping for Seafarers (STCW 78) Convention, as amended? *

What strategies is your country using to implement the STCW 78 Convention, as amended, and why are they important for your country's Maritime Education and Training? *

How have the strategies affected your country's Maritime Education and Training? *
How did your country develop the strategies it is using to implement the STCW 78 Convention, as amended?

How important is collaboration with other countries in matters of development of strategies to aid in implementation of the STCW 78 Convention, as amended?

How important is collaboration with other agencies in your country in matters of the actual implementation of the STCW 78 Convention, as amended?

How important is collaboration with other countries in the actual implementation of the STCW 78 Convention, as amended?
Interview guide 2: Effects of the Standards of Training, Certification and Watchkeeping for Seafarers (STCW) 78 Convention, as amended, on Kenya's Maritime Education and Training (MET)

I am an MSc in Maritime Affairs student of the World Maritime University in Malmo, Sweden, undertaking a dissertation on the above topic and request you to kindly answer the interview questions here-below to enable collection of data for my research. Information provided for this interview will be used solely for academic purposes. Your identity and responses will be treated with utmost confidentiality.

* Required

**How would you describe the present state of Kenya's Maritime Education and Training (MET) and why?** *

**How has Kenya's Maritime Education and Training (MET) evolved to its present state in the last 10 years?** *

**Which strategies is Kenya using to implement the STCW 78 Convention, as amended, and why are they important for Kenya's Maritime Education and Training?** *
How have the strategies affected Kenya's Maritime Education and Training? *

How can you compare and contrast Kenya's strategies of implementing the STCW 78 Convention, as amended, with other countries', say with those of Philippines, Egypt, Netherlands or Japan? *

How have the transitional provisions of the STCW 78 Convention, as amended, affected Kenya's Maritime Education and Training? *

In your view, what are the effects of the STCW 78 Convention, as amended, on Kenya's Maritime Education and Training? *
How can Kenya's Maritime Education and Training benefit from other countries' experiences of implementing the STCW 78 Convention, as amended?