MARITIME TECHNOLOGY COOPERATION CENTRE AFRICA (MTCC-Africa)

CAPACITY BUILDING FOR CLIMATE MITIGATION IN THE MARITIME SHIPPING INDUSTRY
THE GLOBAL MTCC NETWORK (GMN) PROJECT

Namibia National Workshop
Protea Hotel-Marriott, Pelican Bay
Walvis Bay Town, Namibia

29<sup>th</sup> to 30<sup>th</sup> August 2018

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1 Summary of Report

The International Maritime Organization (IMO) intends to reduce greenhouse gas emissions through improvements in energy efficiency and increased uptake of low-carbon technologies in the Maritime Shipping Industry.

With financial assistance from the European Union, IMO has set up Maritime Technology Cooperation Centres (MTCCs) in Latin America, the Caribbean, Pacific, Asia and Africa. These five MTCCs constitute the Global MTCC Network (GMN), which is implementing this IMO project titled “Capacity Building for Climate Change in the Maritime Shipping Industry”.

The contract for establishment of the Maritime Technology Co-operation Centre Africa (MTCC-Africa) was signed on 2nd February 2017 between IMO and Jomo Kenyatta University of Agriculture and Technology (JHUAT). JHUAT hosts MTCC-Africa in partnership with Kenya Maritime Authority (KMA) and Kenya Ports Authority (KPA).

Under the Project Workplan, MTCC-Africa undertook to hold Four (4) National Workshops and Two (2) Regional Workshops during the project period.

Namibia Ports Authority (NAMPORT), Namibia’s maritime authority, in collaboration with MTCC-Africa conducted a National Workshop in Walvis Bay Town, Namibia, between 29 and 30 August 2018, at the Protea Hotel-Marriott, Pelican Bay.

The delegates who attended the two days workshop were largely drawn from the Namibia Ports Authority (NAMPORT), a state corporation, which is the dominant player on maritime shipping in Namibia.

Under the workshop theme “MTCC Africa, MARPOL Annex VI and Debate on African Ports”, participants were sensitized on the impact of maritime shipping on air quality within ports, effects on climate change and the need for energy efficiency onboard ships. In addition, participants were briefed on international laws governing marine pollution (MARPOL), the time frame within which States are expected to implement various mitigation strategies and the support desired by MTCC-Africa.

MTCC-Africa is therefore grateful for the cooperation received from Namibia Ports Authority (NAMPORT), the financial support from the European Union and technical assistance from IMO.

This Report covers the planning processes and proceedings of the National Workshop held at Protea Hotel-Marriott, Pelican Bay, Walvis Bay Town, Namibia, from 29 to 30 August 2018.
Fig 1 – Map of Namibia showing the maritime Ports of Walvis Bay and Lüderitz
2 Namibia National Workshop

Namibia Ports Authority (NAMPORT), Namibia’s maritime authority, in collaboration with the Maritime Technology Co-operation Centre for Africa Region (MTCC-Africa) conducted a National Workshop in Walvis Bay Town, Namibia, between 29 and 30 August 2018, at the Protea Hotel-Marriott, Pelican Bay. It was a capacity building event on climate change, that was made possible with financial support from the European Union and technical oversight by the International Maritime Organization (IMO).

2.1 Workshop Objectives

Under the workshop theme “MTCC Africa, MARPOL Annex VI and Debate on African Ports”, participants were sensitized on the following:

- Global Maritime Technology Cooperation Centers Network (GMN)
- Vision and objectives of MTCC-Africa
- Impact of maritime shipping on air quality within ports
- Effects of fossil fuel emissions on climate change
- Need for energy efficiency onboard ships
- The need to embrace low carbon technologies in maritime shipping industry
- International conventions and laws governing marine pollution (MARPOL)
- Efforts and support from the European Union on climate change
- The need for States to actively participate in IMO activities

2.2 Workshop Outcomes

At the end of the two days workshop, the following was achieved:

a) The participants understood the impact of maritime shipping industry on climate change
b) The contribution of the European Union on climate change mitigation measures was appreciated

c) The role of IMO as a technical resource on protection of the marine environment was explained
d) Benefits of collaborating with MTCC-Africa and the role of NAMPORT in achieving MTCC-Africa’s objectives was understood.
3 Activities Preceding the Workshop

3.1 Project Steering Committee Meeting

MTCC-Africa Project Steering Committee (PSC) held a Meeting at the Ministry of Transport, Infrastructure, Housing and Urban Development (MOTIHUD), at Transcom House, on 6 August 2018. The meeting was chaired by the Principal Secretary in charge of the State Department for Shipping and Maritime Affairs, Mrs. Nancy W. Karigithu, CBS.

The MTCC Head provided a status brief on the workshop, where upon deliberations the PSC formally authorised the Namibia National Workshop.

3.2 Focal Points Role

The outreach mechanism for MTCC-Africa to the rest of the continent is through Focal Points (Champions) from selected countries.

MTCC-Africa continues to maintain the coordination role through Ms. Maureen Kitheka, while NAMPORT identified Mr. Patrick Nawaseb. The cooperation of the two Focal Points facilitated the overall success of this National Workshop.

3.3 Theme of the Workshop

Africa has fifty-four (54) countries, out of which only ten (10) have ratified MARPOL Annex VI which deals with Prevention of Air Pollution from Ships. The nine countries are: Benin, Congo, Ghana, Kenya (MTCC-Africa Host), Liberia, Morocco, Nigeria, Sierra Leone, South Africa, and Tunisia. It is this low level of ratification that influenced MTCC-Africa to settle on the theme “MTCC Africa, MARPOL Annex VI and Debate on African Ports”.

3.4 Program for the Workshop

Following consultations with IMO-PCU and NAMPORT, the first draft of the program for the Namibia National Workshop was circulated for comments in March 2018. The structure of the program provided for a high-level opening ceremony, signing of a Memorandum of Understanding (MOU), technical topics to be presented over the two days, identification of appropriate speakers and facilitators, the logical order of the topics and the logistics thereof.

The full program is attached to this report as a separate document.

3.5 Speakers / Resource Persons

Once the program was developed around the selected theme, MTCC-Africa identified suitable experts who were to travel to Namibia to deliver their lectures. For topics that were best handled by expertise from the European Union and the International Maritime Organization (IMO), we
Maritime Technology Cooperation Centre Africa (MTCC - Africa)

made a formal request to IMO, who graciously availed and facilitated a Consultants experienced in maritime law.

The final program had the following as key resource persons:

- Patrick Nawaseb – NAMPORT Marine Operations Manager
- Capt. Lukas Kufuna – NAMPORT Port Captain and Master Mariner
- Lydia Ngugi – IMO Consultant (Maritime Law Lecturer and Legal Practitioner)
- Michael Mbaru, MTCC-Africa Green-house-Gas (GHG) Expert
- Eng. Michael Muchiri, Head of MTCC-Africa

Each speaker was informed of their topic(s) early enough and time slot(s) allocated to enable them prepare adequately.

### 3.6 Venue of the Workshop

The main criteria for selection of a venue was accessibility to public transport, large conference room, well secure and with all standard facilities. NAMPORT conducted a market survey and due diligence in Walvis Bay Town, whereby they settled on Protea Hotel-Marriott, Pelican Bay to be the venue for the National Workshop. The following was provided:

- Plenary hall for 40 persons
- Branding with conference theme colours
- Furniture – tables and chairs in conference room (classroom style)
- Registration desk for Secretariat Team
- Delegates Stationery (writing pad and pen)
- Mineral water (2 bottles per person per day), glass, mints on the desk
- LCD Projector and Screen
- Public address system with two remote microphones
- Podium / rostrum
- Free Wi-Fi
- Flip chart and appropriate marker pens
- White Board and appropriate marker pens + duster

Lunch and refreshments

- Am/pm tea/coffee with cookies – Located outside but close to conference room
- Buffet Lunch with one juice / soft drink – at Dining Room
3.7 Delegates Information Package

Having settled on the workshop venue to be the Protea Hotel-Marriott, Pelican Bay, in Walvis Bay Town, NAMPORT prepared a list of other hotels in the neighbourhood where delegates could get accommodation of their choice. In addition, they provided standard information for international guests, basically on how to get to the venue, a simple map of Walvis Bay Town, the various points of interest, and other information useful to travellers. Short term VISAs to Namibia were available from their Immigration Department upon arrival at Walvis Bay International Airport (Rooikop).

A copy of the Delegates Information Package / Brochure is attached to this report as a separate document.

3.8 Delegates Invitation

NAMPORT identified local delegates for invitation to the workshop. Outside of Namibia, MTCC-Africa sent out invitations to neighbouring southern African countries.

The list of invitees comprised actors from the maritime shipping industry, climate change focused agencies, Government Agencies and institutions of higher learning. They were all to cater for their own expenses since MTCC-Africa had a limited budget. For the avoidance of doubt, the following statement was inserted in the invitation letter:

[Please note that each nominating institution will meet the costs of travel and subsistence related to the attendance of their nominees]

A sample invitation letter is attached to this report as a separate document.
3.9 MTCC-Africa Staff Travel Facilitation

MTCC-Africa facilitated two members of staff to travel to the Namibia National Workshop to participate both as resource persons and also as a learning experience. These were Ms. Maureen Kitheka, the Focal Points Coordinator and Eng. Michael Muchiri, the Project Head. Their travel documents (inbound and outbound) are attached to this report in a separate folder.

They were accompanied by Michael Mbaru – MTCC-Africa GHG Expert, Luke Samba – MTCC-Africa EE Expert and IMO Consultant Ms. Lydia Ngugi, who is a Maritime Law Lecturer and Legal Practitioner.
4 Workshop Proceedings

4.1 Registration of Delegates

Each delegate upon arrival was formally registered. The signed registration forms are annexed to this report in a separate folder. The same is reproduced as a typed list at the end of this document for ease of reference.

The total number of delegates registered were 33 participants, from 2 Countries; being 5 from Kenya and the balance of 28 from Namibia. In terms of gender representation, of the 33 delegates, 27 (81.8%) were male while 6 (18.28%) were female.

4.2 Opening Ceremony

The Chief Executive Officer (CEO) of Namibia Ports Authority (NAMPORT) Mr. Bisey Uirab, was at the last minute engaged on other assignments during the workshop. He therefore delegated his role to Mr. Patrick Nawaseb, the Marine Manager who was deputized by Captain Lukas Kufuna, Port Captain & Master Mariner who also doubles up as the in charge of their Maritime Administration.

Mr. Patrick Nawaseb and Captain Lukas Kufuna, veterans from NAMPORT, described the maritime shipping industry in Namibia by way of unscripted remarks attached to this report as a separate document.

Eng. Michael MUCHIRI, the Project Head of MTCC-Africa welcomed the participants and elaborated on the objective of the workshop and the vision of MTCC-Africa. His opening speech is attached to this report as a separate document.

4.3 Memorandum of Understanding (MOU)

In readiness for to the Namibia National Workshop, MTCC-Africa prepared a Memorandum of Understanding (MOU) in consultations with NAMPORT. This was a gentleman's agreement (informal and legally non-binding) between MTCC-Africa and NAMPORT. It was well crafted to ensure that it didn’t violate the laws or regulations of either State.

The purpose of the MOU was as follows:

- To establish the basis of cooperation between NAMPORT and MTCC-Africa
- To create a formal avenue for MTCC-Africa to provide support to NAMPORT
- To jointly participate in capacity building activities in the Region

However, we could not sign the MOU in the absence of the NAMPORT CEO. MTCC-Africa will nevertheless continue to pursue close cooperation with NAMPORT and hopefully get an
opportunity to sign it in days ahead. A copy of the unsigned MOU is attached to this report as a separate document.

4.4 Presentations from Resource Persons

Technical presentations were presented to the participants by various experts on climate change and the maritime shipping industry. Each of the presentations was followed by a question and answer session to elucidate any grey areas.

The list of Technical Presentations is as shown below:

1. Maritime Shipping – Size and Volumes – Michael Muchiri
2. European Union and Climate Change – Lydia Ngugi
3. Formation of MTCC Africa - Michael Muchiri
4. Namibia as a Maritime Focal Point Country - Michael Muchiri
5. Pilot Projects under MTCC Africa - Michael Mbaru
6. MARPOL Annex VI and the need to ratify - Lydia Ngugi
7. MARPOL Annex VI Operational Requirements - Luke Samba
8. IMO Conventions ratified by Namibia as of 2018 August 13
9. MARPOL Convention Annexes ratified by Namibia
10. Map of Namibia

Fig 4 - L-R standing - Luke Samba, Lydia Ngugi, Michael Mbaru, L-R Seated - Patrick Nawaseb, Michael Muchiri, Maureen Kitheka, Capt. Lukas Kufuna
Day One Presentations

Day 1 Presentation - No. 1

The first presentation on MTCC Africa formation and programs presented by Eng. Muchiri touched on Climate change and how it is partly influenced by fuel consumption emissions from the maritime shipping industry. To enable reduction of the maritime footprint, the International Maritime Organization (IMO) has committed itself to play its part by encouraging energy efficiency and adoption of low carbon technologies.

Arising from the confines of limited resources for Mitigation and Adaptation against the effects of Climate Change, IMO adopted Resolution MEPC 229(65), on 17 May 2013 for the promotion of technical cooperation and transfer of technology relating to the improvement of energy efficiency of ships.

In support of that resolution, the European Union (EU) set aside 10 Million Euros fund to assist Developing Countries in building their capacity in understanding and preventive actions against climate change.

Kenya requested for support from those funds by competitively bidding to host the Maritime Technology Cooperation Centre for Africa Region (MTCC-Africa). This was via a joint consortium of Jomo Kenyatta University of Agriculture and Technology (JKUAT), the Kenya Ports Authority (KPA) and Kenya Maritime Authority (KMA).

MTCC-Africa, one of the five MTCCs (Latin America, the Caribbean, Pacific, Asia and Africa), has now been in operation for approximately one and a half years since inception.

Fig 5 – Eng. M. Muchiri describing the GMN Network of MTCCs
Day 1 Presentation - No. 2
The second presentation of the day on Namibia as a focal point country by Eng. Muchiri delved into MTCC-Africa’s plan to reach out to the whole of Africa through regional focal points.

Southern Africa immediate zone of influence by the maritime shipping industry comprises the following countries: Namibia, Angola, South Africa, Lesotho, Swaziland, Botswana, Zimbabwe, Zambia, Mozambique, and DR Congo (Congo-Kinshasa).

Formal engagement is an ongoing process, the depths of which we intend to cultivate.

Day 1 Presentation - No. 3
The third presentation of the day dealing with MTCC-Africa Pilot Projects, was presented by Michael Mbaru. He gave a step by step process of how the Global MTCCs Network (GMN) was established as a result of EU and IMO commitment towards Climate Change Mitigation in the Maritime Shipping Industry. Its focus is to help participating developing countries limit and reduce greenhouse gas (GHG) emissions from their shipping sectors through technical assistance. The main components of the project are capacity building and promotion of energy efficiency and uptake of low carbon technologies.

Key deliverables include implementation of pilot projects that will demonstrate / promote the uptake of low carbon technologies and energy efficient operations. In this regard MTCC-Africa will undertake the following:

Pilot Project 1 - Implementation of a demonstration pilot project on “uptake of low carbon ship energy efficient technologies and operations” (Shore Power / Cold Ironing)
- The infrastructure consists of four main components
  - Power substation;
  - Shore-side transformer;
  - High voltage underground cabling and
  - Quayside power outlet.

It is notable, however, that if you couple it with the shore connection, power generated from the ship (main and auxiliary) can be used to light up a whole town depending on the power needs.

Possible challenges at the design and construction stages include:
- Frequency (Hz) disparities between the vessel electrical power systems and the utility supplier
- Different voltage levels required of different vessel types
- Large variance in power requirements (KVA) by sea going vessels;
- Unsteady mains power supply and inability by most ports to generate own electric power
- The high cost of installing an OPS system
Pilot Project 2. Fuel Consumption Data Collection and Reporting (DCR)

Under this project, the data to be collected and the format is set by IMO. This includes:

- A copy of the ship’s Data Collection Plan
- Summaries of bunker delivery notes (BDNs)
- Summaries of disaggregated data of fuel oil consumption, distance travelled and hours underway
- Information to demonstrate that the ship followed the Data Collection Plan set out in its SEEMP
- Copies of documents containing information on the amount of fuel oil consumption, distance travelled and hours underway for the ship’s voyages during the reporting period (e.g. the ship’s official logbook, oil record book, BDNs, arrival / noon / departure reports, etc.).

Manual Data collection – Method 1

Manual Data collection will be by use of CLS Thorium X Tablets. The Tablets are pre-fitted with standardized e-forms in accordance to IMO requirements. Data will be manually keyed-in by a designated crew member on board the vessel. It will then be submitted by a push of a button whereby transmission takes place via an iridium satellite communication system. The same will be received by MTCC-Africa remotely on a Themis Platform developed for MTCC-Africa.

Fig 6 - Michael Mbaru discussing the CLS Thorium-X Tablets and the use in fuel consumption data collection aboard ships
Automated Data Collection – Method 2

Automated Data Collection will be collected on real-time basis. On board fuel flowmeters will be fitted with sensors to collect real time fuel consumption data + RPM. Collected data will then be transmitted automatically through an iridium satellite communication system. The same will be received by MTCC-Africa remotely on a Themis Platform developed for MTCC-Africa.

Noon Reports - Complementary Data

Ships routinely send data to their head office named as the Noon Reports. Fuel consumption is therein captured for the following stages of the voyage:

- Standby for departure to full away
- From full way to noon
- Noon to noon while the ship is still underway
- Noon to end of passage
- End of passage to alongside / anchorage

Fig 7 - Michael Mbaru discussing the Themis Platform which receives fuel consumption data collected via the CLS Thorium-X Tablets
**Air-Quality Monitoring**

Under this project MTCC-AFRICA has gone a step further to include port area air-quality monitoring with the help of Kenya Meteorological Department (KMD).

The KMD mobile Air Pollution Laboratory will be used to carry out general air quality monitoring in the port. It will be stationed at each site for 48 hours to enable generation of a baseline data for priority pollutants such as Carbon Dioxide, Carbon Monoxide, Nitrogen Oxide, Nitrogen Dioxide, Sulfur Dioxide and Particulate Matter.

So far, two sets of data have been collected and are being analysed, with a view of establishing a baseline survey.

![Fig 8 - Lydia Ngugi discussing the need to ratify MAPRPol Annex VI](image)

**Day 1 Presentation - No. 4**

The fourth presentation of the day on MARPOL Annex VI by Lydia Ngugi touched on the origin of the MARPOL Convention and its practical legal aspects. This followed the trajectory of the structure of the International Maritime Organization up until Annex VI had been implemented.

IMO uses Legal Instruments to implement and maintain standards in areas of maritime safety, prevention of marine pollution, and shipping navigation and trade. These Instruments are Conventions (and their annexes), Protocols, Amendments, Recommendations, Codes, Guidelines, Circulars and Resolutions. Some are classified as mandatory and others as non-mandatory. The Contracting Governments on their part give effect to the provisions of the Instruments by promulgating policies, laws (statutes), decrees, orders, publications (Gazettes) and regulations and to take all other steps which may be necessary to give them full and complete effect.
In addition to this, the lecture also focused on the legal technical aspect in terms of the Energy Efficiency Regulations. Regulatory enforcement through the Port State Control and classification societies was also expounded. Awareness was thus created on the legislative process in ensuring that the Annex VI was ratified and domesticated by Namibia in line with local laws.

**Day Two Presentations**

**Day 2 Activity - Tour of Walvis Bay Port**

Day two began with a port tour of Walvis Bay Port. The adverse weather conditions played a major role in having the port tour take place in the morning.

During this reconnaissance trip, implementation of the Cold Ironing aspect was evident. The details of their shore-power system is described in detail below (Section 4.5).

**Day 2 Presentation - No. 1**

After the port tour, the first presentation on NAMPORT management and operations was presented by Patrick and Lukas, both from NAMPORT. This was structured as interactive discussions and engagement where clarification was sought by the MTCC-Africa team. The aim was to enable us understand their institutional arrangement that was running Walvis Bay Port, its operational throughput and challenges.

They informed us that NAMPORT was in the process of separating port infrastructure from port services. This will create two separate bodies one for port infrastructure & operations and the other as a Regulator. The new Regulator will focus on improving safety, efficiency and environmental protection. A Statute Bill has already been presented in their Parliament and may be passed by end of this year. Formal institutional setup will follow.

**Day 2 Presentation - No. 2**

The second presentation on Port expansion at Walvis Bay was presented by Patrick and Lukas, both from NAMPORT. This was structured as interactive discussions and engagement where clarification was sought by the MTCC-Africa team. They anticipate growth in their maritime shipping industry hence the infrastructural expansion. The new terminal will be modern in all respect including single window systems. Provision is also being made to accommodate shore power for merchant shipping commercial vessels. However, that will be implemented as a separate contract way after the port is opened up to traffic.

**Day 2 Presentation - No. 3**

The third presentation on EU and climate change was presented by Lydia Ngugi.
This presentation touched on the basic origins of the need to mitigate climate change through the GHG Emissions in the shipping industry in line with the Paris Agreement. The lecture also looked at the time line that the European Union was looking at in implementing the project and that by 2020 the first phase ought to be in the final stages. This presentation also focused on how the European Union is looking at implementing its regulations on climate change based on the subject matter of the Green House Gas Emissions.

**Day 2 Presentation - No. 4**

The fourth presentation on MARPOL practical applications was presented by Luke Samba. His focus was on the additional roles Namibia will shoulder once they ratify all the MARPOL Annexes. These include:

- Responsibilities of Flag States
- Responsibilities of Port States
- Responsibilities of Ship owners
- Responsibilities of the Master
- Requirements for Control of Emissions from Ships
- Regulations on energy efficiency for ships
- Verification of compliance
- Survey Certification and Control

**Fig 9** - Luke Samba teaching on the operational aspects of MARPOL Annex VI
The fifth presentation on day two was on Energy Efficiency and Pilot Projects and was presented by Michael Mbaru. It was basically on similar lines to the presentation he gave of day one, but with an emphasis on data collection and reporting.

Fig 10 - Namibia Workshop Participants

Fig 11 - Namibia Workshop Participants
4.5 Cold Ironing at Walvis Bay Port

When ships dock at the quayside, Cold Ironing is supplied to them through cables from the shoreside power supply system. The ship then switches off its fossil fuel engines thereby reducing air pollution. This process is also called cold ironing because, in the olden days, when the ship’s mainframe engines used to be rested, they used to get cold while the power was being transferred in this manner. Recent changes in design ensure that the engine temperature is maintained sufficiently for a quick startup. Recent descriptive terminologies have emerged namely Alternate Marine Power (AMP) or Shore-Power-Supply System.

Ship/Shore Changeover Procedure

There are two methods of changeover – an automatic change-over and a manual change-over depending on the ship-side installations. Automatic change-over is synchronized such that load shift is performed automatically.

Metering of Power

The shore charges for the power it supplies in KWH. So, it is always advisable to have minimum load possible when on alternate maritime power so that costs don’t increase significantly.

Challenges to AMP

It is expensive for the Port Authority to install and maintain the shore power supply system. They transfer this cost to the shipping lines via the tariff structure.

If the tariff charged on power consumed is too high, and therefore does not make business sense, ship owners may be reluctant to install the systems. This is often addressed by having laws and regulations that make it compulsory.

It is expensive for the ship owner to install the AMP system. This is transferred to the cargo owner via the cost of shipping calculations.

Existing AMP System at Walvis Bay Port

Walvis Bay has installed the following AMP system along the entire quayside:

- 1Phase 240V x 16Amps
- 3Phase 500V x 40Amps
- 3Phase 500V x 63Amps

The above metered installations ensure fairly good air quality within the port area despite the many vessels in operation. Consumption is metered both by the electrical power supply company and onboard the vessel.
Proposed AMP System for the new Container Terminal

Typically, there are four different variations in the AMP provided at various ports namely:

- 11000 V/AC
- 6600 V/AC
- 660 V/AC
- 440 V/AC

Walvis Bay is also undergoing rapid expansion to deal with current congestion and to create space for future growth. After construction of the basic container port infrastructure, NAMPORT plans to install a 6600 V/AC system. This new expansion will obviously demand more electrical power.

In Namibia, electrical power generation and bulk transmission is by NamPower. Distribution at retail level is by Regional Electricity Distributors (REDs). Erongo RED distributes power in Walvis Bay.

Fig 12 - At the Walvis Bay Quayside ready to inspect the shore-power supply system
Fig 13 - Shore Power Supply schematic drawing

Fig 14 - Shore Power Supply Cabinet at Walvis Bay, Namibia
Fig 15 - Shore Power Supply Extension / Distributor Box, at Walvis Bay, Namibia

Fig 16 - Shore Power Supply Connector, at Walvis Bay, Namibia
4.6 Women in the Maritime Sector

Worldwide, the level of women’s participation in the maritime industry remains low in all areas of job function, salaries and level of seniority. To address this challenge, under IMO’s program on the Integration of Women in the Maritime Sector (IWMS), several regional associations for women in the maritime sector have been created across Africa, Asia, the Caribbean, Latin America, the Middle East and the Pacific Islands. Within the Western Indian Ocean Region, the Association of Women Managers in the Maritime Sector in East and Southern Africa (WOMESA) was established in Mombasa, Kenya in 2007. WOMESA’s primary objective is to encourage Africa maritime states to facilitate women to train alongside men and so acquire the high-level of competence that the maritime industry demands. Namibia is among the few countries in Africa which have launched their WOMESA national chapter.

As a result of above initiatives, an increasing number of women are entering the shipping industry in all roles, including seafaring, operations, chartering, insurance and law. It is noteworthy that the coxswain of the pilot boat that took the Namibia national workshop participants on a reconnaissance trip was a lady, with Dual Purpose Rating (DPR).

![Fig 17 - Madam Justina Ndemuula the Coxswain of MV Seagull 1 sailing with MTCC-Africa team around the port zone](image-url)
4.7 Photographs

Each day of the workshop, several group photographs were taken to capture the memories. These were archived in the MTCC-Africa website [http://mtccafrica.jkuat.ac.ke/](http://mtccafrica.jkuat.ac.ke/)

![Fig 18 - Mr. John Guard – Marine Engineering Consultant and Marine Surveyor, leading roundtable discussions on Energy Efficient Operations](image)

![Fig 19 - Namibia Workshop Participants](image)
Maritime Technology Cooperation Centre Africa (MTCC - Africa)

Fig 20 - Namibia Workshop Participants

Fig 21 - Namibia Workshop Participants
4.8 Closing Ceremony

At the end of the second and final day, the workshop was officially closed with a short ceremony where each participant was issued a certificate of attendance.

![Certificate of Attendance](image)

Figure 22 – Certificate of Attendance

4.9 Tour of Walvis Bay Port

On the second day of the workshop, a port inspection tour (reconnaissance) was conducted for the workshop participants. During the guided visit, we were informed that Walvis Bay Port is Namibia’s primary port, the other being Lüderitz.

The team went onboard MV Seagull 1, a multi-purpose vessel capable of operating as a pilotage as well as offshore crew & light cargo transfer. Its specifications were as follows:

- Name: **SEAGULL 1**
- IMO: 9666223
- MMSI: 659361000
- Call Sign: V5GU
- Flag: Namibia [NA]
- AIS Vessel Type: Pilot Vessel
- Gross Tonnage: 100
- Summer Deadweight: 16 t
- Length Overall x Breadth Extreme: 27m × 6m
- maximum draught: 2.2 m
- Speed: Avg/Max 8.8 kn / 13.6 kn
- Year Built: 2012 by Auxiliar Naval Del Principado - Puerto De Vega, Spain
- Class Society: Registro Italiano Navale
- Status: Active

Fig 23 - MTCC-Africa team aboard MV SEAGULL 1 for offshore port tour

The tour of approximately a one-hour sea ride took us to the location of the new berths under construction being Container Terminal and Oil Jetty.
Fig 24 - Port Expansion at Walvis Bay, Concept Plan
Provision has been made for Shore Power Supply in the Port Expansion Project at Walvis Bay, Namibia.
This first phase of the new container terminal will add an additional 600 metres of quay wall length to the port’s existing 1,800 metres. It will incorporate an extra capacity of 750,000 TEUs per annum, two new container berths, and one for passenger ships and cruise liners.

Fig 27 – In the background is one of the three floating docks Namdock III: 15,000 mt
The others are Namdock I: 8,000 mt and Namdock II: 6,500 mt

4.10 Reception / Cocktail Party

During the evening of the first day of the workshop, the Namibia Maritime Authority (NAMPORT) sponsored a reception / cocktail party, which was a social gathering for all the participants. It had drinks, light refreshments and musical entertainment.

Participants had the opportunity to of knowing each other better and had one to one conversation in a relaxed environment. Business cards were exchanged, there was interaction, networking, socializing, and generally celebrating the success of the Namibia National Workshop.
5 Media Coverage of the Event

MTCC-Africa social media account of twitter (https://twitter.com/mtcc_africa) was active during the workshop as displayed below:

Fig 28 – Coverage on Twitter

Fig 29 – Coverage on Twitter
Maritime Technology Cooperation Centre Africa (MTCC - Africa)

Fig 30 – Coverage on Twitter

Madam Lydia Ngugi expounding on MARPOL Annex VI and the need for ratification during The Namibia National Workshop hosted in Walvis Bay #TheGlobalNetwork #SharingShipTechnology #GMN

Fig 31 – Coverage on Twitter

Shore Power Supply Cabinet, Extension/Distributor Box & Connector at Walvis Bay, Namibia. #GMN
Maritime Technology Cooperation Centre Africa (MTCC - Africa)

Fig 32 – Coverage on Twitter

THORIUMX, the only rugged tablet with satellite connectivity for marine observers, humanitarian, field inspectors and first responders thoriumxtablet.com

Fig 33 – Coverage on Twitter
6 Lessons Learnt

6.1 Selection of Workshop Date

MTCC-Africa first proposed date of the workshop was 22-23 August 2018. NAMPORT counter proposed 27-28 September 2018 which was more convenient for them but was conflicting with MTCC-Africa calendar (Midterm Evaluation).

Finally, we both settled on 29-30 August 2018. Consequently, some of NAMPORT stakeholders felt the notice was too short.

The lesson learnt is that the date(s) of any workshop is a process, which should be jointly agreed well in advance, through consensus, for proper planning.

6.2 Key Role of CEOs

The absence of the NAMPORT CEO meant that we could not make final deliberations on the MOU nor sign it. The CEO of NAMPORT having been assigned other duties at the last minute, was
Maritime Technology Cooperation Centre Africa (MTCC - Africa)

unable to attend the workshop. Nevertheless, he delegated to his able officers Mr. Patrick Nawaseb, Marine Manager and Capt. Lukas Kufuna, Port Captain and Master Mariner.

6.3 Financial Responsibilities

The institution(s) hosting the workshop should also be informed in no uncertain terms, of their responsibilities and obligations. Right from the onset, a budget should be drawn and key items assigned to avoid surprises. For many institutions, introduction of an expenditure item mid-year requires supplementary estimates and several levels of approvals which can lead to delays.

6.4 Program / Agenda Flexibility

During the month of August, it is common to have rapid change of weather given the Atlantic Ocean / Namib Desert confluence climate. Consequently, the port tour had to take place early morning on the second day, as having it during the scheduled time would have had it affected by fog and other adverse weather conditions.

6.5 Recommendations to Namibia

At the end of the Namibia National Workshop, we took stock of our achievements, obstacles, challenges, insights and inspirations which will enable us host better events in future. Below are our findings:

- Namibia is currently in the process of establishing a maritime administration to be a separate unit from NAMPORT. In light of this development, there is lack of enough human resource capacity to fully run the maritime administration as a greater concentration of resources is with NAMPORT where revenues are generated.
- There is succession management challenge. Most experienced individuals are retiring and their replacement is not at par with capacity building initiatives. There is therefore lack of skilled personnel who can handle new and emerging energy efficiency related issues.
- The staff at the legal department require specialization in maritime law. IMO International Maritime Law Institute (IMLI) and the World Maritime University (WMU) could provide necessary support to both NAMPORT and their Ministry of Transport.
- The country requires technical support in the drafting of an implementation plan on MARPOL Annex VI, in line with their legal procedures. It was however noted that there is implied implementation.
- During the Walvis Bay Port tour, it was noted that NAMPORT is already implementing the aspect of Cold Ironing for vessels that are below 15,000 gross tonnage. They plan to extend the same concept to their new container terminal, for larger commercial / merchant ships, subject to resource availability. MTCC-Africa needs to keep track of this noble initiative which is in line with MARPOL Annex VI provisions. MTCC-Africa can also liaise with NAMPORT to enable showcasing of this shore power project to the rest of Africa.
There is need to build education and skills capacity of NAMPORT Engineers on provision of cold ironing to larger vessels (>15,000 gross tonnes). This will be in addition to climate change mitigation, ship energy efficiency, and adoption of low carbon technologies.

### 6.6 Evaluation / Feedback Forms

Feedback from workshop participants helps in assessing the success of the training. The tool for feedback for this workshop was provided by IMO. Participants did not have to write their names thereby maintaining anonymity.

All the feedback / evaluation forms received were analyzed. The positive comments are a pointer to the success of the workshop, while their critique will be incorporated into future engagements with NAMPORT and other MTCC-Africa training programs.

**Participants Gender**

From the above chart on gender representation, of the 33 delegates, 27 were male while 6 were female.
Feedback Forms Received

Out of 33 participants who registered for the workshop, we received 25 evaluation / feedback forms. Those who failed to return the feedback forms were those who left the venue earlier.

Performance of Lecturers

From the above chart, the facilitators are rated above 52% on all aspects. Participants desired to learn more on climate change and its relation to maritime shipping industry.
Overall Level of Satisfaction

From the above chart, all the 25 respondents scored the overall usefulness of the training and their level of satisfaction at 100%.

Quality of Presentations

The quality of presentations was rated between 56% and 64%. Climate change effects resonate more with fisheries and agriculture and not with the maritime shipping industry. Further sensitization and training will be required to bring Namibia participants up to speed.
Other Notable Observations

Q12 What topic were of most interest and relevance to you?

- Climate Change
- Pollution
- Marine Pollution
- Marine Pollution Laws
- Prevention of pollution at sea locally & internationally
- MARPOL and MARPOL Annex VI
- Shore Power for Commercial Ships
- Shore Power
- Cold Ironing, and the associated monetary savings, as well as helping the environment
- Fuel Emissions Reduction
- Fuel Data capturing and real time
- About developing countries without ship and no ship registry on their own countries.

Q13 Are There Any Topics That Should Be Added?

- Blue Economy
- Soil Pollution & Air Pollution
- The local aspect of the main topics should have been dug deeper with some implementation plan propositions already
- Solar Energy, Wind Energy

General Comments

- Me/We need a full course for MARPOL in Namibia please
- More studies are needed in NAMPORT on fuel emissions

7 Post Workshop Wrap-up

At the end of the workshop, all the presentations were compiled into a folder and access availed to each participant. In addition, a link was also provided in the MTCC-Africa website (http://mtccafrica.jkuat.ac.ke/) for ease of retrieval and downloading.

These technical presentations are provided with this report as a separate document.
# Attendance List

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<thead>
<tr>
<th>S/No</th>
<th>Name</th>
<th>Gender</th>
<th>Job Title</th>
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<td>1</td>
<td>Enselin R. Beukes</td>
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<td>Assistant Marine Engineer</td>
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9 Appendices

The following documents are attachments to the Workshop Report, as separate DOCUMENTS.

i. Namibia Workshop Request Letter from MTCC-Africa to NAMPORT

ii. Namibia Workshop Request Letter from MTCC-Africa to NAMPORT

iii. Namibia Workshop Agenda / Program

iv. Delegates Invitation Letter

v. Delegates Information Package / Brochure

vi. Speech by MTCC-Africa project Head, Eng. Michael Muchiri

vii. Summary of unscripted remarks by Mr. Patrick Nawaseb the Marine Operations Manager and Capt. Lukas Kufuna the Port Captain and Master Mariner

viii. Unsigned draft Memorandum of Understanding (MOU)

The following documents are attachments to the Workshop Report, as separate FOLDERS

ix. Attendance Signature lists

x. Presentations

xi. Workshop Evaluation / Feedback Forms

xii. Travel Documents (inbound and outbound) for MTCC-Africa Staff - Maureen Kitheka and Michael Muchiri

Links to the INTERNET

xiii. Social media activities – https://twitter.com/mtcc_africa

xiv. Photos from the event - http://mtccafrica.jkuat.ac.ke/

xv. Presentations and other workshop materials - http://mtccafrica.jkuat.ac.ke/

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THANK YOU!