WMU Sasakawa Fellows' Network Meeting in the African Region 2022

August 26 – August 29, 2022
Golden Tulip El Mechtel Hotel,
Tunis, Tunisia

Hosted and Organized by the Friends of WMU, Japan Secretariat in Cooperation with The Nippon Foundation, Tunisian Sasakawa Fellows, and the Office of Merchant Marine and Ports of Tunisia

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Overview of Regional Meeting

Sasakawa Fellows' Network Meeting in the African Region 2022

Overview

Date: August 26 - 29, 2022

Location: Tunis, Tunisia

Introduction

Photo by JR Harris on Unsplash

The Sasakawa Fellows' Network Meeting in the African Region 2022 took place in Tunis, Tunisia on August 26-29, 2022. 24 Sasakawa Fellows from 12 African countries and one Fellow from Japan convened for this event. This was the 5th regional meeting, the first in four years since the WMU Sasakawa Fellows' Network Meeting that was held in London in January 2018.

The event was scheduled to coincide with the Tokyo International Conference on African Development (TICAD)[1], which was to take place that summer after being repeatedly postponed due

[1]Established in 1993 at the suggestion of Chairman Sasakawa. This international conference brings together the knowledge and cooperation of not only African countries, but also development-related international organizations, private enterprises, and civic society, conducting discussions that lead to African development. The conference is held roughly every three years in Japan or an African country.

to the COVID-19 pandemic. The venue chosen was the Golden Tulip El Mechtel Hotel. This put the meeting in close proximity to the TICAD venue, and allow for Yohei Sasakawa, the Chairman of the Nippon Foundation, to visit in conjunction with his business trip to TICAD.

As was the case with previous regional meetings, all participants prepared materials such as presentations in advance before arriving in Tunis. Unfortunately, most Fellows faced difficulties obtaining a visa in the short amount of time available. Ultimately, 24 out of the 32 invitees were able to attend, with some arriving late due to issues with their flights.

Pre-Meeting (August 26, Afternoon)

As many of the Fellows have never met each other before, the pre-meeting (also called Day 0) was dedicated to getting to know one another. Some used a single PowerPoint slide to introduce themselves, while others enthusiastically utilized several. In addition, Dr. Cleopatra Doumbia-Henry, the President of WMU, was in attendance to see the participants' self-introductions. She had generously rearranged her schedule just so she could join the start of the regional meeting.

The event venue, the Golden Tulip El Mechtel Hotel

The self-introductions were followed by a discussion on the structure of the sessions and working groups beginning the following day, as well as who to elect as chairs for each session. Ultimately, Nabil Anwari (Morocco, 2005) was elected as chair for the overall meeting, with Houcem Eddine Cherni (Tunisia, 2020) and Maureen Kanini Kitheka (Kenya, 2020) as vice-chairs. The chairs of the working groups in Session 2, in which various maritime issues would be discussed, would be decided by the working group members themselves. Stella Joshua Katondo (Tanzania, 2001) was selected as the chair for Session 3 to discuss ways to strengthen and expand alumni networks.

At the end of the pre-meeting, Capt. Yusuke Mori (Japan, 2014), who was participating as a representative of the Japanese Sasakawa Fellows and as Deputy Executive Director of the International Association of Maritime University (IAMU), gave an overview of IAMU's important roles and activities.

Everyone headed on to the evening welcome party where they were joined by Dr. Hide Sakaguchi, the President of the Ocean Policy Research Institute (OPRI) at the Sasakawa Peace Foundation (SPF), and his staff from TICAD. WMU graduates from Tunisia also made special guest appearances, and all attendees enjoyed a friendly and fun reception which lasted until late night.

Day 1 (August 27)

Opening Ceremony

The opening ceremony began with a welcome address from Dr. Sakaguchi. This was followed

by a pre-recorded video message from Chairman Sasakawa, and a congratulatory address by Dr. Doumbia-Henry, who celebrated the regional meeting's occurrence and spoke of the importance of alumni activities. Lastly, Thouraya Khelil from the Office of Merchant Marine and Ports (OMMP), co-organizers of the regional meeting, gave a warm welcoming address to the audience.

Following the opening ceremony, Chairman Sasakawa - who was participating in TICAD - made an appearance at the meeting. The Fellows welcomed his entrance with WMU's school song. Chairman Sasakawa listened attentively as they each told him about their current activities and responded warmly to their questions. This long-awaited meeting was concluded with group photos with him, Dr. Atsushi Sunami (President of SPF), Dr. Doumbia-Henry, Dr. Sakaguchi, Ms. Khelil, and OMMP representatives. Several Fellows who ran into flight troubles made it just barely in time to see the Chairman.

Group photo with Chairman Sasakawa

Session 1: Maritime Review of Countries

Participants explained how their countries were doing regarding maritime affairs and current issues they were facing. Each presentation was followed by questions from the enthusiastic and curious Sasakawa Fellows. (See Part 4: Maritime Review of Countries for the full reports)

Day 2 (August 28)

Session 2: Working Group Discussions

The Fellows were separated into working groups based on four different topics: 1) Maritime Transport and Port/Harbor Issues, 2) Maritime Safety and Environmental Protection, 3) Maritime Education and Training, and 4) Ocean Governance. They selected specific topics within these broad themes and fervently carried out discussions aimed at resolving future issues.

Each working group spent some time before and after lunch compiling a summary based on what they had discussed, and then, presented their conclusions to everyone that afternoon. As they took the floor, the presenters passionately exchanged questions and answers with members from the other working groups. (See Part 5: Working Group Discussions for presentation slides)

Session 3: Discussion on Alumni Networks in Africa

Fellows talked about their country's alumni activities, or lack thereof. An energetic and passionate guided discussion was held to create ideas for expanding the alumni network. Some common issues were brought up: the lack of alumni per country, the lack of responsive members and a means for reaching out to alumni, and the lack of alumni leaders who can take the initiative to organize events. The talks culminated in one solution: establishing a strongly bonded group once and

for all at this very moment, leading to the Resolution. (See Part 2: Resolution)

Day 3 (August 29)

Port Tours

Thanks to the OMMP's generous support and meticulous preparations, the Fellows had the unique opportunity of boarding a large tugboat from the Port of La Goulette when they visited the important ports of Tunis. They landed to a cheerful reception at the Port of Radès, where they donned "uniforms." Afterwards, they received detailed tours of the Mediterranean Institute of Maritime Training (IMFMM) and saw their simulators and other facilities firsthand.

Sightseeing

The Fellows enjoyed some leisure and shopping time in the blue-and-white resort area of Sidi Bou Said, which sits in the Mediterranean Sea. Their sightseeing adventure finished with a trip to the distant past – to the UNESCO World Heritage site of the Ancient Carthage ruins.

Overlooking the Ancient Carthage ruins

Farewell Reception

For about an hour at the beginning, participants intensely discussed the meeting's resolution draft prepared by Mr. Anwari. The timing of the toast was delayed because of this, regrettably leaving less time for socializing. However, after the Resolution was finished and signed, everyone was able to enjoy their final night together. There was festive music and dancing, wonderful food, and many talks and commemorative speeches. The reception ended on a bittersweet, but very heartwarming note.

Though the consecutive days of presentations, discussions, networking, and learning were surely exhausting, the Fellows were patient, flexible, attentive, and positive throughout the whole affair. The meeting would not have been as rewarding and fruitful if it was not for this particularly outstanding group of maritime professionals. This event was, without a question, a great, great success. As the Friends of WMU, Japan Secretariat, we couldn't be prouder, and it was our honor and privilege to be able to hold the Sasakawa Fellows' Network Meeting in the African Region 2022.

Event Program

August 25th (Thu) – DAY 0 (Arrival)

Time	Schedule	Venue/Notes
Morning/ Afternoon	Arrival	Golden Tulip El Mechtel Hotel

August 26th (Fri) – DAY 1 (Arrival and Pre-Meeting)

Time	Schedule	Venue/Notes
Morning/ Afternoon	Arrival	Golden Tulip El Mechtel Hotel
15:00 – 17:00	Pre-Meeting 1) Self-introductions 2) Create Working Groups 3) Select Group Leaders	
17:00 – 17:20	IAMU Presentation by Mr. Yusuke MORI (Japan, 2014)	
18:30 – 20:00	Welcome Reception	

August 27th (Sat) – DAY 2 (Maritime Information Exchange and Working Group Discussions)

Time	Schedule	Venue/Notes
9:00 – 9:10	Opening Remarks by Dr. Hide Sakaguchi (President, Ocean Policy Research Institute of the Sasakawa Peace Foundation)	Golden Tulip El Mechtel Hotel
9:10 – 9:15	Video Message from Chairman Yohei Sasakawa (Chairman, The Nippon Foundation)	
9:15 – 9:25	Welcome Address by Dr. Cleopatra Doumbia-Henry (President, World Maritime University)	
9:25 – 9:35	Welcome Address by Ms. Thouraya Khelil (Director of Training Department, Office of Merchant Marine and Ports)	
9:35 – 9:45	Group Photos	
9:45 – 10:00	Short Break	
10:00 – 12:00	Visit from Chairman Sasakawa Group Photos	
12:30 – 13:30	Lunch Break	
13:30 – 15:45	Maritime Review of Countries Cameroon: Etakong TABEYANG Egypt: Team Egypt Ghana: Team Ghana Tunisia: Houcem Eddine CHERNI	15 min./person + 10 min. Q&A
15:45 – 16:00	Short Break	
16:00 – 17:15	Maritime Review of Countries: Nigeria: Team Nigeria Cote D'Ivoire: Djaiblond Dominique-Yohann KOUAKOU Uganda: Bibian TURYAHUMURA	15 min./person + 10 min. Q&A
17:15 – 17:30	Short Break	
17:30 – 19:45	Maritime Review of Countries: Togo: N'Hoboutoun SANTA	15 min./person + 10 min. Q&A

	Kenya: Team Kenya Benin: Yehonnou Tchegbenton Fabrice METONWAHO Tanzania: Team Tanzania Morocco: Nabil ANWARI Japan: Yusuke MORI	
19:45 – 20:00	Dinner with Dr. Cleopatra Doumbia-Henry	

August 28th (Sun) – DAY 3 (Working Group Presentations Cont. and Alumni Network Discussions)

Time	Schedule	Venue/Notes
9:00 – 10:30	Working Group Discussions (WG1-4) WG1: Maritime Transport and Port/Harbor Issues WG2: Maritime Safety and Environmental Protection WG3: Maritime Education and Training WG4: Ocean Governance	Golden Tulip El Mechtel Hotel
10:30 – 12:30	Wrap Up and Prepare Presentations	
12:30 – 13:30	Lunch Break	
13:30 – 14:30	Finalize Presentations	
14:30 – 14:45	Arrange Seats	
14:45 – 17:10	Working Group Presentations	15 min./group + 5 min. Q&A
16:05 – 16:20	Short Break	
16:20 – 18:30	Discussion on Alumni Networks in Africa	
18:30 – 20:00	Dinner	

August 29th (Mon) – DAY 4 (Port Visit, Tour of Tunis)

Time	Schedule	Venue/Notes
7:30 – 9:00	PCR Tests	Chelli Mohamed Hassen Laboratoire D'analyses Médicales
AM	Tour of Port of La Goulette and Port of Radès	by Bus
PM	Lunch Sightseeing 1) Ancient Carthage Ruins 2) Sidi Bou Said	
17:00	Arrive at Hotel	by Bus
18:30 – 19:00	Review and Sign Resolution	
19:00 – 20:30	Farewell Reception	Golden Tulip El Mechtel Hotel

August 30th (Tue) – DAY 5 (Departure)

Time	Schedule	Venue/Notes
Morning/ Afternoon	Departure	

Participants

Benin, 2018

Yehonnou Tchegbenton Fabrice METONWAHO
Port State Control Officer in Charge of Marine Pollution Subjects, Department of Marine Environment Protection, Directorate of Port, Maritime and Fluvio-Lagunar Affairs

Cameroon, 2018

Etakong TABEYANG
Diplomat,
Secretariat General,
Ministry of External Relations

Cote d'Ivoire, 2021

Djaiblond Dominique-Yohann KOUAKOU
Commanding Officer of Vessel,
Navy,
Ministry of Defense

Egypt, 2004

Capt. Ehab Ibrahim OTHMAN
Vice Dean for Education Affairs,
Maritime Safety Institute,
Arab Academy for Science,Technology and Maritime Transport (AASTMT)

Egypt, 2013

Capt. Amr Monir IBRAHIM
Captain/Director, Senior Simulator Instructor/Maritime Lecturer,
Director of Marine & Offshore Training Centre (MOTC),
Integrated Simulators Complex (ISC),
Arab Academy for Science, Technology and Maritime Transport (AASTMT)

Egypt, 2018

Fawzy Fathalla DEKINESH
Head of Natural Gas and Petrochemical Department,
Integrated Simurator Complex,
Arab Academy for Science, Technology and Maritime Transport (AASTMT)

Ghana, 2017

Prosper Senyo BEDIAKO
Senior Security Officer,
Security,
Ghana Ports and Harbours Authority

Ghana, 2020

Marvin Bang-Gesina AYOO
Maritime Administrative Officer,
Maritime Services Division,
Ghana Maritime Authority

Ghana, 2021

Synclesia Wenia PWATIRAH
Acting Assistant Director,
Naval Administration,
Ghana Navy

Participants

Kenya, 2012

Elsie Nyabonyi BIKONDO
Principal Human Resources Development Officer,
Human Resources Department,
Kenya Ports Authority

Kenya, 2013

Fiona Syovata MBANDI
Senior Human Resources Officer,
Human Resources Department,
Kenya Ports Authority

Kenya, 2015

Juma Ahmed ALI
Business Development Officer,
Commercial Shipping,
Kenya Maritime Authority

Kenya, 2019

Margaret Wanjiku WACHIRA
Monitoring Officer,
Commercial Shipping Department,
Kenya Maritime Authority

Kenya, 2020

Maureen Kanini KITHEKA
Maritime Expert,
Shipping and Maritime,
Ministry of Transport

Morocco, 2005

Nabil ANWARI
Senior Officer,
Multilateral Cooperation Service,
Cooperation Division/Directorate of Strategy and Cooperation,
Department of Marine Fisheries

Nigeria, 2019

Roland Oladipo IJABIYI
Senior Manager,
Pollution Control,
Environment Department,
Nigerian Ports Authority

Nigeria, 2020

Capt. Abiodun Abidemi FOLORUNSHO
Captain/Assistant Director,
Marine Engineering,
Nigerian Navy

Nigeria, 2021

Yakubu ABUBAKAR
Transport School,
Nigerian Institute of Transport Technology, Zaria

Participants

Tanzania, 2001

Stella Joshua KATONDO
Director of Transport Environment and Safety,
Transport Sector,
Ministry of Works and Transport

Tanzania, 2007

Dr. Tumaini Shabani GURUMO
Senior Lecturer/Acting Principal,
Maritime Transport,
Dar Es Salaam Maritime Institute

Tanzania, 2021

Kwilasa Lushanga NG'WIGULU
Environmental Management Officer I,
Directorate of Environmental and Social Impact Assessment,
National Environment Management Council

Togo, 2018

N'Hoboutoun SANTA
Head of the Section of Legal Affairs,
Direction of Legal Affairs and Litigation,
Ministry of Maritime Economy, Fisheries and Coastal Protection

Tunisia, 2020

Houcem Eddine CHERNI
Harbor Pilot,
Office of Merchant Marine and Ports,
Gabes Port Authority

Uganda, 2021

Bibian TURYAHUMURA
Maritime Information Technology Officer,
Maritime Department,
Ministry of Works and Transport

Japan, 2014

Yusuke MORI
Deputy Executive Director,
International Association of Maritime Universities

Sasakawa Fellows' Network Meeting in the African Region 2022

Resolution

RESOLUTION

We, the participants of the WMU Sasakawa Fellows' Network Meeting of the African Region held in Tunisia from 26th to 29th August 2022.

Whereas the African Fellows have been dormant with minimal communication and interaction, RECOGNISING the need to create WMU Sasakawa Fellows' Network in the African Region for the purpose of establishing and maintaining a constant link among Country and Regional Fellows for mutual cooperation and exchange of beneficial information and CONSIDERING the availability of resources and the maximum utilization of current information and communication technologies and tools.

DO hereby ADOPT an ACTION PLAN to fulfill the objectives of the WMU Sasakawa Fellows' Network and its future expansion as follows.

- To enhance the Friends of WMU, Japan Website by making more effective meaning of communication among fellows and for the promotion of Sasakawa Network to benefit the maritime sector;
- To regularly update the Fellows' List to keep the directory alive and relevant (beneficial),
- To improve the Newsletter of Friends of WMU Japan by regularly contributing articles touching on current maritime issues and challenges in our regions;
- To utilize our respective maritime knowledge, expertise and experience, individually as well as collectively, for the development of African maritime sector;
- Uganda: Bibian TURYAHUMURARegional Secretariat to monitor, communicate and sustain future activities for expansion of the Sasakawa Fellows' Network.
- To make active use of this network as an effective tool for solving various issues or for promoting sustainable development of maritime societies and ocean; and

RESOLVE to cooperate actively in the implementation of this Action Plan within the African Region as undersigned:

Name	Signature
Yehonnou Tchegbenton Fabrice Metonwaho (Benin)	
Etakong Tabeyang (Cameroon)	
Djaiblond Dominique-Yohann Kouakou (Côte d'Ivoire)	
Ehab Ibrahim Othman (Egypt)	
Amr Monir Ibrahim (Egypt)	
Fawzy Fathalla Dekinesh (Egypt)	
Prosper Senyo Bediako (Ghana)	
Marvin Bang-Gesina Ayoo (Ghana)	
Synclesia Wenia Pwatirah (Ghana)	
Elsie Nyabonyi Bikondo (Kenya)	
Fiona ~~Syobata~~ Syovata Mbandi (Kenya)	
Juma Ahmed Ali (Kenya)	
Margaret Wanjiku Wachira (Kenya)	
Maureen Kanini Kitheka (Kenya)	
Nabil Anwari (Morocco)	
Roland Oladipo Ijabiyi (Nigeria)	
Abiodun Abidemi Folorunsho (Nigeria)	

Yakubu Abubakar (Nigeria)

Stella Joshua Katondo (Tanzania)

Tumaini Shabani Gurumo (Tanzania)

Kwilasa Lushanga Ng'wigulu (Tanzania)

N'Hoboutoun Santa (Togo)

Houcem Eddine Cherni (Tunisia)

Bibian Turyahumura (Uganda)

Sasakawa Fellows' Network Meeting in the African Region 2022

A Visit from Chairman Sasakawa

Sasakawa Fellows' Network Meeting in the African Region 2022

A Visit from Chairman Sasakawa

Date: August 27, 2022

Guest of Honor: Yohei Sasakawa, Chairman of the Nippon Foundation

First, a Video Message

Chairman Sasakawa in his video message to the alumni.
See link for video: https://www.youtube.com/watch?v=1gFopBdgM20

The Nippon Foundation had recorded a video of Chairman Sasakawa prior to the regional meeting. While it was the Chairman's wish to come to the regional meeting, his schedule during TICAD was packed and unpredictable, so he had prepared the video message in case he had to miss the event. This was played during the opening ceremony following the opening remarks.

His Message

"Mr. Foued Othman, CEO of the Office of Merchant Marine and Ports of Tunisia, Dr. Cleopatra Doumbia-Henry, President of the World Maritime University, and WMU Fellows. I would like to thank you for organizing this networking session at the same time Japan is hosting the Tokyo

International Conference on African Development. This session will offer opportunities for exchange of views on ocean issues in Africa and beyond and for WMU Fellows to deepen ties among yourselves.

The Nippon Foundation's relations with Africa go back almost forty years. We have been active not only in the maritime and ocean fields that you specialize in but also in the areas of agricultural assistance and elimination of leprosy. Having visited almost thirty African countries, I feel very close to you and at the same time, consider you as my colleagues with whom I have overcome many difficulties in the spirit of "Never Give Up."

As you know, the ocean is a common asset of humanity. The challenges we face require cooperation /across countries and disciplines for orderly management of the environment, fisheries, energy, maritime safety, and international law. Against this backdrop, African nations too, while appreciating the importance of individual marine resource conservation and the sustainable use of the vast African oceans are now making joint efforts in ocean management. Africa hosted the Sustainable Blue Economy Conference in 2018 and the blue economy policy dialogue during the UN Ocean Conference in 2022. Although western countries have taken the initiative to lead those international ocean conferences now there is a growing momentum for Africa to play a greater role.

I sincerely hope that as WMU Fellows, you will also contribute to the orderly management of the oceans of Africa. You can do this by making full use of the expertise you have developed at WMU, experiences from your current field work, and the network of more than 1,600 Sasakawa Fellow ocean specialists all over the world, of which you are a part.

Ocean issues are wide-ranging. Although you may not see tangible results in the short term, you have to take action with a long-term perspective. But as the people of Africa have taught me, let us work towards passing on the sustainable oceans to the future generations in the spirit of Never Give Up. I look forward to the success of this gathering and your future work. Thank you very much."

Meeting Chairman Sasakawa

Right as the opening ceremony was finishing up and group photos were being taken, there was an announcement that the Chairman was, in fact. arriving that very morning. This announcement was met with a flurry of activity as Fellows moved chairs to more suitable positions closer to the front where he would be seated.

Mr. Eisuke Kudo, senior advisor to the Sasakawa Peace Foundation, had the brilliant idea of playing WMU's school song and timing it with Chairman Sasakawa's entrance into the meeting room. He seemed pleasantly surprised to hear the music and enthusiastic singing as he walked in, but immediately followed suit and clapped along to the song.

Clapping to WMU's song

Fellows took turns introducing themselves and talking about their time at WMU, and how their experience there shaped them as maritime workers

and as individuals. They ended these brief reflections with heartfelt words of thanks for funding their studies and allowing them to pursue their dreams. Thereafter, they had the chance to ask him questions such as about his motivations for his generosity towards mankind and maintaining his health at his age.

Receiving local clothing from Tanzania

A few Fellows actually flew into Tunis that morning and made it barely in time to see Chairman Sasakawa. Though they were operating on near-zero sleep after resolving their flight issues, they still participated in the introductions, Q&A, and the final group photos. Also, in the meeting, Chairman Sasakawa was presented with precious gifts from several alumni. He even declared that he would display his gift from Ms. Katondo, a Fellow from Tanzania, from the top of Mount Kilimanjaro if he is able to successfully climb it as part of his campaign in the fight against leprosy.

The visit finally concluded with Fellows taking group photos on top of individual photos with the Chairman. He would share a few images from his morning with the Fellows in his personal blog later: https://blog.canpan.info/yoheisasakawa/category_11/2

Though short and sudden, it was a heartwarming and emotional visit, especially for the alumni who never got to see him because of the COVID-19 pandemic. Their grins in the pictures tell us that it was worth it.

All smiles for the group photo!

Sasakawa Fellows' Network Meeting in the African Region 2022

Maritime Review of Countries

Benin

Benin Report: Overview of Maritime Situation and related entities in Benin

I- Country overview:

Located in West Africa between latitudes 6°30' and 12°30' north and longitudes 1° and 3°40' east, Republic of Benin covers a surface area of 114,763km2. It is limited to the South by the Atlantic Ocean and bordered Togo in the West, Nigeria in the East, Niger in the North-East, Burkina Faso in the North-West. Benin is subdivided into 12 Departments and 77 Municipalities. The population grew from 6,769,914 in 2002 (GPHC, 2002) to 10,008,749 (GPHC, 2013) with a mean annual growth rate of 3.52%. The average density is 29 inhabitants/km2 with a higher population concentration in the southern part of the country. Over the period 1996-2015, Benin experienced an unstable economic situation marked by a fluctuation in Gross Domestic Product (GDP) ranging from 2 to 6%. But due to current government economic reforms, GDP reached a record of 6.8% in 2018 (Ministry of the Living Environment and Sustainable Development, 2019).

The GDP per capita growth remains low, due to the sustained population growth (3.5% per year between 2002-2013), the poor performance of policies implemented, leaving little room for achieving the Sustainable Development Goals (SDGS) by 2030. As for the structure of the economy, it has remained virtually stable since the 2000s, with primary and secondary sectors representing, on average, 23.3% and 24.7% of GDP respectively and a predominant tertiary sector (52.0%) of GDP (Ministry of the Living Environment and Sustainable Development, 2019).

Republic of Benin is a coastal country in West Africa, bordering the Atlantic Ocean. It has a 125 km long coastline and a seaport, the port of Cotonou.

Benin has a maritime area extending two hundred (200) nautical miles from the coast (the exclusive economic zone) in which various socio-economic activities are carried out, notably: maritime transport, industrial fishing, artisanal fishing, oil research, transshipment of oil products, etc.

More than 90% of Benin's trade with foreign countries is carried out by sea, hence the vital importance of the sea and the port of Cotonou for the Beninese economy and those of the hinterland countries.

Benin's maritime activities are factors of change over time in the sense that they aspire to the development of their activities:

- The carriage of goods has increased since 2016 with the modernization of service offers and port infrastructures; this implies the densification of goods boats bound for the port of Cotonou with the corollary:

- the occupation of a larger maritime surface for boats in the harbour (pre-parking);

- the occupation of a larger coastal area: extension of the area of the old port and the creation of a second deep-water port on the coast of Sèmè-Pkodji;

- Maritime fishing has increased its fleet over time. With the decrease in catches, this fleet has decreased, but this decrease may be structural because the population's need for fish products is always on the rise:

- the number of fishing boats may vary over time,
- the fishing area may vary over time

- Maritime tourism in Benin could experience a real boom in the future because of the government's vision of making Benin a tourist destination

Indeed, if the "Fishing Route" project develops, there may be a market for the transport of cruise passengers. The project foresees the setting up of a tourist development zone, with the construction of hotels (6,000 rooms), residential developments (7,000 dwellings, between villas and flats), leisure facilities, shops, transport, services, etc. In the long term, this seaside area should create around 23,000 direct jobs (230,000 indirect jobs) and welcome up to 95,000 visitors per day (Witteveen+ Boss, 2016). To this end, several tourist sites are being modernized and developed, which may result in:

- ✓ Sea trips for cetacean observation can be multiplied,
- ✓ the number of boats for pleasure craft may increase,
- ✓ the coastal/marine area(s) reserved for recreational use may increase

Regarding research, the need for conservation of marine resources or/and their extension and oil exploration may require:

- more space for the creation of marine protected areas (MPAs),
- more space for excavations and research (Adje & Metonwaho, 2021).

The marine and coastal environment of Benin is attached to the continent by the coastline. Beninese coastline is an area of transition and intense interactions between the Atlantic Ocean and the continent. The continental part of southern Benin is home to several bodies of water that communicate with the sea.

The continental (terrestrial) part of the coastline is composed of the wetlands of southern Benin, listed in Ramsar sites No. 1017 and No. 1018 which are respectively represented by:

- South-West fluvio-lagoon complex, composed of the lower valley of the Mono River, 100 km long in Benin, the Couffo River, 190 km long; Lake Ahémé (78 km²) with a branching along the coast to form the coastal lagoon of Grand-Popo the whole of a surface of 47.500 hectares. It is located between 6°16'48"N - 6°57'N and 1°40'E - 2°20'E and;
- South-East fluvio-lagoon complex, composed of the lower valley of the Ouémé River length of 510 km, Lake Nokoué (150 km²) and the lagoon of Porto-Novo (35 km²), the all with an area of 91,600 hectares. It is located between 6°21'48"N - 6°57'N and 2°20'E - 2°45'E

The two river-lagoon complexes of South Benin communicate with the Atlantic Ocean respectively through the mouth of Grand-Popo called Bouche du Roi (via Lake Ahémé) and the Cotonou channel, which is 3 kilometers long (via Lake Nokoué).

The southern part of Benin is characterized by a subequatorial climate marked by high humidity and an average annual rainfall varying between 1230 and 1550 mm varying between 1230 and 1550 mm. This sub-equatorial climate, marked by two rainy seasons and two dry seasons, is the consequence of rainfall phenomena linked to the atmospheric circulation atmospheric circulation over West Africa (Ministry of Living Environment and Sustainable Development, 2020).

As a creator of direct and indirect full-time jobs, the port of Cotonou plays a transversal role between other sectors in the country by maintaining the economic and social environment, and accompanies and contributes to the dynamics of agricultural, commercial, industrial and financial growth in the entire economic sphere. As the "lung of the national economy", the port of Cotonou participates in 90% of foreign trade and generates up to 60% of the Gross Domestic Product (GDP). The autonomous port of Cotonou contributes between 80 to 85% of customs revenue and 45 to 50% of tax revenue (Adje & Metonwaho, 2021).

The port of Cotonou has a capacity of 2 million tonnes per year. It is equipped with a 1,300 m long commercial quay, divided into six conventional berths, a container terminal and a 450 m long jetty. Faced with the loss of market share to the ports of Lomé (Togo), Tema (Ghana) and Abidjan (Ivory Coast) in recent years, the Benin government has since 2016 undertaken reforms to improve the performance of the autonomous port of Cotonou and bring it in line with the major port institutions. The results obtained since then are very encouraging. The port of Cotonou closed 2018 with a total tonnage of 10.3 million tonnes (of which about 88% was import). This represents an increase of 10% compared to 2017 (Adje & Metonwaho, 2021).

Due to its natural position with an opening to the Atlantic Ocean, Benin has the advantage of serving several neighboring countries through transit and trade activities to supply the hinterland countries with essential products. The potential of Benin's hinterland is significant: Niger, Mali, Burkina Faso and Tchad have privileged relations with Benin. The autonomous port of Cotonou also deserts Nigeria, Africa's largest country in terms of area and population. Indeed, these hinterland countries are large countries with a growing consumer population. In 2018, 49% of total traffic in the autonomous port of Cotonou was hinterland related (Adje & Metonwaho, 2021).

II-Beninese maritime situation overview:

1- Maritime risks and country challenges:

1.1: Climate change, fishing and tourism activities, marine renewable energies

1.1.1: Climate change

In terms of seasonality, it is worth noting the very pronounced delays in the effective start of the rainy seasons for more than two decades, the increasingly random nature of the seasonal distribution of rainfall in general, and the displacement of the usual rainfall maxima. Intra-annual analysis reveals, since the 1990s, the persistence of disturbances in rainfall patterns observed in the south in particular. Spatial and temporal variability of rainfall has become particularly pronounced in recent years, especially between 2006 and 2016 (Figure 1).

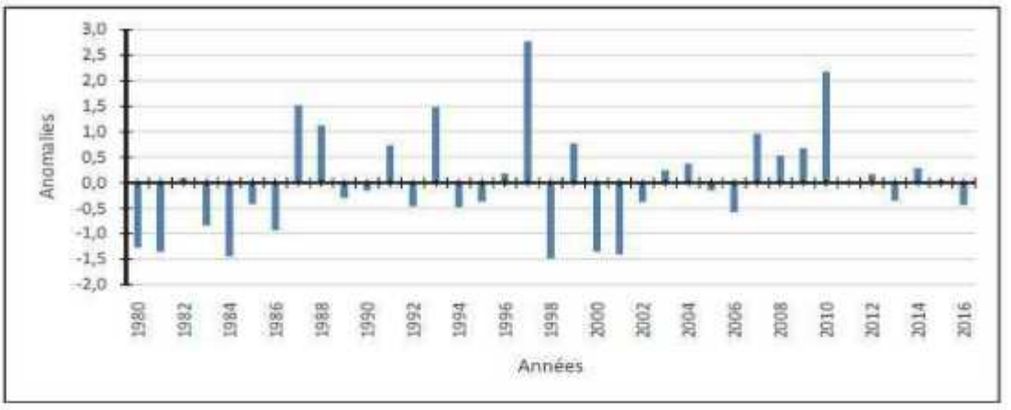


Figure 1: Interannual variability of rainfall in Cotonou. Period: 1980-2016
Source: METEO BENIN

With regard to temperature variability, departures from normal (1981-2010) annual mean temperatures vary overall between -0.7 and +0.7°C. Although these deviations were positive in places during the period 2000-2008 and generally positive during the period 2010-2016, they do not show the pattern of a clear warming trend (Figure 2).

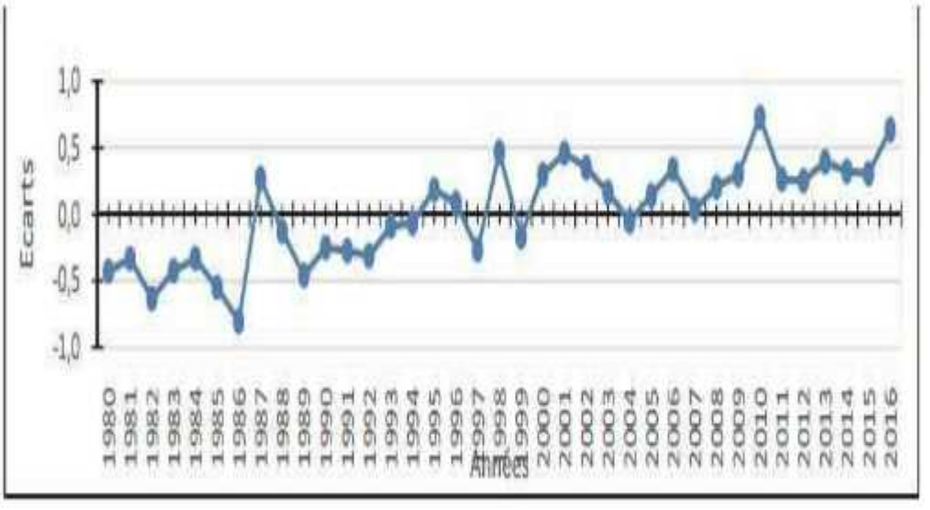


Figure 2: Interannual variability of the mean temperature in Cotonou. Period: 1980-2016
Source: BENIN METEO

Finally, the dominant weather and climate phenomena observed during the period 1980-2017 include heavy rainfall, long dry spells, excessive heat, strong winds, and lithometeors (haze or dust).

The coastal strip of Benin is subject to the process of global warming. The projections of climate parameters in the future are based on representative profiles of concentration evolution concentration evolution profiles (RCP 8.5: very high greenhouse gas emission scenarios; RCP 4.5: intermediate RCP 4.5: intermediate emission scenarios) of the IPCC 5th Assessment Report.

The results showed that in 2050 the average temperature will increase by 1.6°C (between July and November) and 2.4°C (in April) on the coast according to the concentration profile RCP 8.5.

The main climatic risks to which Benin's coastline is exposed are flooding, coastal erosion and sea level rise. These climatic hazards are ranked in order of their degree of severity

Table I : Climatic hazards and degree of severity in coastal of Benin

Factors	Characters
Coastal erosion	Severe
Flooding	Severe
Sea level rise	Average
Storms (squall lines)	Average

Source: (Ministry of Living Environment and Sustainable Development, 2020)

- **Flooding**

Flooding in the coastal communities is the second major risk that threatens many structures in Benin's coastal areas of structures on the Beninese coast. These floods are linked on the one hand to the hydrological dynamics, i.e., to the regime of the rivers in Lower Benin, and on the other hand to the insufficiency and inadequacy of the rainwater drainage network. The presence of a plateau and a plain in the Grand-Popo-Ouidah sector makes water retention difficult.

This situation makes this part of the country a vulnerable zone, especially given the presence of several rivers and bodies of water such as the Djessin and Donmè lagoons and Lake Toho in Ouidah and the Grand-Popo lagoon. The vulnerability of the Grand-Popo-Ouidah sector to flooding is significantly higher than the national average (Ministry of Living Environment and Sustainable Development, 2020). Photo 1 shows the flooding in Cotonou in 2010.

Photo 1: Flooding in Cotonou

As for the risk of marine flooding (washover) (photo 2), it has always been reported on the Benin coast, with minor damage; the periods of occurrence are generally in April-May and July-September, in accordance with the seasonality of the wind regime and swell conditions. However, the last decade has seen increasingly recurrent and widespread marine flooding throughout the coastal zone, with one or two extreme events per year. They lead to the overflow of sea water onto the beaches and cause significant damage.

Photo 2: Washover phenomena in Djondji

➢ ***Coastal erosion***

The Beninese coastline is a sandy area characterized by a chain of lagoons that make the coastal zone dynamic, with very complex natural characteristics. Along the West African coast, the sea transports huge quantities of sandy sediments from the rivers. Interruptions of sediment transport in the rivers or along the coast cause erosion problems. The main factors responsible for the hydrodynamic and morphosedimentary conditions in the area are:

- Natural phenomena:

o Coastal geomorphology (low slope and sandy substrate) as well as coastal hydrodynamics (West to East longshore drift);

o persistent regular waves from a great distance (swell) which generate a strong transport of sediment parallel to the coast towards the East;

o extreme weather events (e.g. storms);

o General sea level rise caused by global warming (indirectly natural factor acting on a global scale). –

- Anthropogenic phenomena:

o the cessation or reduction of fluvial sedimentary inputs by dams on rivers or excessive (illegal or insufficiently studied) extraction of sand; this results in beach erosion. This is the case in Benin near the Gbagan and Grand-Popo lagoons.

o the cessation of sediment transit by port and coastal protection structures causes a disruption of the morphodynamic process of the Beninese coastline, resulting in accretion of the coast to the west and erosion to the east of these structures. This is the case at the port of Cotonou where accretion is

observed between Togbin and Cotonou, and erosion at Akpakpa Dodomè towards Sèmè-Kpodji. The groins made to control erosion have a very limited impact. A new port at Sèmè-Kpodji is likely to cause erosion problems far away in Nigeria.

Coastal erosion does not manifest itself in the same way on the entire Beninese coast.

The most affected sectors are the segment of coastline located between Hillacondji and Grand-Popo (erosion rate: -15 m/year from 2012 to 2015 and -3 m/year from 2016 to 2019 (photo 3); the segment of coastline located east of the Sèyivè neighborhood in the commune of Sèmè-Kpodji (erosion speed -30m/year; photo 4).

The sectors in fattening are located to the west of the port up to Fidjrossè. The other sectors, which have benefited from protection works, are stabilized.

Photo 3: Disappearing fishing villages in Hillacondji


Photo 4: Cove formed by erosion downstream of the 2014 groin field

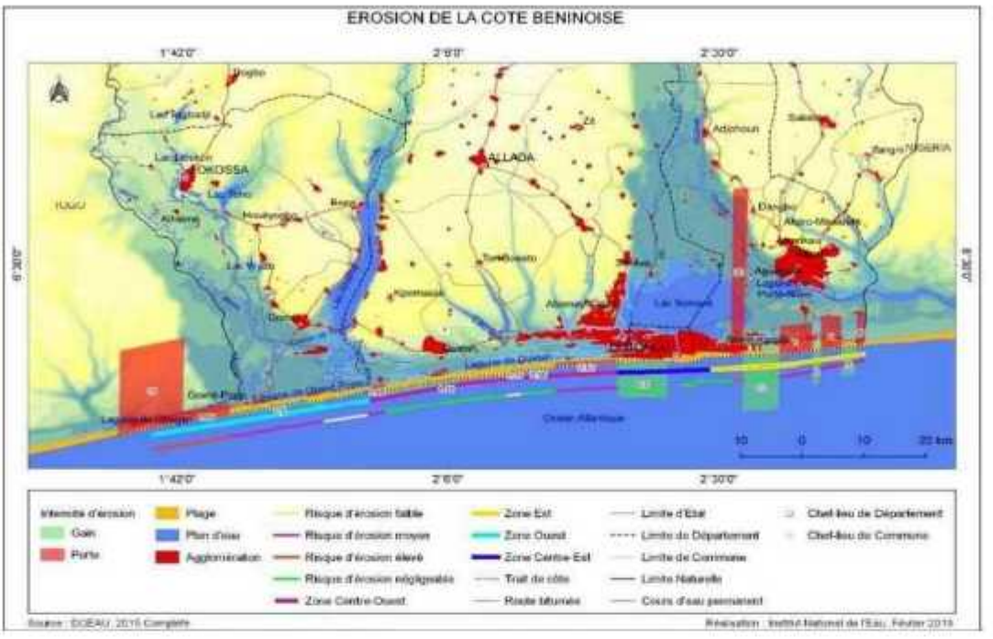


Figure 3 : Erosion hazard intensity per coastline segment and corresponding degrees of risk.
(Ministry of Living Environment and Sustainable Development, 2020)

- **Sea level rise**

Another risk to which the Beninese coastline is exposed is the sea level rise due to global warming. The projections of this rise in sea level rise made and recorded in the Second National Communication are not ery reassure

Figure 4: Projected sea level rise in the Benin coastline

Estimates give a rise in the order of 20 cm for 2030, 40 cm for 2070, and 60 to 70 cm by the end of the century. This will result in the submergence of certain large city districts such as Cotonou and Grand-Popo.

This sea level rise is manifested by flooding, washover phenomena and the coastal erosion.

The sea level rise by submersion and erosion of the coast will have a negative effect on human settlements. At the same time, the intrusion of marine water will water intrusion will increase the salinity level of agricultural lands, causing their degradation and will also contribute to the pollution of groundwater. In addition, the demographic weight and the development of economic activities in the coastal zone constitute a real pressure that is likely to persist or increase for a long time. In addition to the risks of sea level rise, flooding, the Beninese coastline is exposed to strong winds.

1.1.2: Fishing sector

Beninese fishing is practiced primarily by indigenous populations living on the water (at Ganvié on Lake Nokoué) and near water bodies, along the coast in the vicinity of water bodies and on the banks. It is the main economic activity of the coastal population and contributes greatly to the reduction of unemployment and the supply of fish products to the population, which are important sources of animal protein. Depending on whether it is practiced at sea or on the continent, there are two main types of fishing: inland fishing and maritime fishing.

- **Inland fishing**

Inland fishing remains a harvesting activity that is practiced mainly in the Ouémé delta-Porto-Novo-Lake Nokoué-Sò River complex and the Couffo-Ahémé Lake Couffo-Lake Ahémé and its channels-Coastal Lagoon.

Inland fishing is a very important activity for the riverside communities because of its employment-generating nature. The number of fishermen was 54,511 in 2012 for 53,342 pirogues, compared to 45,621 fishermen for 52,537 pirogues in 2008. Inland fishing remains the most accessible source of protein for the entire population. It provides around 45 000 tonnes of fish products. This fishery contributes nearly 75 per cent of national production, 90 per cent of which comes from lagoon fishing and 10 per cent from river fishing. In the south of the country, fishing takes place in the lower reaches of the main rivers and lagoon complexes, in ancient lakes and in small lakes (Ministry of Living Environment and Sustainable Development, 2020).

The fishing gears, techniques and methods used differ from one water body to another. However, gillnets are found on all water bodies with different mesh sizes. These fishing gears include nets such as cast or hawk nets, set nets, drag nets, fish or shrimp pots, hand lines and crab scales. Apart from the use of these gears, fishermen also practice different traditional forms of fishing. These include extensive fishing/fish farming (acadja or branch pens, whédo/ahlo or fish holes).

Given the socio-economic nature of the fisheries, fishermen are taking more and more fish despite the limited nature of the resource. This trend of over-investment and enrichment has contributed to the use of prohibited and devastating fishing gear and to an increase in fishing effort. The consequences of this situation are the destruction of the aquatic ecosystem, the decline in fishing potential and insignificant landings, which reflect the full exploitation of the water bodies of southern Benin and the need to put in place management plans that will enable the stocks to be reconstituted (Ministry of Living Environment and Sustainable Development, 2020).

The evolution of production over the last ten (10) years has seen a slight increase from 30,000 tonnes between 2010 and 2015 to 40,000 tonnes between 2016 and 2019 (Figure 2.3.). However, the fish caught are generally below their first sexual maturity size. More than 90% of the catches are immature fish that have not had the opportunity to reproduce at least once, with the result that recruitment and productivity of the water bodies are limited.

Overall, the current situation of inland fishing offers very limited prospects for development, in terms of diversity and quantity of catches. However, it is hoped that the measures to clean up Lake Ahémé, Lake Nokoué and their channels by removing acadja and prohibited gear carried out recently in 2019 by the Directorate of Fisheries Production constitute an important basic action for the development of the sector. The revival of inland fishing requires the removal of major constraints, particularly in the management of resources through the rehabilitation of water bodies and the strengthening of monitoring, control and surveillance of fisheries on a regular basis in the face of the pillaging of resources.

Figure 5 shows the situation of catches in inland, artisanal and industrial maritime fisheries from 2010 to 2019

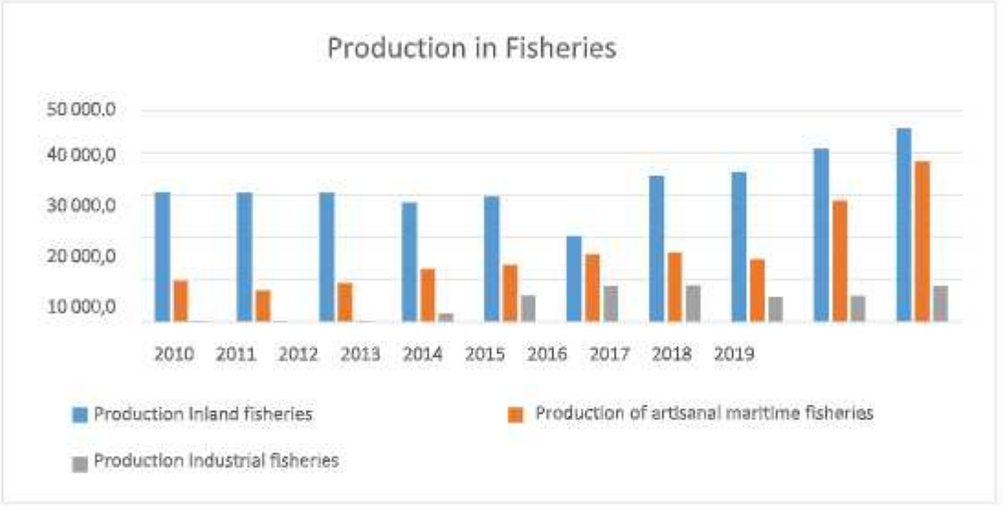


Figure 5: Production of inland, artisanal and industrial fisheries from 2010 to 2019 in South Benin

➢ **Maritime fishing**

Maritime fishing is composed of two types of fishing: artisanal fishing and industrial fishing.

✓ *Artisanal maritime fishing*

Artisanal marine fishing has a fleet of 728 highly motorized cover boats (motorization rate of about 76%) and 47 landing sites along the coast. It mobilizes 4,305 fishers for 40,531 households (Directorate of Fisheries Production, 2016) and represents the activity of Beninese coastal communities and non-native communities settled along the coast strip.

The 2014 maritime fisheries framework survey revealed that 81% of fishermen are Beninese, compared with 53% in 2009; there are also Ghanaians (12% in 2014, compared with 42% in 2009), Togolese and Nigerians (7% in 2014, compared with 5% in 2009). About ten types of gear are used in artisanal maritime fishing. These gears are mainly bottom-set gillnets, surface nets, seines and hook-and-line. Artisanal maritime fishing is carried out within 5 nautical miles according to the legislation in force (framework law N°2014-19 of 07 August 2014 on fishing and aquaculture in the Republic of Benin). Artisanal maritime production has increased significantly between 2010 and 2019. It increased from 10,000 tonnes between 2010 and 2017 to 35,000 tonnes from 2017 to 2019 (Ministry of Living Environment and Sustainable Development, 2020).

✓ *Industrial maritime fishing*

Industrial marine fishing is not very developed. It is normally carried out beyond the 5 nautical miles according to the legislation in force. This fleet is generally composed of about twenty vessels of between 16 and 70 m in overall length. These vessels are trawlers, shrimp boats, tuna boats (seiners and pole-and-line vessels). Of various nationalities (Chinese, Ghanaian and Nigerian), these vessels fly the flag of their countries and have a Beninese license according to the legislation in force. They fish in Beninese waters and in those of the countries of the sub-region.

The annual production of industrial fisheries, including tuna production, remained from 2010 to 2013, at about 8,000 tonnes per year. It has shown a slight increase between 2014 and 2019, reaching around 10,000 tons per year. It increased slightly between 2014 and 2019, to about 10,000 tonnes per year. This increase in maritime fisheries production could be explained by the increase in catches of large pelagics (jacks, tunas, mackerels, swordfish, sharks and others) on our coasts in recent years.

The majority of fish products are sold on the local market and distributed by a large network of resellers (fishmongers). Apart from the domestic consumer market (households, restaurants, hotels), there is a small export channel for fresh and smoked products to neighboring countries, notably Togo and Nigeria. In terms of social organization, the men are in charge of fishing, while the women look after the post-capture products (Ministry of Living Environment and Sustainable Development, 2020).

➢ **Aquaculture**

Aquaculture in South Benin is essentially limited to classical fish farming. It is practiced in a traditional way in the lagoons with the "acadjas" (photo 5) and in the flood plains with the "Whedos flood plains with the "Whedos" and "Ahlo" (photos 6) and constitutes a considerable resource in the "basket of the housewife".

Nowadays, fish farming activities in Benin are oriented towards the breeding of species belonging either to the family Clariidae, namely: Clarias gariepinus or African catfish Heterobranchus spp. or the family Cichlidae: Oreochromis niloticus commonly called tilapia.

Photo 5: Acadja installed in Lake Nokoué

Photo 6: Fish farming in ponds and floating cages in the Ouémé valley (Sèmè-Kpodji)

1.1.3: Tourism and hotel business

Tourism in Benin includes the activities of people traveling and staying in places outside their usual environment, for an uninterrupted period not exceeding one year, for leisure, business, or other reasons. It is one of the main resource mobilization sectors in the Beninese economy. Second only to cotton in terms of foreign exchange earnings, tourism is the sector of activities that contributes most to the integration of the national economy, since 71% of its intermediate consumption is of local origin. It constitutes an exploitable asset for strengthening Benin's achievements in terms of economic and social development in order to ensure growth, the fight against poverty and cultural influence (Ministry of Living Environment and Sustainable Development, 2020).

Tourism in Benin's coastal plain is growing steadily, with a potential that has yet to be potential that has yet to be fully exploited. The Beninese coastal zone is characterized by the presence of major tourist attractions. In this area, we distinguish four (4) sub-zones of tourist interest:

- Estuaries (lower Mono valley);
- Lakes (Lake Ahémé, Lake Nokoué)
- Deltas (lower Ouémé valley); and
- The coastal strips (sandy beaches, coastal lagoons).

The lake cities (photo 7), the Bouche du Roy (mouth of the Mono River), the Slave Route and private parks, etc. remain the main sights of the country.

The lake habitat concentrated on Lake Nokoué (Ganvié, So-Tchanhoué...) welcomed 15.424 visitors in 2014 against 12 837 in 2013 for a revenue of 0.0834 $ in 2014 and 0.0752 $ in 2013 (Ministry of Living Environment and Sustainable Development, 2020).

Photo 7: Lake habitats in Ganvié

The festival of endogenous religions is celebrated in Benin every 10 January and attracts many tourists. Similarly, at the suggestion of Haiti and Benin, UNESCO launched the "Slave Route" project in Ouidah, Benin, in 1994 to break the silence on a tragedy (the slave trade) that had been concealed for too long. Since then, the city of Ouidah, through the Djègbadji Embarcadère, where the "door of no return" (photo 8) was erected in 1992, has been able to commemorate the deported slaves. This place, located on the edge of the sea, has become the destination of the Afro-descendants of the ancestors carried off by slavery.

Photo 8: Door of no return in Ouidah

Other attractions in the coastal zone include the natural landscape formed by a long straight coastline with a string of lagoons behind (photo 9).

Photo 9: Landscape of the mouth of the Bouche du Roy at Grand Popo

The tourism sector in Benin is highly strategic in that it is cross-cutting, involving many other sectors such as handicrafts, agriculture, the environment, transport, telecommunications, IT services, construction, security services, etc. According to (Ministry of Living Environment and Sustainable Development, 2020), international tourism has resulted in the investment of about 163 783 499,72 $ in the Beninese economy.

It is therefore right that the current government intends to increase the contribution of tourism to Benin's GDP to 8% by relying on the development of the tangible and intangible heritage, but also underwater, mainly in the development of the cultural wealth of voodoo, of which Benin is the world showcase. An agency dedicated to tourism promotion is working towards this vision through the "Fishing Road" tourism development project. Since 2015, this project has entered its active phase and significant investments have been made since 2016 to qualitatively transform and make the coastal area more attractive to any visitor or walker. Work on the 42-kilometre-long road along the coast between Cotonou and Ouidah has facilitated the creation of tourist circuits along the coastal strip. The concretization of the "Fishing Road" project will enable the impacted Communes (Abomey-Calavi, Ouidah and Grand-Popo) to better organize themselves for the mobilization of resources for a real development of tourist activities in South Benin (Ministry of Living Environment and Sustainable Development, 2020).

Furthermore, if the "Fishing Road" project is realized, there may be a market for the transport of cruise passengers. The project foresees the creation of a tourist development zone, with the construction of hotels (6,000 rooms), residential complexes (7,000 dwellings, between villas and flats), leisure facilities, shops, transport, services, etc. In the long term, this seaside area should create around 23,000 direct jobs (230,000 indirect jobs) and welcome up to 95,000 visitors per day (Witteveen+ Boss, 2016).

In terms of hotel infrastructures, they line the entire coast and are more abundant between Grand-Popo and Cotonou. There are several types of hotel establishments (hotels ranging from 5 stars to 1 star,

motels, hostels, etc.). The geographical distribution of the hotels suggests a notable presence of these infrastructures in Cotonou (25%) followed by the Atlantic department (14%) (Ministry of Living Environment and Sustainable Development, 2020).

1.1.4 marine renewable energies

Benin has a strong potential in marine renewable energy and in marine mineral resources that is totally unexploited. Worse, there is little attention from the government for the exploration and development of this potential, particularly on the marine side. This is evidenced by the fact that this dimension is not taken into account in the two policy documents drawn up in this sub-sector (PONAME and PONADER). However, there are isolated initiatives such as the "Pre-feasibility study for the development of a wind farm in the Port of Cotonou" launched by the Autonomous Port of Cotonou and financed by the European Union, which is currently being carried out. This should allow, among other things, to determine the type of wind turbine to be used (height, diameter, ...) in the coastal zone of Benin, taking into account the wind regimes. All the potential is still unexplored and untapped (Benin National Blue Economy Strategy, 2022).

1.2 Maritime transport and majors' challenges:

1.2.1 Maritime safety and security

The development in 2013 of the National Strategy for Maritime Protection, Security and Safety (SNPSSM) took place in a context marked by the rise in maritime insecurity in Benin's territorial waters. Today, there has been a slight decline in acts of maritime piracy compared to 2010, 2011 and 2012. This decline in piracy is the result of :

- Strengthening south-south cooperation with Nigeria through "Operation Prosperity";

- French project "Priority Security Fund to support the reform of the maritime security system" (ASECMAR) launched in November 2011 in Cotonou, which aims to strengthen maritime security in the Gulf of Guinea and covers, in addition to Benin, Ghana, Togo, Côte d'Ivoire, Guinea and Nigeria;

- Critical Maritime Routes of Gulf of Guinea (CRIMGO) project of the European Union for the period 2013-2016, which also includes Togo, Nigeria, Ghana, Gabon and São Tomé and Príncipe and which provides Benin with a platform for sharing information on maritime security, and contributes to the capacity building of its maritime actors;

- The GoGIN project which took over from the CRIMGO project for the period between October 2016 and November 2021. It aims to secure the maritime space and covers the 19 coastal countries from Senegal to Angola. The project works closely with the three regional organisations (ECCAS, ECOWAS, CGG), the three transnational centres (CRESMAO, CRESMAC and CIC), the five multinational coordination centres and the national centres, constituting the Yaoundé architecture;

- The new authorities' determination since 2016 to combat this maritime threat has resulted, among other things, in the Government's 2020 decree requiring commercial vessels entering Benin's territorial sea to have an armed protection team on board or, failing that, to be protected by the Beninese Navy as soon as they enter the country's territorial waters. The main concern of the Beninese authorities, in putting in place security and safety measures, is to maintain the upward trend in maritime traffic in the port of Cotonou, which is described as the "lung" of the national economy.

Despite these responses, piracy in Beninese waters persists and the risks are increasing (Benin National Blue Economy Strategy, 2022).

1.2.2 Marine and Coastal Pollutions

The marine environment is currently under increasing anthropogenic pressure due to the intensification of urban, industrial and port development in the coastal zone. Thus, the main sources of marine pollution in Benin are: (i) the discharge of domestic and industrial wastewater from coastal towns, (ii) the discharge of continental water at the mouths, particularly in the Ouémé basin (nearly 50,000 km2) and the Mono basin (nearly 22,000 km2), and finally (iii) pollution from maritime activities.

- *Marine pollution*

Marine pollution, which is seen here as an unfavourable modification of the natural environment, appears as a consequence of human activities through direct and indirect effects.

As direct effects of man on the Beninese marine environment, we can mention:

- hydrocarbon pollution of the marine environment in the Commune of Sèmè-Kpodji. Indeed, Benin's offshore oil platforms were exploited between 1982 and 1998. They are now abandoned and their condition is in constant deterioration. Oil leaks are visible and these installations are dangerous for maritime navigation. Several studies and audits have been carried out since the site was closed and it appears that the environmental risks are real. On the site there are 5 abandoned platforms (2 monopods, 2 tripods and 1 quadripod) and ten (10) uncapped oil wells.

Photo 10 shows the five abandoned oil platforms off Sèmè-Kpodji.

Photo 10 : Five (5) abandoned oil platforms at sea (off Sèmè-Kpodji)

The capping of these ten wells and the decommissioning of these derelict platforms will reduce the risks associated with these installations and promote the sustainable development of the marine environment and its ecosystem.

- The degassing of ships at sea aggravates the degradation of marine waters without the seriousness of these impacts being really defined, for lack of appropriate studies. The ballast water from ships plying the Beninese coast is largely responsible for the presence of tar balls and marine debris on the beaches, making them unsuitable for tourist and leisure activities (Ministry of Living Environment and Sustainable Development, 2020).
- Another oil contamination that is no less negligible is the accidental spillage of petrol into the marine and lagoon environment during the illicit petrol traffic between Benin and Nigeria. Indeed, during the crossing of the artisanal pirogues used for this traffic, barrels of hydrocarbons (petrol, oil, gas oil) arrive empty at their destination (photo 11).

Photo 11: Oil traffic at sea and on Lake Nokoué.

Another direct pollution is the accidental spillage of handling products and goods in the port of Cotonou.

Furthermore, the marine environment at the Togo-Benin border is subject to pollution caused by the operation of the Kpémè phosphate factory in Togo. This is transboundary pollution, visible in the colour of the sea. Through the effect of marine currents, the mixtures of waste discharged by the plant are drained into the marine waters of Benin. This pollution is felt along the Beninese coast and even beyond. The marine pollution resulting from the location of the Kpémè plant in Togo (photo 12) disturbs the Beninese marine environment and its ecosystem (Ministry of Living Environment and Sustainable Development, 2020).

Photo 12: Discharge of phosphate treatment sludge from the Kpémè plant in Togo into the sea

The modification of the physico-chemical constitution of the marine environment, as a consequence of the above-mentioned human actions, can negatively affect the marine ecosystem and man directly or indirectly through biological resources such as fishery products and/or seaweed strandings.

In relation to the pollution of the coast by seaweed, strandings of seaweed have been observed for some years. According to the Institut des Recherches Halieutiques et Océanologiques du Benin, these algae occur on the Beninese coast from April onwards each year. They are of Sargassum species, originating from the Sargasso Sea. Like Benin, these algae are found all along the West African coast (photo 13).

Photo 13: Stranding of seaweed (sargassum) on the coast of Benin

2. Maritime sector organizational scheme

In Benin, several ministerial departments and government structures are involved in the management of the maritime sector. This section will present the most important.

2.1: The Ministry of Infrastructures and Transports

The Ministry of Infrastructure and Transport is in charge of designing, supporting the implementation, monitoring and evaluating the general policy of the State in the field of land, sea, river and air transport as well as public works and other infrastructures, in accordance with international conventions, laws and regulations in force in Benin.

In addition to the central directorates, the General Directorate of Transport Infrastructure, the Directorate of Land Transport and the departmental directorates of Infrastructure and Transport, the Ministry of Infrastructure and Transport has under its supervision the Directorate of Port, Maritime and River-Lagoon Affairs and the Autonomous Port of Cotonou.

2.1.1 The Directorate of Merchant Marine

Created by decree No. 172/PR/MTPTPT of 18 June 1968, the Directorate of Merchant Marine has always been a technical body of different ministries in charge of maritime transports, sometimes sharing its attributions with other technical entities. Today, the Directorate of Merchant Marine is renamed the Directorate of Port, Maritime and River-Lagoon Affairs (DAPMF) and is a technical entity of the Ministry of Infrastructures and Transports in accordance with Decree No. 2021-575 of 3 November 2021 on the attributions, organization and functioning of the Ministry of Infrastructure and Transport.

The Directorate of Port, Maritime and River-Lagoon Affairs is in charge of the implementation of the maritime and fluvio-Laguna policy in the Republic of Benin, the implementation of the national port policy as the national maritime and port authority, the implementation of the policy of promotion and protection of the interests of importers and exporters of Benin. In this respect, it is in charge, among other things, of:

- in terms of the management of port, maritime and river-lagoon affairs:

- ensuring compliance with the provisions of the maritime code in force in the Republic of Benin and its application texts;
- ensure compliance with the legislative and regulatory texts relating to the status and regime of public maritime and river-lagoon domains;
- ensuring the organization of maritime search and rescue;
- participate in the maritime fisheries police in liaison with the competent national structures and bodies;
- ensuring that maritime maps are drawn up and updated.

❖ in terms of its mission as a national port authority:

- contributing to the elaboration of the national port policy;
- coordinating the activities of the different ports of Benin;
- to ensure the application and respect of the legislative and regulatory texts relating to the planning, exploitation and development of ports;
- to propose to the competent authorities the development strategies of maritime ports, river ports, lagoon ports, advanced ports and dry ports.

❖ in terms of protecting the interests of Benin's importers and exporters:

- conducting consultations and negotiations with shipping lines, shipowners and maritime conferences for the determination of freight rates and monitoring their application;
- liaise with shippers' councils or similar bodies with a view to improving Benin's maritime services;
- work, together with the concerned bodies, for the harmonization and simplification of administrative and legal formalities in the field of maritime transport.

The Directorate of Port, Maritime and River-Lagoon Affairs ensures the representation of the Republic of Benin in the international bodies in charge of issues in its field of competence.

The Directorate of Maritime, Port and River-Lagoon Affairs is headed by a Director appointed by decree of the Council of Ministers on the proposal of the Minister of Infrastructure and Transport.

He may be assisted by a Deputy Director appointed by Order of the Minister of Infrastructure and Transport.

The Directorate of Port, Maritime and River-Lagoon Affairs comprises:

- the Secretariat;

- the Department of Regulations, Documentation and Cooperation

- the Department of Operations and Navigating Personnel

- the Department of the Protection of the Marine and River-Lagoon Environment;

- the Department of Ship, Maritime and River-Lagoon Navigation Safety;

- the Department of Ship and Port Facility Security.

2.1.1.1 The Secretariat

The Secretariat is responsible for:

- receiving, recording, preparing and sending mail

- distributing and forwarding mail to the various departments of the Directorate

- filing of mail

- the reproduction of documents;

- all other tasks entrusted to it by the Director of Port, Maritime and River-Lagoon Affairs.

The Secretariat comprises:

- the Incoming Mail Division;

- the Outgoing Mail Division.

The Secretariat is headed by a Head of Secretariat who has the rank of Head of Division.

2.1.1.2 The Department of Regulation, Documentation and Cooperation.

The Department of Regulation, Documentation and Cooperation is responsible for:

- elaborating and ensuring the application of quality and performance standards of legislative and regulatory texts governing the maritime, port and fluvio-lagoon domains;

- ensuring the application of national regulations, conventions and international agreements governing the maritime, port and fluvio-lagoon fields

- drawing up regulations on the prevention of pollution of the sea by ships;

- drafting regulations on the safety of ships and maritime navigation and the transport of dangerous goods by sea

- drafting regulations on the "beninisation" and registration of ships and other floating devices;

- drawing up regulations on the management of seafarers;

- studying the files on the "blessing" and registration of ships and other floating devices

- keeping the register of maritime mortgages;

- collecting, classifying and disseminating documentation relating to maritime activities and the marine environment

- managing the Directorate's documentary production;

- participate in the management of the public maritime domain;

- participating in the regulation of fisheries in Beninese maritime waters in relation with the technical services of the Ministry in charge of fisheries;

- studying cooperation files for maritime transport agreements with interested countries and regional and international organizations;

- Ensure the management of cooperation with regional and international institutions in the port maritime and river-lagoon fields.

The Department of Regulation, Documentation and Cooperation comprises:

- the Regulation Division;

- the Documentation and Cooperation Division.

2.1.1.3 The Department of Operations and Navigating Personnel

The Department of Operations and Navigating Personnel is responsible for:

- proposing innovative, ambitious and integrated reform strategies for the development of the maritime economy sector;

- monitoring the activities of public and semi-public companies and other organizations in the maritime, port and river-lagoon sub-sectors as well as evaluating their performance;

- ensuring the facilitation of international maritime and river-lagoon traffic;

- to control the implementation of the naval equipment policy and the use of the national merchant fleet;

- controlling the execution of all concessions granted for the exercise of port, maritime and river-lagoon activities;

- monitoring the execution of the specifications relating to the exploitation of maritime traffic rights in Benin's territorial waters;

- ensuring the application of the labour regime in the employment contracts of seamen on board ships

- managing maritime labour disputes;

- monitoring the activities of seafarers' placement structures;

- applying the merchant navy's disciplinary regime and keeping the disciplinary book;

- checking the physical fitness of seafarers for maritime navigation in agreement with the doctors approved for seafarers;

- promoting the training and integration of seafarers and tradesmen in the sector;

- drawing up maritime professional records;

- issuing maritime professional titles and studying the equivalence of foreign professional titles;

- ensuring relations with seafarers' organizations and welfare councils;

- monitoring the careers of Beninese seafaring personnel;

- applying national regulations, conventions and international agreements governing seafarers;

- monitoring compliance with regulations relating to hygiene and habitability on board ships and the prevention of maritime and river-lagoon accidents;

- ensuring the compilation of statistics on maritime and river-lagoon transport professionals;

- ensuring compliance with the specifications relating to concessions granted by the State to third parties in the field of maritime and river-lagoon transport;

- assisting local authorities in the design, organization and management of river-lagoon transport services

- studying applications for approval to carry out river-lagoon transport activities

- monitoring the pricing of river-lagoon transport services;

- to participate in the elaboration and application of the national regulations relating to the delimitation and exploitation of the public maritime and fluvio-laguna domains;

- to follow the files of the Regional and International Institutions in charge of maritime transport and related activities.

The Department of Operations and Navigating Personnel comprises:

- the Maritime and Port Operations Division;

- the Navigating Personnel Division.

2.1.1.4 The Department of the Protection of the Marine and River-Lagoon Environment

The Department of the Protection of the Marine and River-Lagoon Environment is responsible for:

- drawing up, steering and monitoring the implementation and follow-up of the policy for the prevention and management of pollution in the marine and fluvial-lagoon environment and for the development of the coastline and the public maritime domain

- monitoring compliance with regulations on the protection of the marine and fluvial-lagoon environment;

- monitoring compliance with regulations on the reception of waste from ships;

- Participating in the implementation of the conditions of occupation and establishment of activities on the sea shore;

- participate in the elaboration and application of national regulations relating to the delimitation and exploitation of the coastline;

- coordinating actions to prevent and combat marine and fluvio-lagoon pollution and related cooperation;

- monitoring the implementation of programmes and actions for the development and enhancement of coastal areas;

- drawing up and implementing, with the other national services concerned, the national plan to combat accidental marine pollution

- ensuring the application of international conventions and agreements on the protection of the marine environment;

- Participate in the creation and development of marine and coastal environmental vulnerability maps for Benin;

- collect, classify and disseminate documentation relating to the protection of the marine environment;

- participate in the hygiene and sanitation of coastal and river-lagoon areas.

The Department of the Protection of the Marine and River-Lagoon Environment comprises:

- the Pollution Control Division;

- the Pollution Prevention Division.

2.1.1.5 The Department of Ship, Maritime and River-Lagoon Navigation Safety

The Department of Ship, Maritime and River-Lagoon Navigation Safety is responsible for

- drawing up, steering and monitoring the implementation and follow-up of national policy in the fields of maritime transport, maritime and river-lagoon safety

- participate in the elaboration and implementation of the security policy in the maritime spaces under the jurisdiction or control of the Beninese State;

- applying and monitoring standards relating to the security of ships and port facilities

- monitoring and controlling standards relating to the transport of dangerous goods by sea;

- bless and register ships and other floating devices;

- carrying out safety inspections of ships and barges and issuing the relevant maritime and river-lagoon navigation permits;

- to provide the secretariat of the safety commission;

- monitoring the proper functioning of the navigational aids system;

- to provide the secretariat of the Nautical Commission;

- controlling and monitoring the application of maritime and fluvial-lagoon signaling rules;

- monitoring the implementation of international and regional conventions and agreements relating to maritime and port facility security;

- monitoring the documents issued by the recognized classification societies

- to carry out investigations into marine incidents and inland waterways;

- monitoring compliance with the regulations on the safety of activities within the port area, particularly the handling, transport and storage of dangerous goods;

- monitoring the organization of maritime and river-lagoon search and rescue;

- managing maritime wrecks;

- participate in the maritime fisheries police;

- organizing the maritime and river-lagoon navigation police;

- organizing, monitoring and controlling transport on inland waterways.

The Department of Ship, Maritime and River-Lagoon Navigation Safety comprises:

- the Ship and Maritime Navigation Safety Division;

- the River-Lagoon Navigation Safety Division.

2.1.1.6 The Department of Ship and Port Facility Security.

The Department of Ship and Port Facility Security is responsible for:

- participating in the development and implementation of the security policy in Beninese ports

- applying and controlling the regulations relating to the security of ships and port facilities

- carry out security visits, inspections, tests and security audits of ships and port facilities;

- ensure the secretariat of the National Commission for Maritime and Port Security;

- enforcing laws, regulations, policies and procedures relating to port and ship security;

- Monitoring the implementation and adequacy of port and ship security;

- ensuring the conduct of security assessments;

- ensuring the assessment, development and approval of security plans;

- monitoring, supervising law enforcement agencies and port and ship security service providers;

- monitoring, supervising the activities of Recognized Security Organizations involved in security;

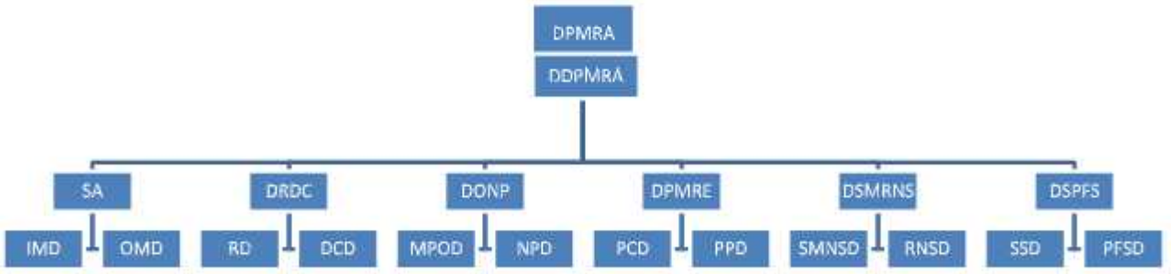
- monitoring the implementation of international and regional conventions and agreements related to port security.

The Department of Ship and Port Facility Security comprises:

- the Ship Security Division;

- the Port Facility Security Division.

ORGANISATION CHART OF THE DIRECTORATE OF PORT, MARITIME AND RIVER-LAGOON AFFAIRS



DPMRA : Director of Port, Maritime and River-Lagoon Affairs
DDPMRA : Deputy Director of Port, Maritime and River-Lagoon Affairs
SA : Secretariat
IMD : Incoming Mail Division
NPD : Navigating Personnel Division
DPMRE : Department of the Protection of the Marine and River-Lagoon Environment
PCD : Pollution Control Division
PPD : Pollution Prevention Division

OMD : Outgoing Mail Division
DRDC : Department of Regulation, Documentation and Cooperation
RD : Regulation Division
DCD : Documentation and Cooperation Division
DONP : Department of Operations and Navigating Personnel
MPOD : Maritime and Port Operations Division
DSMRNS : Department of Ship, Maritime and River-Lagoon Navigation Safety
SMNSD : Ship and Maritime Navigation Safety Division
RNSD : River-Lagoon Navigation Safety Division
DSPFS : Department of Ship and Port Facility Security
SSD : Ship Security Division
PFSD : Port Facility Security Division

2.1.2 The Autonomous Port of Cotonou

Before the Autonomous Port of Cotonou and until the end of the XIXth century, maritime trade to the country was done in two (02) points of the coastline: Grand-Popo and Ouidah.

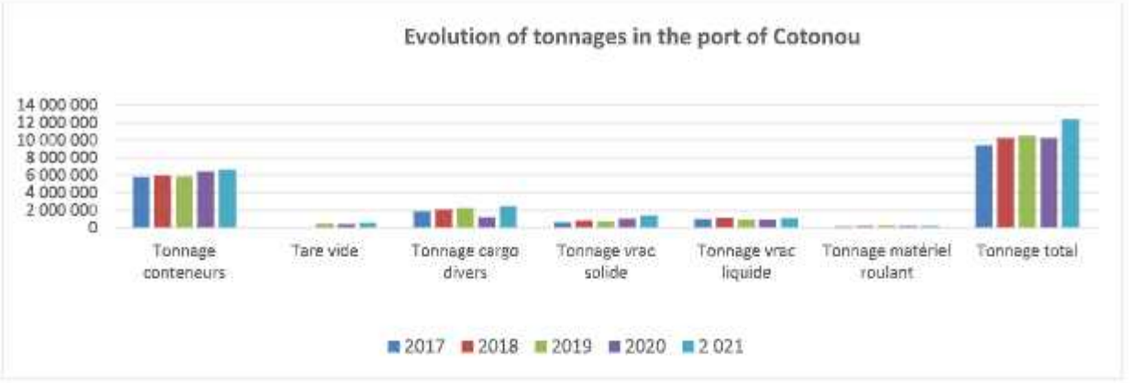
The disembarkation and embarkation of goods and people were done by transshipment on open baots that provided the link between the ships anchored in the roadsteads and the bend.

Since its creation on December 31, 1964 by the law n°64-39 modified by the order N°76-55 of October 12, 1976, the Autonomous Port of Cotonou (PAC) as a public body of an industrial and commercial nature with civil status and financial autonomy has taken over the organization of port activities. Over the years, the PAC has reputation as the "lungs of the national economy". Indeed, as a creator of direct and full-time jobs, the PAC plays a role of economic transversality and catalyst of development. It participates in 90% of foreign trade and generates up to 60% of Gross Domestic Product (GDP). The Autonomous Port of Cotonou contributes between 80 and 85% of customs revenues and 45 to 50% of and 45 to 50% of tax revenues (Ministry of Living Environment and Sustainable Development, 2020).

The Autonomous port of Cotonou thus maintains the economic and social environments of Benin, accompanies and contributes to the dynamics of agricultural, commercial, industrial and financial growth in the entire economic sphere. Because of its coastal position, Benin has the advantage of serving as a transit country for the supply of essential products to hinterland countries essential products. The Port of Cotonou is therefore a natural outlet for countries without a seaboard but also to Nigeria (Adje & Metonwaho, 2021).

Faced with the loss of market share compared to the ports of Lomé (Togo), Tema (Ghana) and Abidjan (Côte d'Ivoire) in recent years, the government of Benin has been carrying out major reforms since January 2018 aimed at improving the competitiveness of the port of Cotonou, by delegating its management to the Port of Antwerp International, with the effect, among other things, of gradually improving its performance. This is evidenced by the evolution of tonnages at the Port of Cotonou, which have increased from 9,439,933 T in 2017 to 12,379,044 T in 2021, i.e. an increase of 24% in 4 years (Benin National Blue Economy Strategy, 2022).

Figure 6: Evolution of tonnages in the Port of Cotonou 2010-2021.



Source: Autonomous Port of Cotonou, 2022

Although Africa still has a relatively small impact on international trade (3% of world volumes), maritime transport in Africa is following the growing trend recorded at world level. Thus, container traffic in African ports has increased at an annual rate of 8% over the last 5 years, compared to 5% worldwide. According to data from the Autonomous Port of Cotonou, this traffic would have increased in the Port of Cotonou from 575,973 TEU in 2017 to 668,664 in 2021 as shown in the table below (Benin National Blue Economy Strategy, 2022).

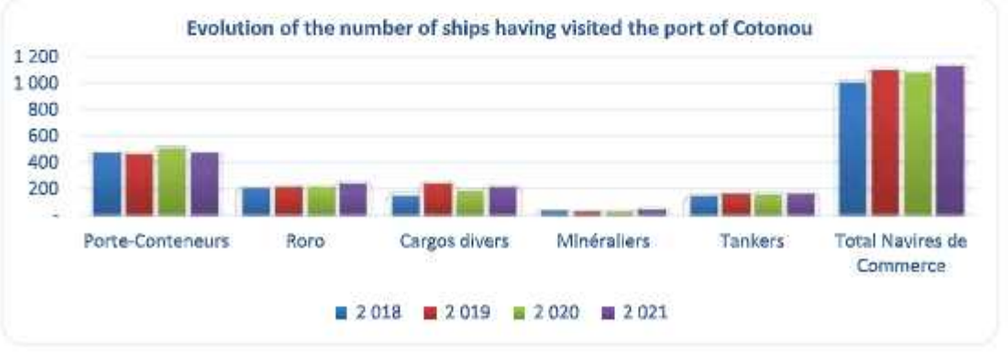
Table II: Evolution of traffic in the Port of Cotonou (2017-2021)

	2017	2018	2019	2020	2021
Tonnage containers	5 806 544	5 965 937	5 864 702	6 430 962	6 638 935
TEU containers	-	575 973	561 193	587 507	668 664

Source : Autonomous Port of Cotonou, 2021

Moreover, the expected increase in port traffic will only be possible thanks to the modernization of the ports, which will then be able to gradually accommodate the latest generation of large ships. Benin, thanks to the management delegation contract with the Port of Antwerp International (PAI), is already part of this dynamic with a test operation to receive 300-metre ships and increasing traffic in the port of Cotonou (Benin National Blue Economy Strategy, 2022).

Figure 7: Evolution of the number of ships having visited the Port of Cotonou 2018-2021



Source: Autonomous Port of Cotonou, 2021

In this context, the modernization of the Port of Cotonou has been planned through the adoption of a master plan which provides for the construction of major infrastructures to improve its capacity. This will result in a capacity to handle twice the current volume of goods, i.e. eventually about 20 million tonnes compared to 10 million in recent years. and an increased performance resulting from the widening of the entrance to the port basin, which will eventually allow 360-metre vessels to be received.

Twelve (12) major projects have been planned for the modernization of the port of Cotonou. This includes the following: the construction of a new 20-hectare terminal with 2 berths, dedicated to bulk and various large-volume cargoes, the creation of a 550m turning circle and the widening of the channel from 200m to 250m, the enlargement of the port basin, the renewal of the quays with the possibility of accommodating large-capacity vessels and more volumes, the construction of an 11-hectare car park for centralized, automated and digitalized access to the port, the construction of the logistics zone, the construction of the second hydrocarbon station, The development of the nautical service zone, the logistic platform of the great Nokoué, the construction of the new fishing port, the construction of the maritime affairs centre etc....

Construction of the Terminal 5

Photo 14: Terminal 5

The construction of the logistics zone

Photo 15: Logistics zone

The construction of a 40-hectare logistics zone on the port platform, with warehouses meeting international standards, will make it possible to create a value-added zone for specific products in transit to the sub-region.

Construction of the second hydrocarbon station

Photo 16: Second hydrocarbon station

Construction of a new wharf for hydrocarbon products as well as the increase of +/- 4ha in the port for the development of the reception capacities.

Construction of the nautical service zone

Photo 17: Nautical service zone

The development of a nautical service area for the naval forces, the lookout, the tugs and the shipyard will provide a common service area for naval activities.

Logistic platform of the great Nokoué

Photo 18: Great Nokoué Logistic Platform

Construction of five (05) warehouses of 24000m², including four (04) mixed warehouses and bulk and one (01) dedicated bulk warehouse

Construction of the new fishing port

Photo 19: New fishing port

Construction of a new fishing port on an area of approximately 8 ha in Xwlacodji and dedicated to artisanal and semi-industrial fishing activities. This project aims at the revalorization of the district of Xwlacodji and the development of a zone of marketing and transformation of the fishing products

Construction of the maritime affairs centre

Photo 20: Maritime affairs centre

Construction of a new building for the General Management of the Port Authority of Cotonou. This project aims to provide more space to improve the fluidity of port operations, to bring together all the key actors of the port platform and to create a more efficient working environment for all actors

Relocation of the resellers of the Boulevard de la Marina

Photo 21: Relocation place of the resellers of the Boulevard de la Marina

Social project for the construction of a building dedicated to sales and catering, including two halls with 250 seats, 36 stores, 24 sales kiosks, a secondary hall with 12 seats for small vendors and retail spaces. This project aims to improve traffic flow and sanitation.

Construction of the Zongo reception hangar

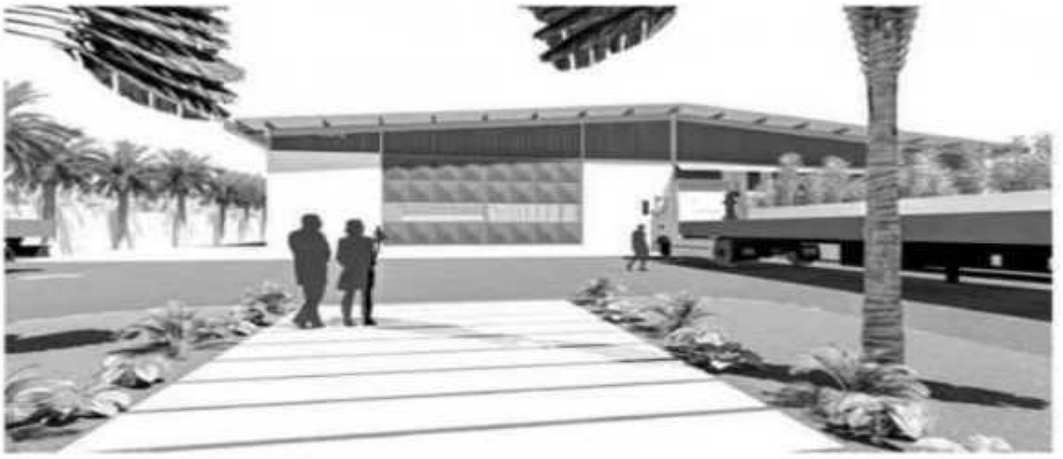


Photo 22: Zongo reception hangar

Construction of a reception building for Zongo parking lot drivers, including a storage area, a waiting area, a food court, offices and sanitary facilities.

Renovation of the Port of Cotonou's fence

Photo 23: Renoved port of Cotonou's fence

Construction of a fence 1.62km long and more than 5m high decorated with frescoes or graffiti relating the history, present and future of Benin.

Construction of a fence 410 m long and more than 5 m high. It will extend from the General Management to the Artisanal Fishing Port of Cotonou.

- **Dry port of Allada**

The dry port of Allada is a platform created to receive goods in transit to the countries of the hinterland. The aim is to decongest the Autonomous Port of Cotonou, which receives a large number of goods every day.

Located in Allada (60 kilometres from Cotonou), the dry port offers import and export customers a strategic hub covering an area of 15 hectares with prospects for expansion to another 35 hectares. This fully paved area, with regulated access and 24/7 video surveillance, guarantees maximum security for the users and their goods.

On the import side, the dry port offers handling and storage services. It has an unloading area for containers for local consumption or for hinterland countries such as Niger, Mali, Burkina Faso and Chad.

For exports, the dry port offers containerized stuffing services for various products (bales of cotton and derived products, wood, cashew nuts, shea nuts) as well as fumigation and certified weighing services on weighbridges.

Photo 24: Dry port of Allada

2.2 Other state institutions involved in the maritime sector

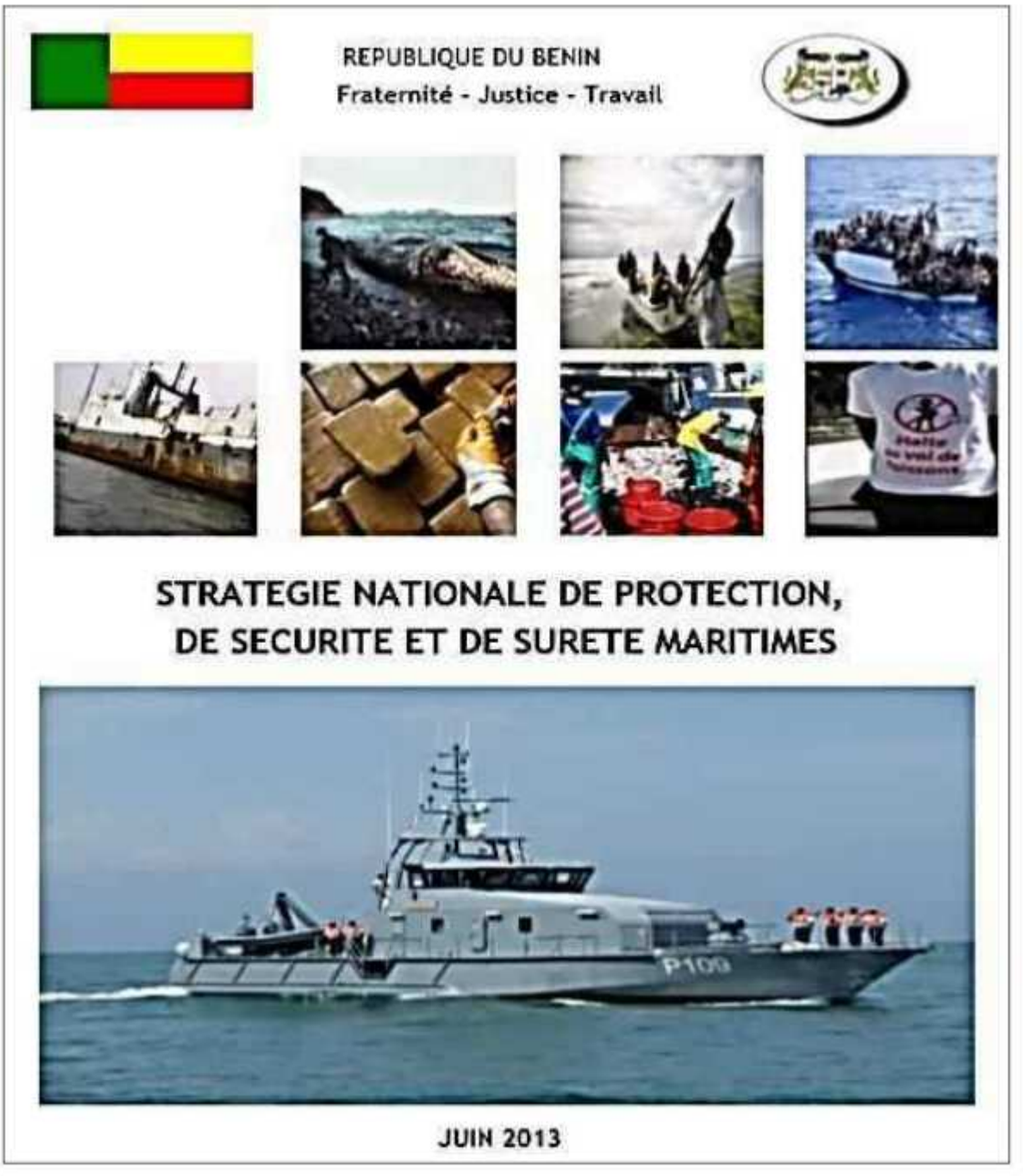
In addition to the Ministry of Infrastructure and Transport and its branches presented above, other state institutions and their branches are also involved in the maritime sector. The table III below presents the State institutions and their branches involved in the maritime sector.

Table III: Institutions involved in the maritime sector

INSTITUTIONS	BRANCHES
STATE INSTITUTIONS	
Ministry of the Living Environment and Sustainable Development	- Directorate General of Environment and Climate - Directorate General of Water, Forests and Hunting - Delegation of Land Management - National Environment and Climate Fund - Beninese Agency for the Environment - Agency for the Integrated Development of the Economic Zone of Lake Ahémé and its Channels
Ministry of Water and Mines	- Directorate General of Hydrocarbons and Other Fossil Fuels - Directorate General of Mines - Directorate General of Water - Beninese Office of Geological and Mining Research
Ministry of the Interior and Public Security	- National Civil Protection Agency - River and Maritime Police - National Fire Brigade Group - Beninese Agency for Integrated Management of Border Areas
Ministry of Higher Education and Scientific Research	- National Water Institute - UNESCO Chair - Benin Institute for Fisheries and Ocean Research
Ministry of Agriculture, Livestock and Fisheries	- Directorate of Fisheries Production - Central Laboratory for Food Control and Sanitary Surveillance
Ministry of Tourism, Culture and Arts	- Directorate of Cultural Heritage - Directorate of Tourist Development
Ministry of National Defense	Navy
Presidency of the Republic	- National Authority in charge of the State Action at Sea (Maritime Prefect) - National Agency for the Promotion and Development of Tourism

Source: (Ministry of Living Environment and Sustainable Development, 2020)

2.3 The Sate Action at Sea organizational scheme

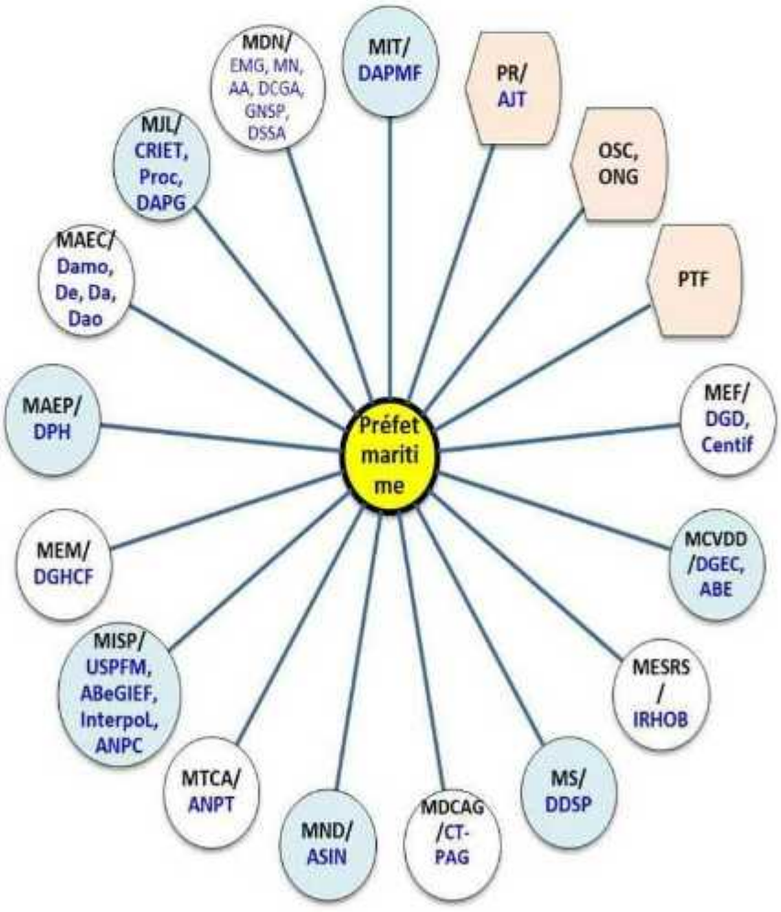


NATIONAL STRATEGY FOR MARITIME PROTECTION, SECURITY AND SAFETY STRATEGY

By decree No. 2013-551 of 30 December 2013, Benin adopted a **National Strategy for Maritime Protection, Security and Safety (SNPSSM).** Indeed, the adoption of this strategy stems from the fact that Benin was prey to the rise of maritime insecurity in the Gulf of Guinea and particularly in its territorial sea.

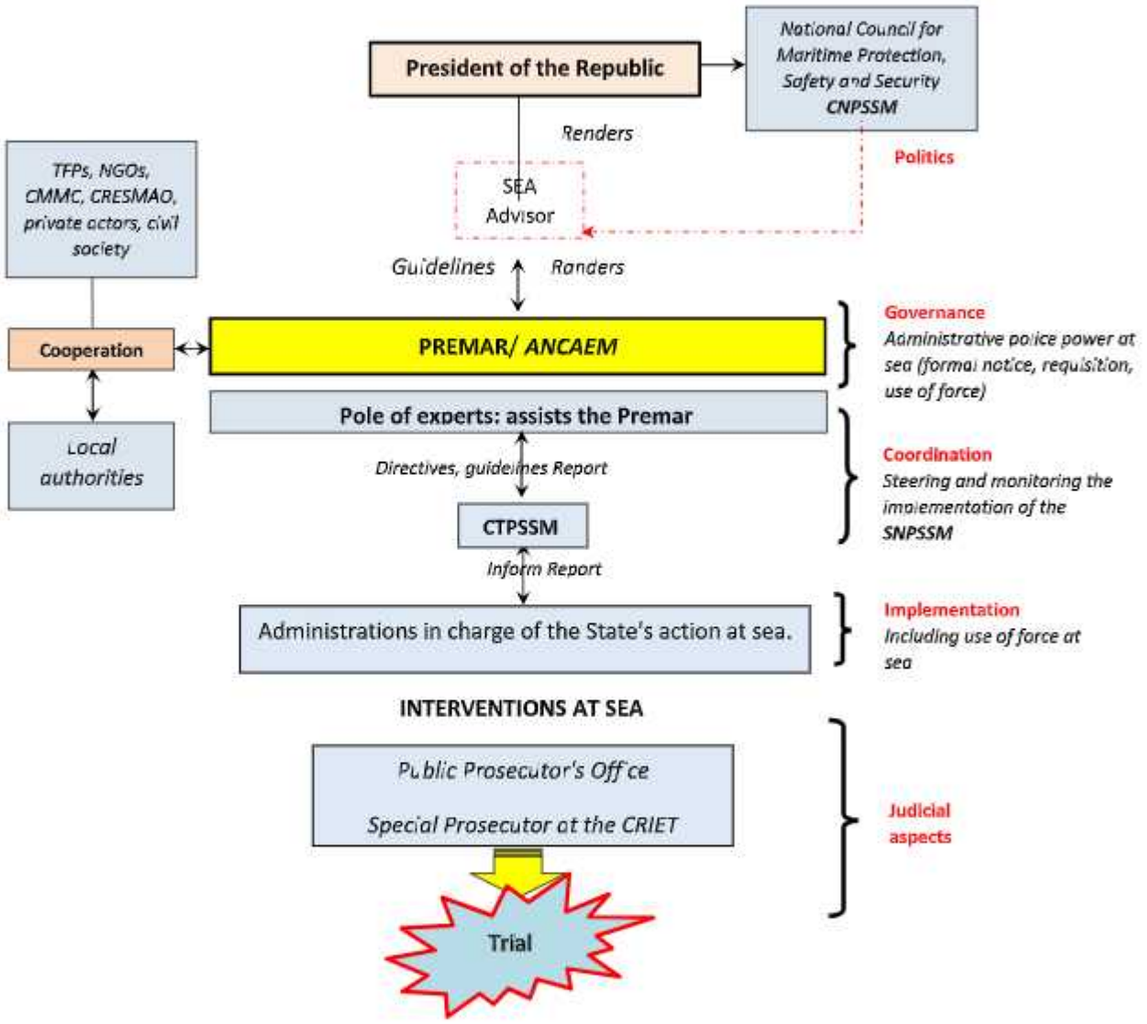
In addition, this strategy provided for the establishment of a **National Authority in charge of State Action at Sea (ANCAEM).** Thus, by Decree N°2014-785 of 31 December 2014, this Authority was established and represented by the **Maritime Prefect (PREMAR)** who is responsible for coordinating the actions of all administrations and structures intervening at sea in the event of crises.

Attached to the Presidency, this authority has management and financial autonomy.



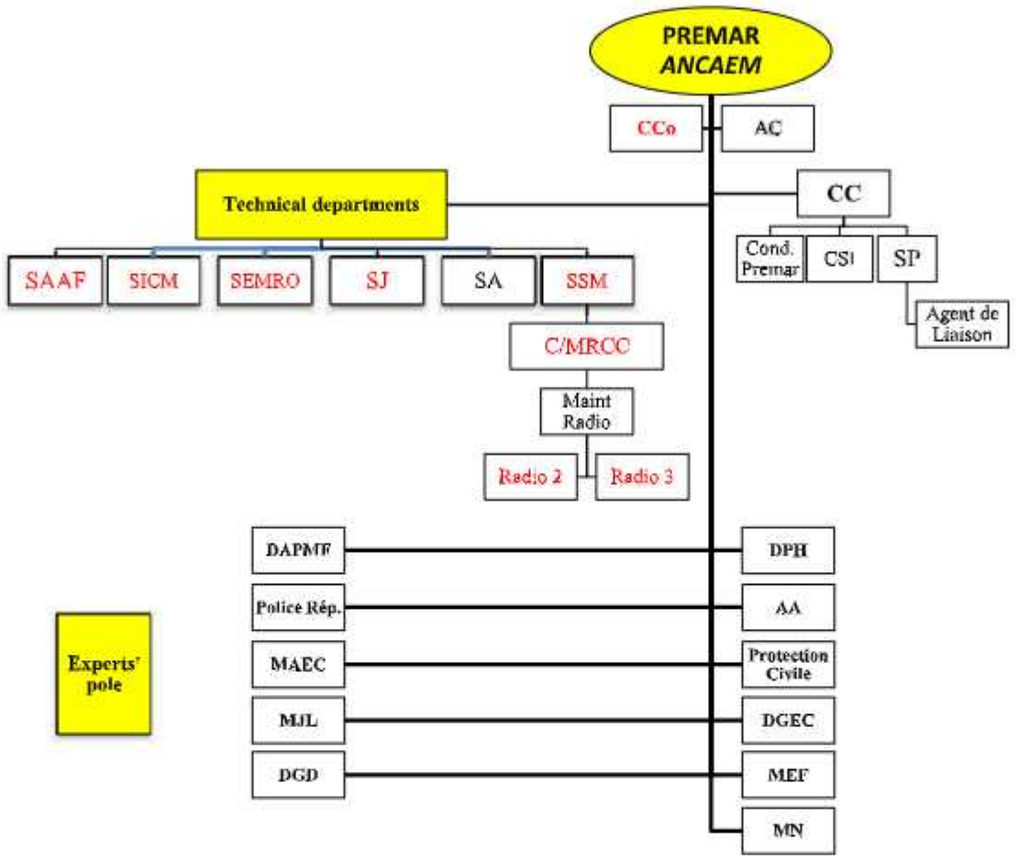
Source: (AHOYO, 2022)

Administrative and operational organization of the State's action at sea



Source: (AHOYO, 2022)

ORGANIZATION CHART OF THE ANCAEM



Source: (AHOYO, 2022)

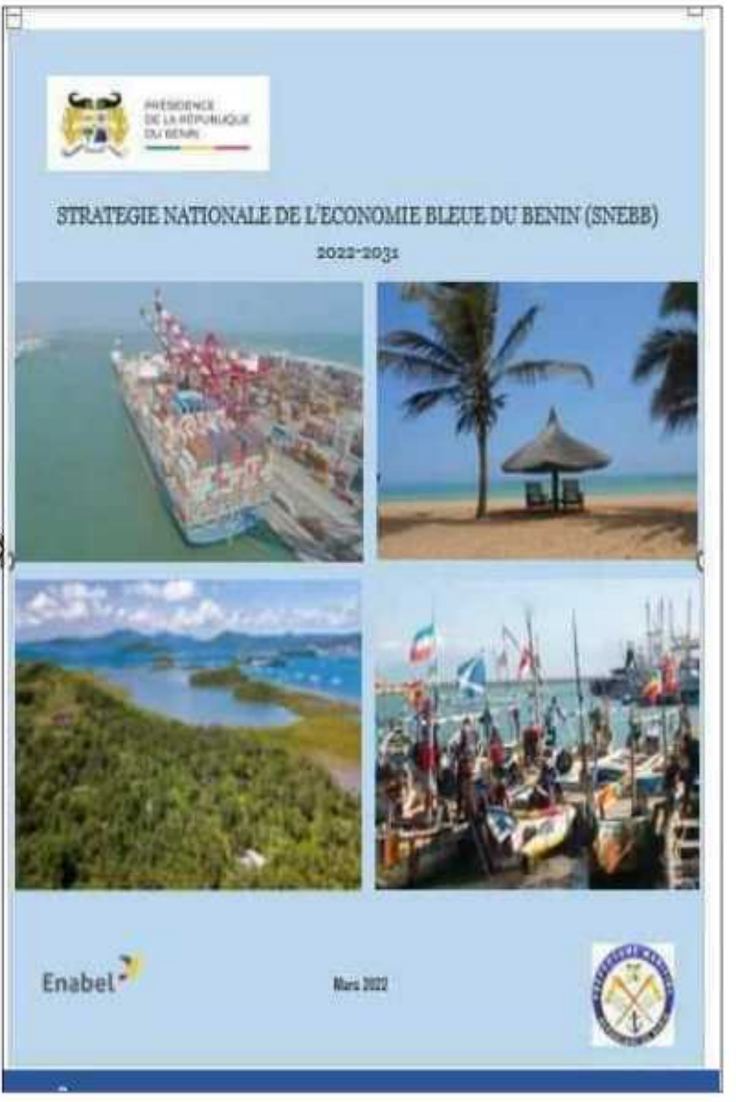
PERSPECTIVES

Revision of the maritime security and safety strategy and migration towards the blue economy concept

Evolution of the context

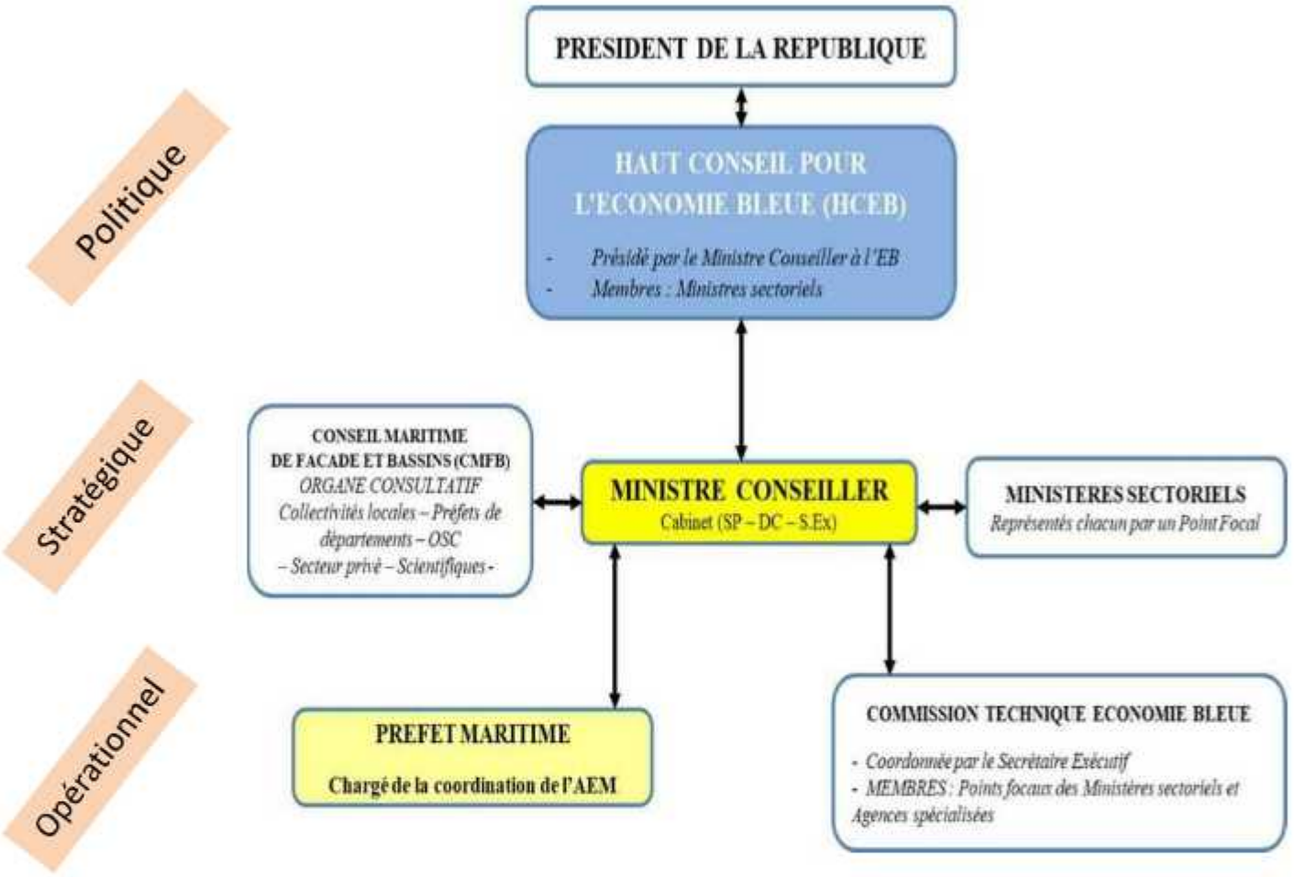
multidimensional

- Political
- Economic plan
- Security plan
- Environmental plan
- Social plan
- Tourism plan
- Normative plan (Tools and instruments at national, regional, international level))



Source: (AHOYO, 2022)

New administrative and operational organization of the State's action at sea



Source: (AHOYO, 2022)

Establishment of new maritime units **Revitalisation of existing maritime units**

Maritime and River Customs Unit

River and Maritime Police Unit

Source: (AHOYO, 2022)

Establishment of a Secondary Maritime Search and Rescue Centre (MRCC)

Source: (AHOYO, 2022)

Strengthening the operational capacities of Navy

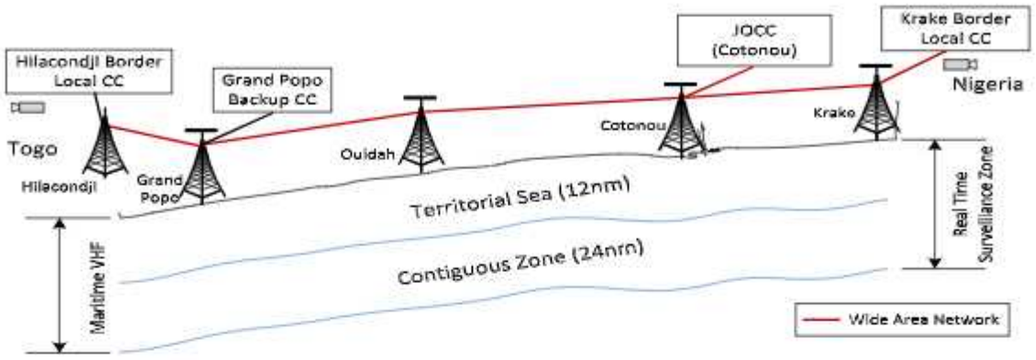
High sea patrol vessel

Semaphore of Sèmè

Airborne drones

Source: (AHOYO, 2022)

Construction of a fusion centre of maritime information



Source: (AHOYO, 2022)

Conclusion

Due to its geographical position, Benin is a natural corridor linking some West and even Central African countries to the Atlantic Ocean.

Maritime transport in Benin is an integral part of the transport sector, managed by the Ministry of Infrastructure and Transport, whose overall development vision is to turn Benin into a platform for logistics and export services, including an integrated system of efficient transport infrastructure and services. More specifically, the objective is to make the port of Cotonou an important lever to support the country's economic growth through the development of exports. To achieve this objective, several infrastructures are currently being built at the port of Cotonou with a view to modernising and extending the port.

Such an ambition can only be realised if the security and safety of Benin's maritime waters are guaranteed. As a prerequisite, it is necessary to reinforce the efficiency of the State's action at sea.

This is why the government is committed to developing a national strategy for the blue economy, which is currently being adopted. Through the implementation of this strategy, Benin intends to ensure sustainable management of its aquatic environments by 2031 for a prosperous and competitive economy for the social well-being of its citizens.

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Côte d'Ivoire

CÔTE D'IVOIRE

1. Overview of the Country

Côte D'Ivoire is a state located in West Africa which shares maritime borders with Ghana and Liberia. The country has an area of 322,462 sq. km with a population of 29,389,150 people (national census 2021).

The country possesses a coastline of 520 km on the Atlantic Ocean. A particularity of its littoral is that a network of lagoons stretches over 300 km along and covers 1400 sq. km. The internal waters can be used also for navigation and economic activities like fishing, farming, tourism, etc.

The point of entry of ships are the two ports: Abidjan and San Pedro, which reported a traffic of 2,321 and 388 ships respectively in 2020 according to their statistics.

Côte D'Ivoire exports goods worth 11 billion EUR, mainly cocoa (41.6%), gold (11.8%), oil (9.4%), rubber (8.4%), and cashew nuts (6.8%). The principal trading partners are the Netherlands and Switzerland in Europe, Mali, South Africa, and Burkina Faso in Africa, and Vietnam and Malaysia in Asia. The value of imports is 8.3 billion EUR, mostly from China (15%), Nigeria (14.3%) and France (11%).

2. Legal Framework

The main legal documents that regulate the maritime domain are:

🌍 ENVIRONMENT CODE 1996: The protection of the environment is the core of this document. A new code is under development to encompass more dimensions of the environmental administration in an era where climate change is a reality.

📌 NATIONAL STRATEGY FOR THE STATE ACTION'S AT SEA 2014: This document is the first of its kind for the country. It advocates a holistic approach to address maritime matters in the country. It calls for a pooling of resources among all maritime stakeholders to ensure the proper management and control of all sea-related activities.

🐟 FISHING AND AQUACULTURE CODE 2016: Regulating the fishing industry, the law comes to curb the challenges posed by IUU fishing and organize the growing aquaculture sector in the country.

📍 MARITIME CODE 2017: The previous Merchant Marine Code was from 1961. The country needed a new document to regulate maritime economic activities as well as its related activities. With its 1,115 articles, this law covers the spectrum of all activities connected to the sea with very few exceptions.

3. Maritime Issues

Like most countries in the Gulf of Guinea, Côte D'Ivoire faces a number of challenges which can impede the development of its blue economy potential. Among them are:

💣 Piracy and armed robbery: This a very hot topic on the agenda as the last reported attack in Ivorian waters occurred on 24 January 2022.

🐟 IUU Fishing: Despite considerable efforts by authorities, IUU fishing is still a concern. Its forms are constantly changing, from unauthorised fishing to lack of traceability of catch.

🛢 Illegal oil smuggling: The wide network of lagoons is sometimes used by traffickers to feed an illegal oil market even across borders.

🌪 Coastal erosion: Communities living near the coast are experiencing a serious reduction of land because of coastal erosion, a phenomenon that is closely linked to sea level rise due to global warming. Some villages are threatened to disappear since the sand band is constantly shrinking.

😒 Pollution: Chemical, plastic, or oil pollution are issues which need higher attention as the littoral area hosts most of the factories and the two ports. Waste dumping by households is also a threat to the environment as wastes can be discharged into waterways from rain or unauthorised sewage connections.

🎷 Drug trafficking: With the insecurity of the Sahel region, some analysists claim that drug trafficking could be used to finance other illegal activities. The country sees a surge of drug busts not only on land but also at sea, as the region presents a point of passage for Europe.

4. Recent Developments

Côte D'Ivoire has been putting a lot of strategies in place to develop maritime economic activities.

With its partners, the country re-energizes oil exploration in its offshore blocks. These efforts led to oil and gas discoveries in deep waters in 04 offshore blocks: deposit "Paon" on CI-103 in 2012, deposit "Saphir" on CI-514 in 2014, and deposit "Baleine" on CI-101 in 2021 and CI-802 in 2022. Currently, the country is a modest oil producer with around 30,000 barrels/day, but this figure is expected to evolve quickly when production starts on deposit "Baleine" in 2023.

Since 2011, authorities have invested more than 1.5 billion EUR for the development of the two ports. The entry canal to the Port of Abidjan has been deepened and widened to receive bigger ships without length limitations (was limited to 260 m ships before).

Vridi Canal (before)

Vridi Canal (now)

In the same port, four terminals have been scheduled; the extension of the Fishing terminal (1,522 m of berths, 280,000 m²) and the Ro-ro terminal (~100 units/hour) have already been put into service.

Fishing terminal

Ro-ro terminal

Two new terminals are under construction: the Grain terminal (700 m of berths/14 m deep), which is a project financed with the help the Japanese International Cooperation Agency (JICA), and the second container terminal (1,100 m of berths/18 m deep) which aims at 1.5 million TEU/year of capacity and should be labelled a zero emission CT.

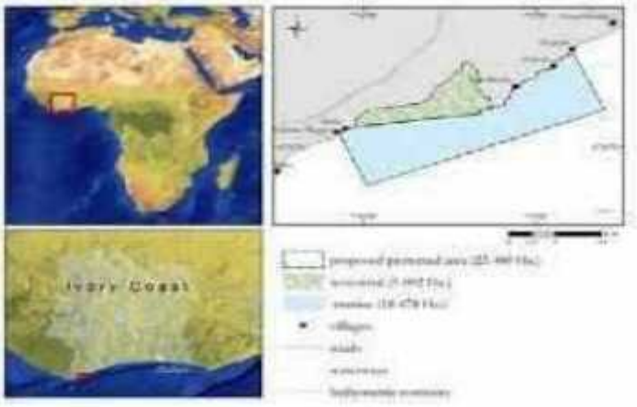
Grain terminal

2nd container terminal

The Port of San Pedro launched its new industrial terminal (1 berth 270 m/15 m deep and 1 berth 220 m/12.5 m deep) which has a storage capacity of 160,000 T of bulk.

Port of San Pedro industrial terminal

As part of its objectives to preserve biodiversity, Côte D'Ivoire enacted a law for the protection and integrated management of the littoral. This new document made possible the creation of the first marine protected area (MPA) in Grand-Béréby in 2020. This MPA covers 2600 sq. km and is an important nesting site for turtles. Its mangrove trees and forest also shelter animals like chimpanzees, monkeys, buffalos, toucans, pangolins, and many other species. In the future, four MPAs will be created and their locations are already known.



Map of Grand-Béréby's MPA (blue and green)

Côte D'Ivoire aspires to make its ports more attractive to shipowners and companies as part of its plan to develop shipping and maritime trade. In 2020, the country opened an international registry for international companies willing to acquire the advantages of its flag. In order to boost this initiative and make the fleet safer and cleaner, the government authorised the ratification of 4 international conventions in 2022: the Maritime Labour Convention (MLC 2006), the International Convention on the Control of Harmful Anti-fouling Systems on Ships (AFS 2001), the Work in Fishing Convention (C188), and the Ballast Water Management Convention (BWMC 2004). Thanks to all these endeavours, the national petroleum company, in a joint venture, chartered its very first LNG carrier in August 2022.

LNG Carrier SAPET GAS

5. Conclusion

Côte D'Ivoire is a state with ambitious maritime goals despite the challenges posed by some issues. By enhancing its maritime regulatory framework and investing in modern infrastructure, the country aspires to benefit more from the potential of blue economy to boost its development. This goal will surely be achievable through a smooth and greater coordination between all maritime stakeholders.

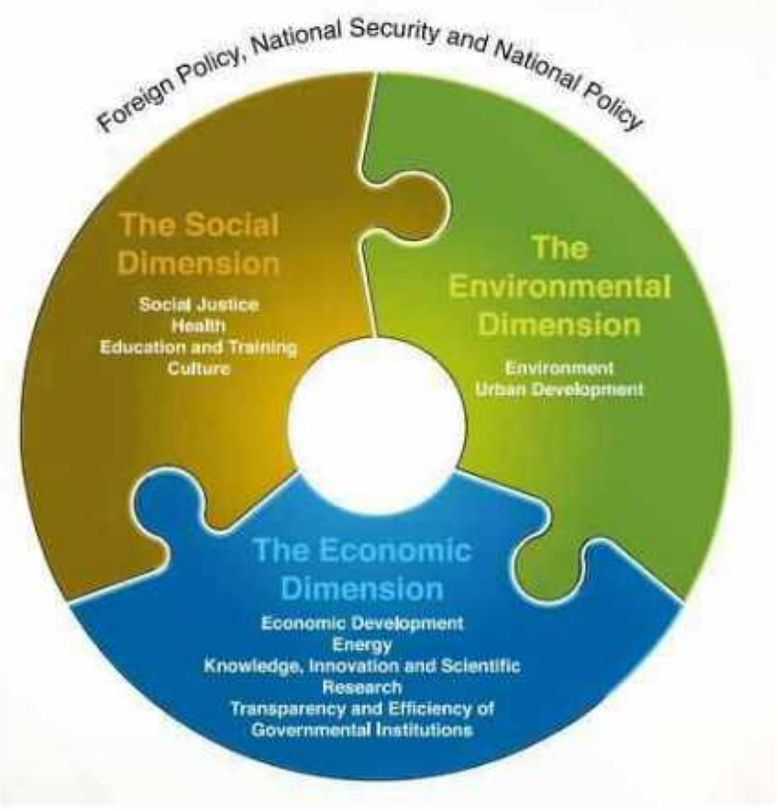
Egypt

Current Maritime and Ocean Situation in Egypt

Egypt Vision 2030

Inspired by the ancient Egyptian Civilization, linking the present to future, the Sustainable Development Strategy (SDS): Egypt Vision 2030 represents a foothold on the way towards inclusive development. Thus, cultivating a prosperity path through, economic and social justice, and reviving the role of Egypt in regional leadership. SDS represents a roadmap for maximizing competitive advantage to achieve the dreams and aspirations of Egyptians in a dignified and decent life.

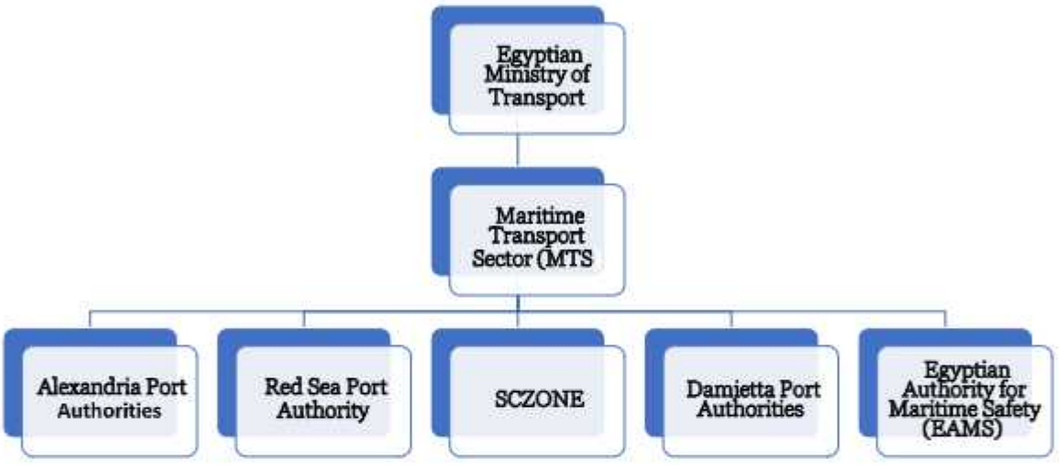
THE SUSTAINABLE DEVELOPMENT STRATEGY (SDS): EGYPT VISION 2030 MAIN PILLARS



Maritime Sector in Egypt (MTS)

The Arab Republic of Egypt has a distinguished geographical location between at the crossroads of three continents with coastlines extending more than two thousand nautical miles and overlooking two seas, the Mediterranean and the Red Sea, linked by the Suez Canal, which is the most important global navigational artery linking the East to the West, which had a great impact on communication with the outside world since ancient times.

MTS Structure



MTS COMPETENCES

1. To prepare the general strategy for all Egyptian ports, present it to the Supreme Council of Ports for review and approval, and to follow up the implementation of the Council decisions and recommendations.
2. To lay down the general plans and policies in the field of maritime transport and logistics in coordination with port authorities, the Egyptian Authority for Maritime Safety and the concerned authorities in the country as well, and follow up their implementation.
3. To support construction and development projects in port, studies and research in the field of maritime transport and sovereign services required by the National Security.
4. To present the Arab Republic of Egypt in various international organizations and forums.
5. To grant, renew and cancel the following licenses

MTS and IMO

- **Egypt is a part of the most IMO environment related conventions such as:**
  - MARPOL 73/78
  - OPRC 90
  - BWC 2004
  - CLC 92
  - Bunker 2001
  - AFS2001

Maritime Agreements in all levels:

- **REGIONAL AGREEMENTS**

- (Mediterranean protection, red Sea protection, Port's state memorandum of understanding)

- **MARITIME TRANSPORT BILATERAL AGREEMENTS**

- BETWEEN EGYPT AND THE ARAB STATES
- BETWEEN EGYPT AND THE FOREIGN COUNTRIES
- BETWEEN EGYPT AND THE AFRICAN COUNTRIES
- PORTS COOPERATION PROTOCOLS BETWEEN EGYPT AND THE ARAB STATES
- COOPERATION PROTOCOLS BETWEEN FREE ZONES
- PORTS COOPERATION PROTOCOLS BETWEEN EGYPT AND FOREIGN STATES
- MOU ON COOPERATION AND TWINNING BETWEEN EGYPT AND THE AFRICAN PORTS
- BETWEEN THE RECOGNITION OF SEAFARER CERTIFICATES ACCORDING TO STCW REQUIREMENTS

Recent maritime projects and development

➢ Plans to develop Egypt's Maritime Sector

Abu Dhabi Ports Group has signed a Memorandum of Understanding (MoU) with the industrial arm of the Egyptian Ministry of Transportation, the Egyptian Group for Multipurpose Terminals to supervise the event and operation of Egypt's Ain Sokhna Port and the maritime sector in Egypt.

The 2 organizations have agreed to work carefully collectively to conduct a feasibility examine into the longer-term growth of Ain Sokhna Port, exploring potential funding alternatives to reinforce its capability and capabilities. It will allow the port to focus on untapped market segments and set up new income streams

➢ River Nile Protection and Development Project

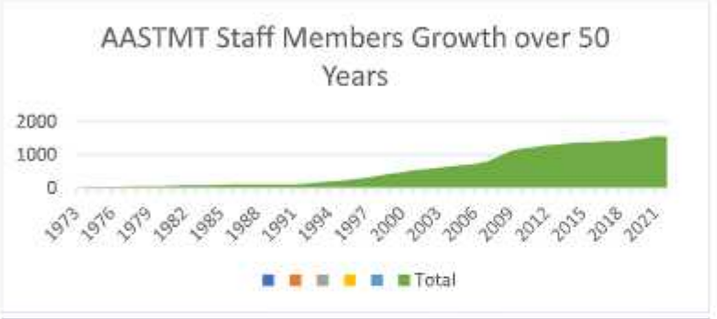
Funded by the Canadian International Development Agency (CIDA), the River Nile Protection and Development (RNPD) project aimed at achieving rational utilization of available resources, mitigation of side effects and increasing the efficiency and effectiveness of present use and future development of the River Nile Channel and its two branches, namely, Damietta and Rosetta.

➢ Cleanup River Nile from (2020-2023)

Reduce Plastic pollution in the river Nile and the emission into the Mediterranean by raising awareness, accelerating education and an improved waste management infrastructure.

Maritime Education and training sector

Arab Academy for Science, Technology & Maritime Transport (AASTMT)



- 7 Branches in Egypt
- 2 International branches in United Arab of Emirates and Syria
- 4 Joint branches with METs in Cypress, Greece, Lebanon, and Saudi Arabia
- Staff of more than 1500, including 180 Maritime teaching staff
- 2 patches of Graduates every year since 1972
- 70 + WMU graduates including 11 Sasakwa fellows
- IAMU Contributor, IAMUC, IAMUS, GMP-Bok.

Maritime Sector in the AASTMT

1. College of Maritime Transport & Technology
2. College of Fisheries & Aquaculture Technology
3. Maritime Upgrade Studies Institute
4. Maritime Postgraduate Studies Institute
5. Maritime Research and Consultation Center
6. Sea Training Institute
7. Maritime Safety Institute
8. Integrated Simulators Complex
9. Regional Maritime Security Institute
10. Port Training Institute
11. Marine & Offshore Training Center – Cairo
12. Marine Simulators
13. Full Mission Engine Room Simulator
14. Offshore Simulators
15. Liquid Cargo & Natural Gas Simulators
16. Engineering Workshop
17. Global Maritime Distress & Safety System Simulators
18. Maritime & Offshore Safety Facilities
19. Fire Fighting Facilities
20. Environmental Protection & Crises Management Centre

21. Port Training
22. Metrology Station
23. Diving Center
24. Training Vessel
25. Maritime Training & Sail Sports Center

List of references

INTERNATIONAL CONVENTIONS – أهلا بكم في قطاع النقل البحري (mts.gov.eg)

Project Cleanup river Nile - Endplasticsoup

Plans to develop Egypt's maritime sector - Supply Chain Risk Management

River Nile Protection and Development Project - ECG website (ecgsa.com)

Arab Academy for Science, Technology & Maritime Transport - AASTMT | Home

Ghana

MARITIME REVIEW OF GHANA

1.0 INTRODUCTION

Ghana, formerly known as the Gold Coast, is located in West Africa with a total land surface area of **238,535km²** and a population of 32.83million according to the 2021 Population and Housing Census conducted. There are 16 administrative regions in Ghana and the capital is Accra. Geographically, Ghana shares boundaries with three countries, to the North by Burkina Faso, to the West by Ivory Coast and to the East by Togo. The Gulf of Guinea (Atlantic Ocean) is to the south of Ghana, making the country an important maritime nation.

Fig.1. Map of Ghana.

2.0. GHANA'S MARITIME ADMINISTRATION AND GOVERNANCE.

Ghana's maritime architecture and governance is under the supervision of the Ministry of Transport headed by the sector Minister. The main mandate of the Ministry of Transportation is to formulate policies for the transport sector, establish the regulatory framework

for transport operations, creating the enabling environment for transport investment and the development of an efficient transport system which is modally complementary. The Ministry has 15 agencies and departments under its regulatory supervision which includes;

- Ghana Maritime Authority
- Ghana Ports and Harbors Authority
- Regional Maritime University
- Volta Lake Transport Company
- PSC Tema Shipyard

2.1. Ghana Maritime Authority (GMA).

Ghana Maritime Authority was established in 2002 to ensure the provision of safe, secure, and efficient shipping services and the protection of the marine environment from ship source pollution. The Authority is also responsible for the training, examination and certification of seafarers in accordance with the international convention on Standard of Training, Certification and Watch keeping (STCW) for seafarers. The Authority is also responsible for the implementation of other International Conventions

ratified by Ghana in relation to maritime administration, transport and shipping.

2.2. Ghana Ports and Harbors Authority (GPHA).

Ghana Ports and Harbours Authority (GPHA) is a statutory corporation established under Ghana's Provisional National Defense Council Law (PNDCL 160) of 1986 to build, plan, develop, manage, maintain, operate and control all ports in Ghana.

The Authority manages and operates the sea ports of Ghana and various business units in collaboration with a number of private service providers in the areas of vessel handling, stevedoring, transfer, storage, receipt and delivery of containerized and general cargo. The main business Units currently in operation are:

- Port of Tema,
- Port of Takoradi
- Tema Shipyard and Drydock
- Transit Sahelian Liaison Office in Burkina Faso

2.3. Port of Tema

The Port of Tema is the largest port in Ghana. Situated on the eastern coast of the country, it stretches over 3.9 million square metres of land area and receives an average of over 1,650 vessel calls per year.

There are over 50 Shipping lines and agencies that provide both direct and indirect shipping services to and from the Port of Tema. Cargo types handled at the port include Agri bulk, bagged cargo, containerized cargo, dry bulk, forest products, frozen cargo, general cargo, iron/steel, liquid bulk, petroleum products, machinery/equipment and vehicles.

The Port Authority has expanded the existing port, built new terminals, upgraded IT systems and widened operational partnerships and networks. This is reflected by the port's ability to handle increasing volumes of traffic from 7.3 million tonnes in 2003 to 17.4 million tonnes in 2016 due to the expansion works carried out by the Port Authority and its partners, Meridian Port Services (MPS).

Development projects completed in the past years include a new Reefer Terminal, a four (4) berth bulk jetty, one stop service revenue and data centre, the refurbishment of the Transit Terminal and the electronic gating system amongst many others. From December 2016, the Port of Tema's

Quality, Environmental Management and Occupational Health and Safety Systems were certified under the ISO Integrated Management System: QMS 9001: 2015; EMS 14001:2004; and OHSAS 18001:2007.

Fig.2. Port of Tema

2.4. The Port of Takoradi.

The Port of Takoradi in the west of the country is Ghana's first commercial port opened in 1928 to serve the needs of the mining/extractive industries and to handle imports of consumer goods/Liquid products into the country. The city of Takoradi is the regional capital of the Western Region of Ghana, which is about 230 km east of Accra. The Port has six (6) berths with

draughts between 8.4m and 10m in addition to dedicated manganese, bauxite and oil berths.

The port handles 65% of total exports of Ghana with Cocoa, Timber, Bauxite, and Manganese as the export commodities. Major import commodities handled by the port includes; Clinker, Petroleum Products, Wheat, Ammonium Nitrate, Gypsum, Quicklime, Coal and Limestone.

The Port has sheds with storage covered area of 140,000m^2, an open storage area of 250,000m^2 and a container holding capacity of 5000teus. There are also private warehouses in and around the Port to augment its capacity.

Fig.3 Port of Takoradi

2.5. Proposed Port of Keta

Ghana is in the process of developing a third commercial port in the coastal town of Keta in the Volta region. The project is part of Ghana's broader plan to develop port infrastructure, including the existing commercial ports of Tema and Takoradi and the proposed inland ports to be located at Boankra and Mpakadan.

The Keta Port project when completed is expected to be a commercial cargo port that can accommodate containerized vessels, bulk cargo, oil and gas shipment, Clinker, Petroleum Products, farm produce, Ammonium Nitrate, Gypsum, Quicklime, Coal and Limestone. The port is also expected to house a shipyard facility for repairs and maintenance of ships.

Fig.4 Site for Proposed Port of Keta

2.6. Tema PSC Shipyard.

The Tema Shipyard is one of the largest shipyards and dry-docks on the African Continent. Strategically located on 48.45 acres of land, it is situated adjacent the commercial Port of Tema as a dry dock and slipway facility. The Shipyard has two (2) graving docks of 100,000 dwt capacity and provides dry docking services, lay berths and fitting out quays and preservation works. It is currently under renovation and some expansion works have begun to face-lift the facility with the state-of-the-art machinery and equipment to meet modern technological demands.

Fig.5 PSC Tema Shipyard

2.7. Regional Maritime University

The Regional Maritime University (RMU), Accra, Ghana, is an international tertiary institution comprising four member states; The Gambia, Sierra Leone, Cameroun and Ghana, which was established in 2007 for maritime education of students, training of marine personnel, research and consultancy and promotion of maritime co-operation. The hallmarks of its operations are meeting international standards, teamwork, discipline and professional integrity.

Fig. 6 Students of Regional Maritime University

3.0. PROSPECTS OF GHANA'S BLUE ECONOMY

The concept of blue economy refers to the sustainable use of the ocean resources to promote growth and development in the economy. The European Union describes the Blue economy as "all economic activities related to oceans, seas, and coasts that cover a wide range of interlinked established and emerging sectors". Ghana's Marine ecosystems/ocean covers a coastline of 550 kilometers with abundant valuable ecological

marine resources to promote its socio-economic development. Several economic activities such as fishing both at the domestic (small scale) and commercial level (large scale), production of oil and gas, ports and harbors activities, marine transportation/shipping and eco-tourism (recreational activities) are among the major drivers of economic growth along the coast of Ghana.

Figure 7. Local/artisanal fishing activities in Ghana.

Fig. 8 Local fishing in Ghana.

Fig. 9 Industrial Fishing Trawlers in Ghana

3.1. Oil and Gas Production in Ghana.

Ghana is an up-and-coming player in the oil and gas industry with operations in the upstream (exploration and production), mid-stream and downstream sectors of the economy. Commercial production begun in the Jubilee field in 2010 following initial discoveries in 2007. Ghana's current output of oil production is 150,000 barrels of oil per day with the potential for increased output in the near future. The production of oil and gas in Ghana is carried out by three FPSO units offshore in the Jubilee, Sankofa and TEN oil fields.

Fig.10. FPSO Nkrumah producing 96,000 barrels of oil daily

Fig. 11 FPSO John Agyekum Kuffour (JAK) producing 58,000 barrels of oil daily

Fig. 12 FPSO John Evans Atta-Mills producing about 50,000 bpd

Ghana has enormous potential in the exploitation of its marine resources to generate the needed growth and development in its blue economy drive as

illustrated above. However, the country faces some challenges that threaten the safe and sustainable use of these marine resources.

4.0. CHALLENGES OF GHANA'S BLUE ECONOMY

The maritime sector of Ghana is bedeviled with several challenges which threaten the safe, secure and sustainable usage of its marine resources. Issues of piracy and armed robbery at sea, Illegal, Unreported and Unregulated (IUU) fishing, illicit drug smuggling and human trafficking, illegal bunkering, evasive species, kidnapping of fishers/seafarers at sea and marine/oil pollution exist. Political interference is also another challenge. Political powers interfere in how authorities operate, limiting the effective execution of their mandate.

5.0. MEASURES TO MITIGATE CHALLENGES

The country has taken steps to curtail these challenges and the adverse effects they pose to the country. The efforts being made can be categorized into national, regional and international efforts.

5.1 National Efforts

Ghana has mapped out a comprehensive strategy aimed at addressing issues of maritime security and marine environmental protection called ***The National Integrated Maritime Strategy (NIMS).***

5.1.1 National Integrated Maritime Strategy (NIMS)

The new National Integrated Maritime Strategy (NIMS) aims to ensure that Ghana's maritime domain will be safe, secure and sustainable in promoting the sustainable exploitation of the country's marine resources to enhance the living and livelihoods of its citizens and engender growth and development. It was drafted after consultations with state agencies and departments, private entities, including those with fisheries, environmental interest groups, security agencies, international partners/agencies, commercial and non-commercial maritime actors, oil and gas industry players, experts from academia, civil society organizations, political parties, opinion leaders and the citizens.

5.2 Regional/International Efforts

Ghana collaborates with other countries in the region to set up measures to curtail the challenges experienced in the maritime sector. A regional multinational maritime coordination center (MMCC) for the maritime zone F in Africa, is set in Ghana. The MMCC Zone F is set up "to be the primary point of contact for credible, accurate, relevant and timely sharing of maritime safety and security information among the member states of Zone F and their international partners".

5.2.1 EXERCISE OBANGAME EXPRESS AND EXERCISE GRAND AFRICAN NEMO

These two are multinational exercises organized by the United States of America and France respectively. Both exercises use the Yaounde Code of Conduct as the framework for training and simulation exercises. The aim is to counter illegal activities such as piracy, illegal fishing, illicit drug and human trafficking and to coordinate the activities of the coastal states in the fight against these illegal acts along the Gulf of Guinea. These exercises also enable participating countries to train on information sharing among stakeholder organizations and countries to ensure a harmonised

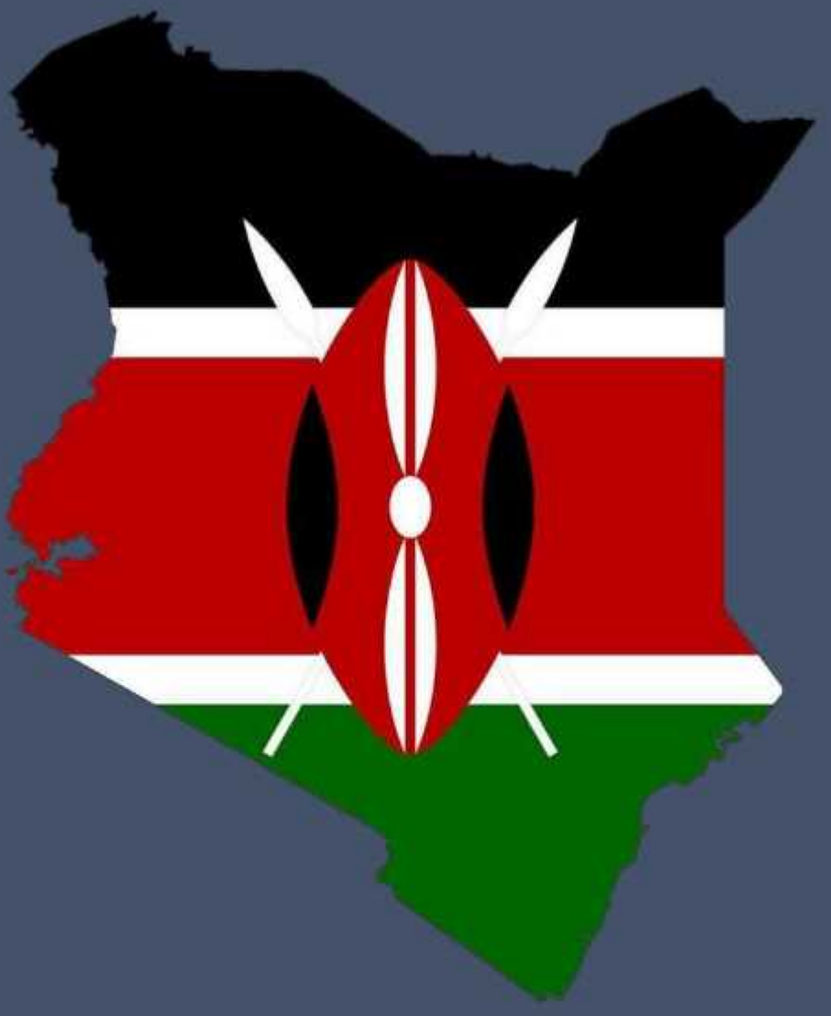
system and well-structured mode of operation. Other European countries join coastal African states for these exercises.

Fig. 13 Exercise OBANGAME EXPRESS

Fig. 14 Participating Stakeholders in a Monitoring Center during Exercise GRAND AFRICAN NEMO

Compiled by:

MARVIN BANG-GESINA AYOO-	GHANA MARITIME AUTHORITY
PROSPER BEDIAKO SENYO-	GHANA PORTS AND HARBOURS
SYNCLESIA WENIA PWATIRAH-	GHANA NAVY



Kenya

Overview of Maritime Situation in Kenya

1. Country Profile

Kenya is amongst large economies in Sub-Saharan Africa after Nigeria and South Africa. Kenya is the regional hub providing easy connectivity to the region. It is bordered by South Sudan to the northwest, Ethiopia to the north, Somalia to the east, Uganda to the west, Tanzania to the south, the Indian Ocean is located to the southeast. Kenya is the largest and most advanced economy in East and Central Africa. Its GDP accounts for more than 50 per cent of the region's total and in terms of current market prices. Its economic growth prospects are supported by an emerging middle class and an increasing appetite for high-value goods and services. In the recent past its prospects have grown with improved ease of doing business index.

Kenya is strategically located and a gateway to East and Central Africa with great regional and international connectivity. With its strategic location that borders the Indian Ocean, Kenya is considered as a strategic production and distribution base for Africa, Europe, the Middle East, South Asia and other Indian Ocean Islands.

Kenya is a multi-ethnic, multi-racial and multi-religion country. Persons from different backgrounds peacefully co-exist working, trading and living side by side. The country is also home to very varied geographical landscape from inland lakes, snow-capped mountains, the great rift valley and sun kissed white beaches. It is in this great land that the people co-exist with diverse and rich flora and fauna.

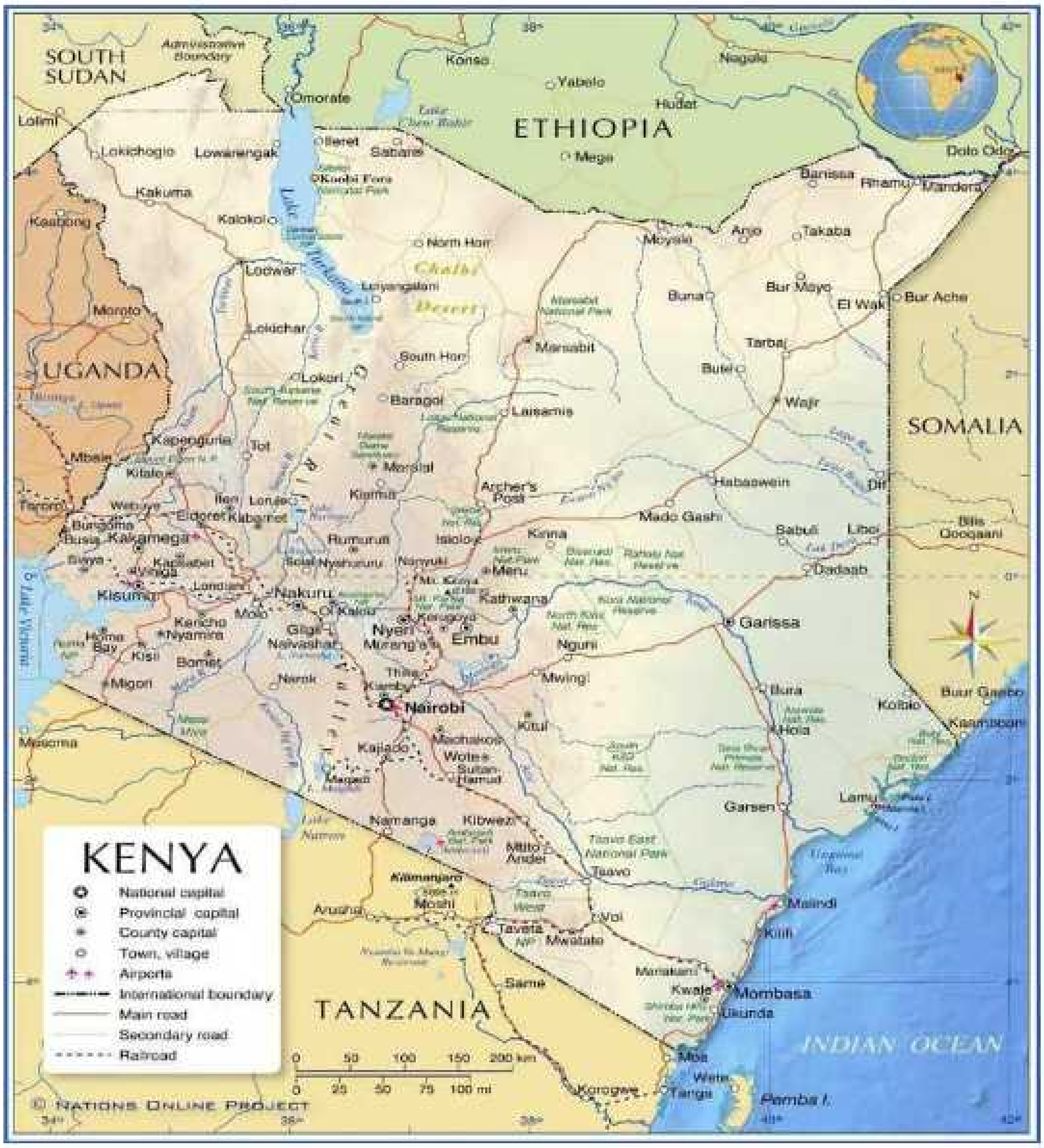


Figure 1: Geographical position of Kenya (Source: Encyclopedia Britannica, Inc.)

2. Kenya's maritime situation

2.1. Overview

The Kenya's Indian Ocean domain occupies an area measuring approximately 245,320 Km2 made up of an EEZ of 142,000 Km^2 and an extended continental shelf of 103,320 Km^2 (Government of Kenya (GK), 2017). Kenya has a coastline of about 640 kilometres

and runs in a South Westerly direction from the Somalia border in the North, and Tanzania in the South. In addition, the main inland water bodies cover approximately 10,700 square kilometres. Both the sea inland waters areas comprise the maritime domain.

The coastline is adjacent to international shipping routes extensively used for the carriage of oil and other products. Mombasa port is the largest and key gateway to the eastern and central Africa region – serving Uganda, Rwanda, Burundi, DRC, Southern Sudan, Ethiopia, and northern parts of Somalia.

The Kenyan coastline provides food, recreation and homes. Indeed, maritime transport, tourism and fishing are key pillars in Kenya's socio-economic structure.

2.1.1. Role of Kenya's Maritime Sector to the Country's social and Economic Development

Kenya's maritime sector plays a significant role to the social and economic development of Kenya. The country's strategic location along the Indian Ocean coast and its inland waters endows it with opportunities and potential for transforming into a maritime economy. Maritime transportation being the most economical mode of transport especially for bulky goods handles over 95 percent of Kenya's international trade. This mode of transport enhances the competitiveness of Kenya's exports in the international markets and helps attract foreign direct investment to the country. An efficient and affordable maritime transport will support increased economic activities as envisaged in Kenya's Vision 2030, Kenya's long-term national planning and development strategy.

In Kenya, the potential to boost the national economy by harnessing the vast resources from the Blue Economy has great prospects. The Blue Economy has the potential to contribute 10 per cent of the Gross Domestic Product (GDP), and fully support a workforce of more than 200,000 people, and generate an estimated Sh400 billion in revenue every year. The purpose of the ministry is to therefore enable the country to fully harness the benefits of the marine environment. Maritime transportation forms one of main sectors

of the Blue Economy. The Un Blue Economy Framework Defines Broad Guidance for The Member States, which includes Kenya.

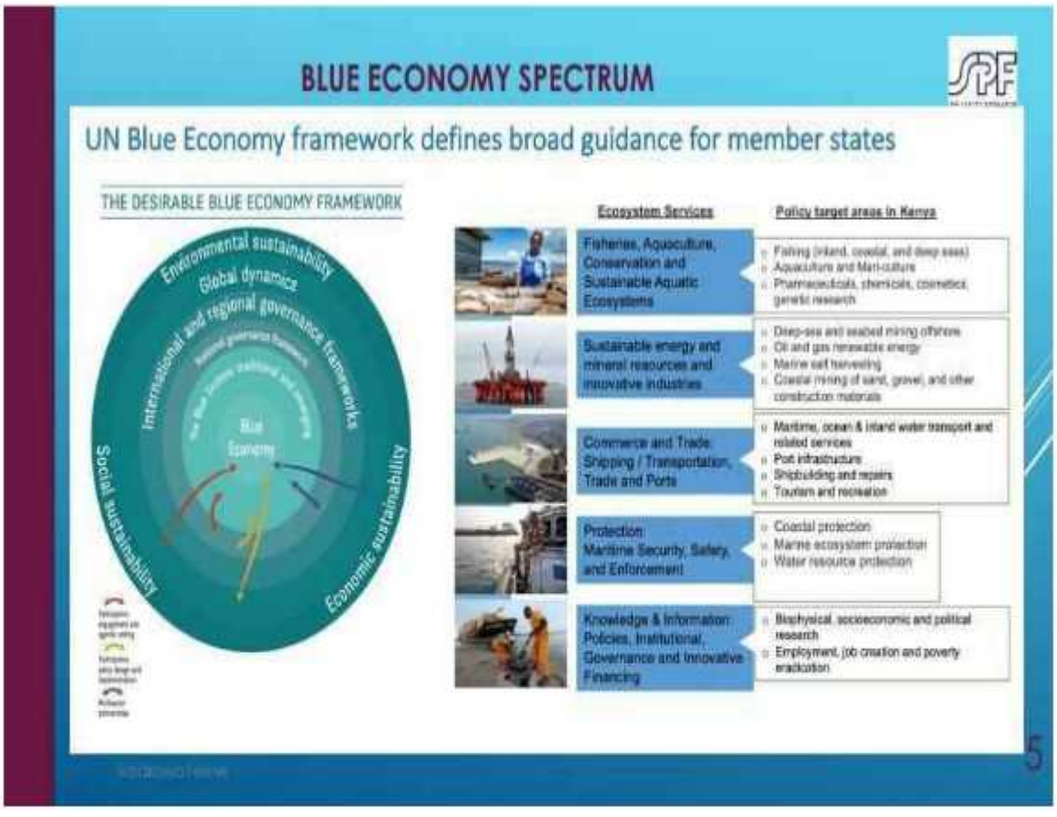


Figure 2: The Blue Economy Spectrum

One of the major activities in the Blue Economy is commerce and trade in around the ocean. Coastal shipping provides mass transit services for cargo and commuters and is an alternative route for large volumes of cargo. Ferry transportation as a coastal service is usually a unique adventure and experience that has great potential to support economy by generating income from tourism as well as facilitating local and regional businesses.

2.2. Kenya's Maritime Sector Organization

Executive order no. 1 of 2022 placed Maritime Affairs under the Ministry of Mining, Blue Economy and Maritime Affairs. Previously, this was governed under the Ministry of Transport, Housing Infrastructure and Public Works. However, this does not mean that all the components of Maritime affairs are housed under one umbrella. The maritime sector in Kenya is mainly managed by the following institutions which are mostly public organizations supervised by Ministries.

Ministry Of Interior and National Administration

This ministry was established to create an enabling environment by ensuring peace and security to the people and property, maintain a credible national integrated information management system, promotion of national cohesion, facilitate administration of justice and provision of correctional services for Kenya's economic development.

1. **The Kenya Coast Guard Service (KCGS)** is an organization under this ministry and a specialized maritime force of the Republic of Kenya, responsible for law enforcement on national waters, including on the oceans, lakes and rivers.

Ministry Of Defence

This ministry was established to defend and protect the sovereignty and territorial integrity of Kenya, assist and cooperate with other authorities in situations of emergency or disaster and restore peace in any part of Kenya affected by unrest or instability as assigned.

1. **The Kenya Shipyards Limited (KSL)** is an organization under the ministry of defense established to build, repair and service water vessels (ships and boats) of the Kenyan Navy, and to build, repair and service ships and boats for the regional governments.

The National Treasury and Economic Planning

This ministry was established to Strengthen financial and fiscal relations between the National Government and County Governments and encourage support for county governments in performing their functions.

1. **The Kenya Trade Network Agency (KENTRADE)** is a state Agency under the National Treasury that facilitates cross border trade, establishes, manages and implements the National Electronic Single Window System (KNESWS). The KNESWS allows parties in trade and transport to lodge standardized information and documents with a single entry-point to fulfill all imports, exports and transit-related regulatory requirements.

Ministry Of Roads and Transport

The ministry of transport is in charge of development and sustenance of the country's transport infrastructure, maritime economy, public works and housing for sustainable socio-economic development.

1. **Kenya Railways Corporation (KR)** is a state corporation mandated to provide an efficient and effective rail and inland waterways transport.

2. **Northern Corridor Transit and Transport Co-ordination (NCTTCA)** was established to oversee the implementation of the northern corridor agreement, to monitor its performance and to transform the Northern trade route into an economic development corridor and making the corridor a seamless, efficient, smart and green Corridor. The Northern corridor agreement has defined 11 Protocols on strategic areas for regional cooperation relating to Maritime Port Facilities, Routes and Facilities, Customs Controls and Operations, Documentation and Procedures.

3. **LAPSSET Development Authority (LCDA)** is a State Corporation mandated to plan, coordinate, sequence, and provide leadership and direction in the operations and implementation of the LAPSSET Corridor programme.

4. **Kenya Ports Authority (KPA)** manages and operates the Port of Mombasa and all scheduled seaports along Kenya's coastline that include Lamu, Malindi, Kilifi, Mtwapa, Kiunga, Shimoni, Funzi and Vanga. The Authority manages Inland Waterways as well as Inland Container Depots at Embakasi, Eldoret and Kisumu and the ferry services.

Ministry of Investments, Trade and Industry

The ministry of Investments, trade and industry promotes international trade and investment, pursues flagship industrial development initiatives, enhance business enabling environment, supports entrepreneurs and SME development, enhances domestic trade and promote Public-Private Sector Dialogue.

1. **Kenya Branding and Exports Promotion Agency (KEPROBA)** is a state agency whose mandate is to implement export promotion and nation branding initiatives and policies to promote Kenya's export of goods and services.

2. **Kenya Bureau of Standards (KEBS)** is a state agency mandated to develop standards and quality control for development, Metrology, Conformity Assessment, Training and Certification services. The agency also provides facilities for the testing and calibration of precision instruments, gauges and scientific apparatus, for the determination of their degree of accuracy by comparison with standards approved by the government.
3. **Anti-Counterfeit Authority (ACA)** is a state agency which Combats counterfeiting, trade and any other dealings in counterfeit goods. The agency also coordinates with national, regional or international organizations involved in combating counterfeiting.

Ministry Of Energy And Petroleum

The Ministry of Energy and Petroleum generates policies that are designed to create an enabling environment for efficient operation and growth of the sector. It manages the energy sector in Kenya and sets the strategic direction for the growth of the sector and provides a long term vision for all sector players.

1. **Kenya Power Company Limited (KPC)** is a state corporation which provides efficient, reliable, safe and cost-effective means of transporting petroleum products from Port of Mombasa to the hinterland.

Ministry Of Mining, Blue Economy And Maritime Affairs

This is a relatively new ministry was established for the promotion of Maritime and Shipping Industry, Maritime Transport Management, promotion of marine Cargo Insurance and implement the management and Research in Support of Kenya 's Shipping Industry. The ministry also co-ordinates development of national oceans and blue economy strategy and policy, and development of Policy, Legal, Regulatory and Institutional Framework for the Fisheries Industry and the Blue Economy in Kenya.

1. **Kenya Marine and Fisheries Research Institute (KMFRI)** is the national research institution which undertakes research in marine and freshwater fisheries, aquaculture, environmental and ecological studies, and marine related research in order to provide scientific data and information for sustainable development of the Blue Economy.

2. **Kenya Fisheries Service (KeFS) is** a body corporate established to Conserve, Manage and Develop Kenya Fisheries and Aquaculture Resources. The fisheries also ensure the appropriate conservation development of standards on management, sustainable use, development and protection of the fisheries resources through formulation of the implementation of policies regarding the conservation, management and utilization of all fisheries resources;

3. **The Kenya National Shipping Line (KNSL)** is the national carrier for seaborne trade.

4. **Kenya Maritime Authority (KMA)** is the semi-autonomous agency in charge of regulatory oversight over the Kenyan maritime industry. As the pacesetter of the Kenyan maritime industry, the Authority strengthens national maritime administration through enhancement of regulatory and institutional capacities for safety and security, fosters effective implementation of international maritime conventions and other mandatory instruments on safety & security, promoting

maritime training, coordinating Search and Rescue, preventing marine pollution and promoting preservation of the marine environment as well as promoting trade facilitation and maritime investments.

5. **Bandari Maritime Academy (BMA)** is a national Centre for Maritime Education and Training which provides Competent Maritime related courses, develop academic and vocational skills, and provides the maritime labor needed in Kenya.

6. **Government Clearing Agency (GCA)** is the national agency whose function involve the clearing and forwarding of ocean, air and land cargo principally being offered only to government interest cargo.

3. KENYA'S MARITIME SAFETY AND SECURITY AND ENVIRONMENTAL PROTECTION

3.1 Overview

Kenya's waters provide significant economic opportunities. As a member of the Indian Ocean Region (IOR), the country has always aimed at ensuring the security of its citizens and trade activities in the Indian Ocean. The IOR is of geostrategic importance as it confers tremendous opportunities and challenges to the coastal states of the Indian Ocean. Kenya domesticated all conventions and treaties that it has consented to and endorsed, this means that the country draws from international sources of law as advanced by the treaties and conventions to enforce maritime security, in addition to its local laws.

Some of the maritime security conventions that Kenya has ratified and thus have become part of Kenya Law include; International Convention for the Prevention of Pollution of the Sea by Oil 1954, UNCLOS, 1982, UN Convention on Climate Change (UNCCC), 1992, Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation (SUA Convention), 1988, Convention on Fishing and Conservation of the Living Resources of the High Seas (CFCLR), 1958, International Convention for the Safety of Life at Sea

(SOLAS, 1974/88), International Ship and Port Facility Security (ISPS) Code 2002, amongst others.

To ensure the sustainable exploitation of resources, the Kenya Government has enacted following legislations: Climatic Change Act, 2016, the Forest Conservation and Management Act, 2016, Water Act, 2016 and the Mining Act, 2016 (KNBS, 2017). To mitigate against crimes at sea, Kenya enacted the following legislations: Anti-corruption and Economic Crimes Act, 2003, and Prevention of Organized Crime Act (POTA), 2010. Kenya's 2017 Defence White Paper assigns the Indian Ocean Strategic importance while in the same vein it recognizes that the zone face threats and vulnerabilities to security emanating from the sea.

3.2 Other Key Milestones achieved include;

1. Establishment and operationalization of the Kenya Coast Guard Service: Development of the National Maritime Security Strategy to promote a safe, secure, environmentally sound, efficient, and sustainable shipping sector.
2. Implementation of the Eastern and Southern Indian Ocean regional accord on operation, coordination and information exchange
3. Establishment of Marine Fisheries Monitoring, Control and Surveillance Committee (MFMCSC) to combat illegal, unregulated and unreported fishing,
4. Development of National Marine Spatial Plan (NMSP) – (Ongoing)
5. Development of a National Maritime Security Risk Register (NMSRR)
6. Ratification of major International Conventions which include; MARPOL, OPRC, LONDON CONVENTION, AFS, BALLAST WATER MANAGEMENT, NAIROBI CONVENTION, BUNKER CONVENTION, and CLC CONVENTION.
7. Development of the National Oil spill contingency plan whose purpose is for Release of Hydrocarbons to the Onshore and Off-shore Areas of Kenya is to delineate responsibilities for preparing for and responding to any significant spill on land, sea and non-navigable waters in Kenya.

These prospects are, however, undermined by a wide range of maritime security challenges such as piracy, marine pollution, illegal, unregulated and unreported (IUU) fishing, as well as over-exploitation of maritime resources. The nature of these security concerns has resulted in maritime security becoming an emergent priority for the Kenyan government.

3.3 Threats to Kenya's Maritime space:

The prospects and aspirations of Kenya's maritime domain are faced with both composite and extremely dynamic traditional and non-traditional security threats that threatens the Country's national security. The main threats to Kenya's maritime sector are as follows:

- Maritime terrorism including boat borne IEDs
- Illegal, unregulated, and unreported fishing
- Drugs Trafficking
- Illegal Weapons
- Illegal immigrants' people
- Illegal wildlife trade
- Emerging threats including cybercrime against ships and port facilities
- Aerial drones
- Attack on ships using limpet mines.
- Marine pollution from land and ships

4. The Blue Economy in numbers

Kenya's Blue Economy includes: maritime transport, fishing, aquaculture, tourism, shipbuilding and repair, maritime education and training, marine cargo logistics, maritime law, safety and security, marine salvage, international shipping, transport, energy, bio-prospecting, offshore mining, marine biotechnology, blue data, aqua-business, cargo consolidation, marine insurance, bunkering, ship handling, port agency, port related services, water sports, as well as marine and maritime governance. Fisheries, shipping and maritime affairs, port infrastructure, tourism and environment are the core sectors in Blue Economy

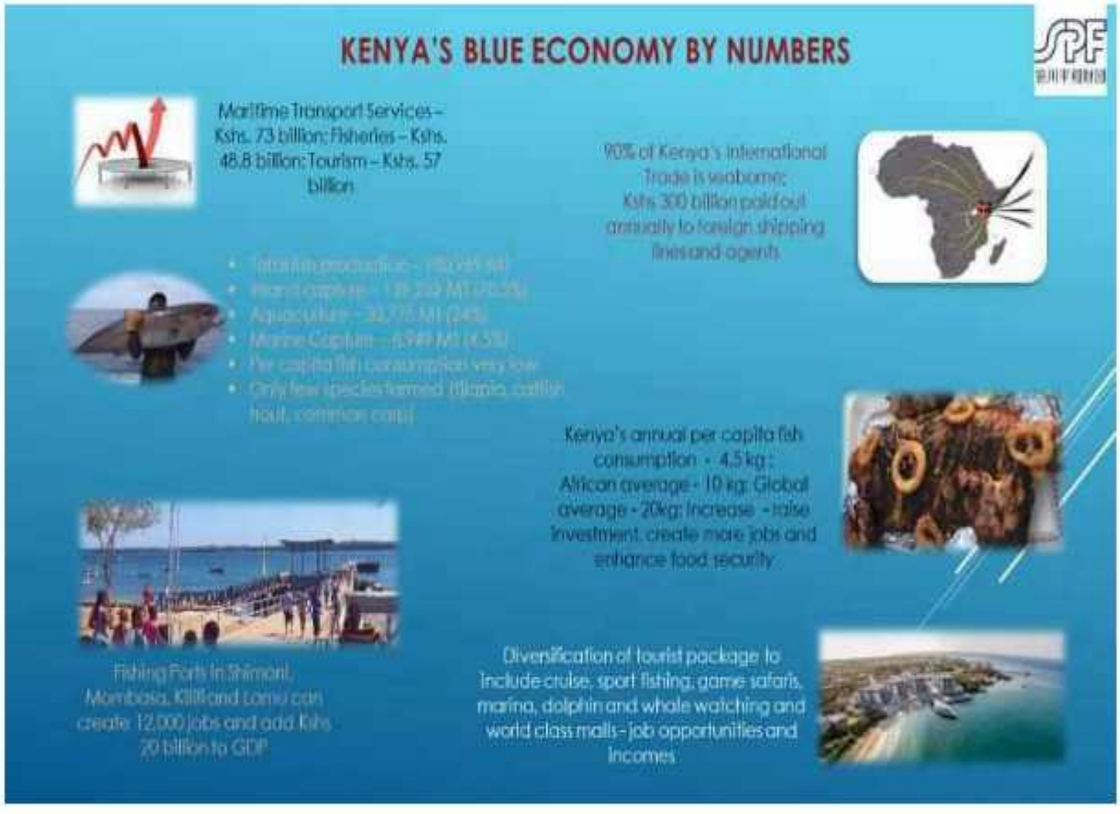


Figure 3: Kenya's Blue Economy in Numbers

It is estimated that the blue economy, if used properly, has the potential to inject up to 4.8 billion US dollars to Kenya's economy and create over 52,000 jobs in the next 10

years. This, combined with a sustainable approach, should make a difference in the protection of maritime ecosystems.

END

Morocco

- COUNTRY REPORT -

Towards the Development of a Moroccan Blue Economy Strategy

1) Country Overview:

The Kingdom of Morocco is located in Northwest Africa, right on the edge of the African continent, bordering Algeria to the east, Mauritania to the south, the Atlantic Ocean to the west, and the Mediterranean Sea to the north. The Moroccan coast extends over 3,500 km in length, with an exclusive economic zone of 1.2 million km^2, which makes the country a maritime nation by excellence.

The country is endowed with a strategic geographical position, as it links Europe to Africa and ensures the transition between the Mediterranean Sea and the Atlantic Ocean. Currently being at the center of an international dynamic evolution, its maritime space is rich in natural resources in terms of landscapes, habitats, and biodiversity, and are of global importance for the national economy.

According to a survey carried out by the High Commission for Planning in 2021, the population of Morocco is around **37.08** million people. In terms of the national-added value, the GDP of the country amounted in 2021 to **$142.9 billion**, of which nearly 2% was related to blue economy activities. However, this figure seems insignificant compared to the embedded national potential to be unlocked.

- Map of Morocco:

2) Economic Pillars of the Country:

In recent years, the Moroccan economy has witnessed substantial reforms with the aim of setting a national development scheme, able to ensure inclusive growth, create jobs and reduce social and spatial disparities. This shift, though in a context marked by a notable international financial and economic crisis, has contributed to consolidating the gains without compromising the stability of the fundamental balances and strengthening the resilience of the national economy. In terms of achievements, suffice it to mention that the different sectoral strategies mainly on agriculture, industry, and services launched have gradually induced considerable changes in the economic structure.

The ***agriculture sector.*** which includes mainly outputs from farming, fishing, and forestry, represents ***12%*** of the national GDP. With regard to ***farming activity***, it is becoming less dependent on weather conditions, in particular, due to the efforts deployed within the framework of the ***Green Moroccan Plan***, launched in 2008. In terms of farming activities, It is to be noted that this field has gone through a profound change with the implementation of the structuring actions that have immensely boosted considerable investments, enabling domestic agriculture to reduce its dependence and its vulnerability to climate hazards and drought, mainly through an increase in plantations with high value, at the expense of cereals. Also, it is instrumental to highlight that the integrated projects carried out within ***the Halieutis Strategy***, which constitute the country's fisheries roadmap, have been valuable in terms of the management of the marketed species (80%) and the enhancement of the valorization of sea products.

Regarding the industrial sector, which represents around **26%** of the national GDP, the development of 2.6% per year was mainly driven by the processing industries which constitute 17.2% on average of the total value added. In this respect, the sector of phosphate and derivatives, one of the important fields, has achieved remarkable growth with respect to exports and Investments. This promising trend has confirmed the leadership of the country in the international market as being the third producer in the world behind the United States and China.

Also, the country has strived to consolidate the competitive position of the national industry in the global value chain via the emergence of new sophisticated high-value industries, as reflected by the considerable growth of automotive and aeronautics.
There has been a notable increase .in the exports of the national automotive sector, which ranks first in terms of export activities in 2021. The installed production capacity is 700,000 vehicles per year, while the local integration rate in 2021 reaches 63%, with the objective of increasing it to 80% over time.

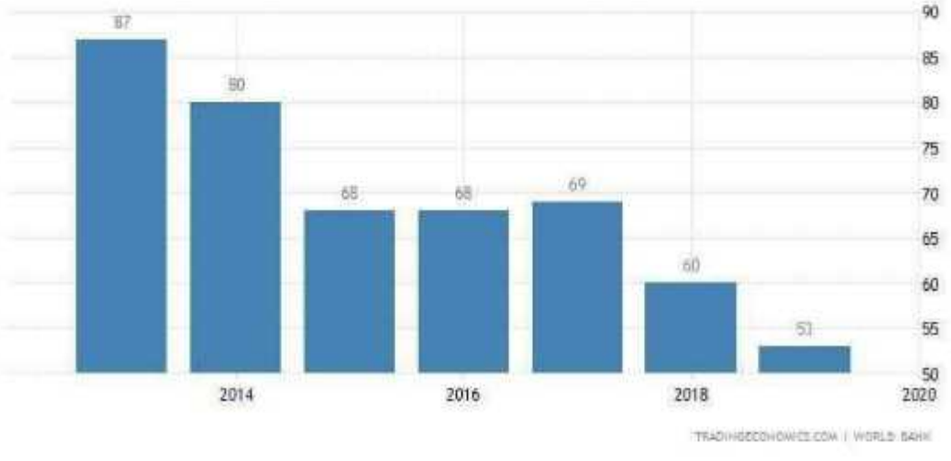
As for the ***service sector*** which represents **51.5%** of the national GDP, it has achieved an increase of **4%** on average per year due to the major reforms, initiated within the sectors of information technology, communication, banking, and services rendered to enterprises. Tourism, considered another significant driving sector for the national economy, has shown an average annual growth of over 5%, stimulated by a variety of new projects established under the framework of "Vision 2020".

3) Main Trade Features and Commercial Partners:

According to the latest figures, the country's exports have reached **$47.02 billion** in 2021. The main commodities subject to export are clothing and textiles, automobiles, electric components, inorganic chemicals, transistors, crude minerals, fertilizers (including phosphates), petroleum products, citrus fruits, vegetables and fish. The main export partners are mainly Spain (23.4%), France(21.1%) and Italy (4.6%)

Regarding the imports, they have reached in 2021 **$60.3 billion**, with main commodities including crude petroleum, textile fabric, telecommunications equipment, wheat, gas and electricity, transistors and plastics. The main import partners are Spain 15.7%, France 13.2%, China 9.1%, US 6.4%, Germany 5.9%, Italy 5.4% and Turkey 4.4%.
The recent figures for October 2022 show that the Moroccan economy has been marked by a continued increase on exports of phosphate products of (+63%), automobiles (+36.7 %) and textiles (24.4%). However, the balance of trade has continued its negative trend between august 2021, due mainly to the increase of the energy bill.

When it comes to ease of Doing Business, Morocco is ranked **53** among 190 economies in the ease of doing business, according to the latest World Bank annual ratings. The rank of Morocco improved to 53 in 2019 from 60 in 2018.



4) **Ocean Governance Framework:**

- Being a party to **the United Nations Convention on the law of the sea (UNCLOS 1982)** since 2007, Morocco has been actively involved in the negotiations for the conclusion of an **agreement on a legally binding international instrument on marine biodiversity within areas beyond national jurisdiction (BBNJ)**
- **The GFCM 2030 Strategy** for sustainable fisheries and aquaculture in the Mediterranean and the Black Sea constitutes an efficient roadmap at the national level
- The Adhesion on May 2022 to **the Port State Measures Agreement (PSMA)** expresses the strong political will of the country to reinforce the existing legal framework aiming to prevent and fight IUU fishing
- The country is contributing actively to the review process related **to the Barcelona Convention and its protocols**
- The involvement of the country in **the FAO Blue Port Initiative (BPI)** initiative will foster the managerial and technical capacities of port operators and create a network of blue ports
- During the « **One Ocean Summit** » (Brest, 2022) and the **UN Ocean Conference** (Lisbon, 2022), Morocco have reiterated its political will to endeavor towards the preservation of the ocean and urged countries and international organizations to promote the exchange of technical and scientific research capacities
- The updated version of the **Nationally Determined Contribution (NDC)** reflects the commitment to reducing the effects of climate change.
- **The 2030 National Port Strategy** is a comprehensive roadmap for the development of the port sector
- **The National Coastal Plan** (2020) aims essentially to reconcile environmental protection and economic activities
- The "**clean beaches Program**" (1999) monitored by the Mohammed VI Foundation for Environmental Protection (M6FEP) aims to protect beaches and coastlines
- **A National Emergency Plan for the Fight Against accidental Marine Pollution** (PUN) has been established to protect Moroccan hazards from potential hazards. This contingency plan is assessed through regular exercises (SIMULEX)
- **The Halieutis Strategy** has paved the way toward the elaboration of a set of best practices within the fisheries and aquaculture sectors, in particular with regard to Mediterranean fishing activities
- The implementation of the **National Sustainable Development Strategy (2017)** seeks a transition towards a green and inclusive economy by 2023
- In terms of energy transition objectives, Morocco aims to increase production capacity for solar, wind, and green hydrogen so as **to achieve as a whole a green energy share of 52% by 2030**
- **The New Development Model (2021)** aims to release energies and regain trust to accelerate the march of progress and prosperity
- The National strategy for the development of scientific research by 2025 is an institutional roadmap for the promotion of research and innovation

- **The National Institute for Fisheries Research (INRH),** has carried out an ambitious research and development system since 2010, through, among other things, the assessment of fish stocks and the impact of climate change on fishery resources (200 million DH)
- **-The specialized center of valorization and technology on marine products** (CSVTPM) of Agadir contributes to the development of seafood processing technologies and the promotion of fish products and ensures the monitoring and anticipation of technological innovation
- **The Higher Institute of Maritime Studies (ISEM)** has contributed to Morocco's inclusion on the International Maritime Organization's (IMO) whitelist and to the recognition of the Moroccan certificates by the European Commission

5) Legislation on Matters of Sustainable Development:

The commitment to Sustainable Development has materialized through the new constitution of 2011 which considered sustainable development as a right for all citizens and the framework law 99-12 on the Charter of the Environment and Sustainable Development and which calls on the Government to draw up a National Strategy for Sustainable Development (SNDD).

Adopted by the Council of Ministers on June 25, 2017, the SNDD aims to accelerate Morocco's transition towards a green and inclusive economy by 2030. To do this, this instrument has identified 7 major challenges, namely:

1- Consolidation of the governance of sustainable development
2- Success of the transition to a green economy
3- Improving the management and development of natural resources and the conservation of biodiversity
4- Accelerating the implementation of the national policy to combat climate change
5- Attribution of particular vigilance to sensitive territories
6- Promotion of human development and the reduction of social and territorial inequalities
7- Promotion of a culture of sustainable development

6) Administration of Maritime Affairs:

The management of fishing vessels is under the responsibility of the Department of Marine Fisheries, whereas the merchant fleet is steered by the Directorate of Merchant Marine, which is part of the Ministry of Transport and Logistics. Pursuant to the Decree No. 2-06-472 of 2 of August 4, 2008, the duties of the Directorate of Merchant Marine include, inter alia:

- The elaboration of the shipping policy
- The registration of the merchant fleet
- Follow up on the various economic and technical studies concerning the maritime transport and leisure segment and the related activities
- Contribute to the implementation of the National SAR Plan, in coordination with the concerned administrations
- Contribute to the implementation of the various established national plans for the prevention and combating of marine pollution
- Education and Training of seafarers
- Monitor and manage maritime traffic in the strait of Gibraltar

7) Involvement in the IMO Mandate:

The Kingdom of Morocco is member of the International Maritime Organization since 1962. The country has been always elected as a member of IMO's council since 1992. Convinced of the important role and objectives of IMO, the Kingdom of Morocco has ratified a considerable number of conventions related to safety of life at sea, prevention of pollution and preservation of the marine environment, training and certification of seafarers and security of ships and ports.

Whilst fully subscribing to the IMO's efforts, particularly with regard to the capacity-building of maritime administrations in developing countries, Morocco has been reiterating its determination to collaborate and work consistently with other Member States in the development of technical assistance programs for the region.

Morocco, as a flag State, ensures compliance of Moroccan vessels with international and national standards, and as a port State contributes actively to the activities of the Mediterranean Memorandum of Understanding on Port State control (MedMoU). To support this MoU, the country has been hosting and administering since 1997 the Information Center related to this regional agreement.

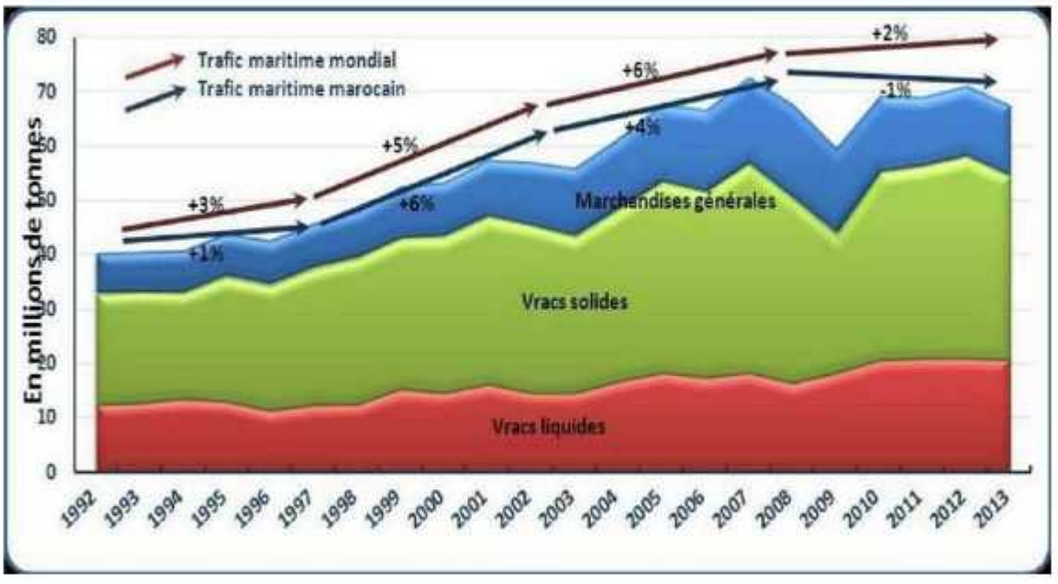
With regard to port and maritime security, the country ensures that its ships, ports and port facilities comply with the provisions of the ISPS Code. In this respect, all Moroccan ports and port facilities are certified in accordance with this Code. Also, bearing in mind the importance of reinforcing the domestic legal framework on the subject matter, the Kingdom has continued its endeavor to give effect to the existing international regulations in force by the IMO mandatory instruments into the national regulatory body.

It's to highlight the valuable contribution of the country to the efforts deployed by IMO in terms of setting a cleaner shipping, as Morocco has been actively involved in various initiatives in the field , such as the project entitled "Transforming the International Maritime Transport Sector to Reduce Carbon Emissions through Energy Efficiency Improvement -GLoMEEP", aimed at increasing knowledge and understanding technical and operational measures related to the energy efficiency of ships and to develop national, regional and global capacity-building partnerships to improve the energy efficiency of shipping.

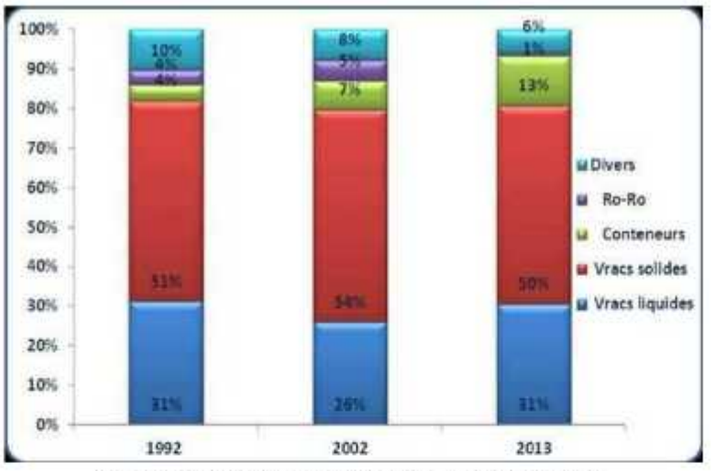
8) Maritime Transport:

- Shipping Trends:

The national maritime traffic, which was following a positive trend during many years by a positive and steady growth of the exchanges on the various types of goods, has accused since 2007 strong fluctuations. Thus, after an annual growth of 9% in 2007, the maritime traffic fell by 7% in 2008 then by 12% in 2009, further to the world economic crisis, before an important resumption becomes apparent in 2010 by +16%. The traffic stagnated in 2011 (-0, 2 %) before getting its upward trend back in 2012 (3%) and in 2013 (+9%). This evolution, which is due, essentially, to that of the solid bulks goods which represent more than 50 % of the maritime traffic and other goods (in particular the containerized goods the part of which increased by 12 % in 2013 against 4 % in 1992), was compatible with the movements of the world maritime traffic. Indeed, the world and Moroccan maritime traffics globally followed the same trend of growth over the period between 1992 and 2012.



Specifically, an insight into the structure of marine traffic from 1992 to 2013, shows that there has been approximately a steady evolution of solid and liquid bulk, which has turned respectively around 50 and 30% of the total traffic, whereas the container segment has recorded a continuous evolution from 4 to 13%.



Source: Elaboration DEPF, data ANP et CNUCE

It is to highlight that Morocco makes an exception in Africa with one of the shortest times spent by vessels in ports in the world. As an illustration, Tanger Med port is the best-connected port in Africa. It is expected overall that the annual growth of maritime trade worldwide will slow to 2.4% between 2022 and 2026, compared to 2.9% over the past two decades.

- Ports:

Morocco's ports which are the key assets for linking the logistics chain to international trade are contributing to a large extent to the economic and social development of the country. Conscious of these considerations, the Kingdom has established an ambitious strategy to ensure a harmonious development of ports, in coordination with sectoral strategies and spatial and environmental planning policies. The strategy adopted in 2012 by the Ministry of Equipment, Transport and Logistics in the horizon of 2030 focuses on six central regional ports hubs specialized in specified activities such as the one of Abda Doukkala dedicated to heavy industries.

Governance of the port sector

The governance of the port sector is shared mainly by two institutional entities, namely the Directorate of Ports and Maritime Public Domain , which is part of the Ministry of Equipment and Water and the National Ports Agency(NPA).

Missions of The Directorate of Ports and Maritime Public Domain:

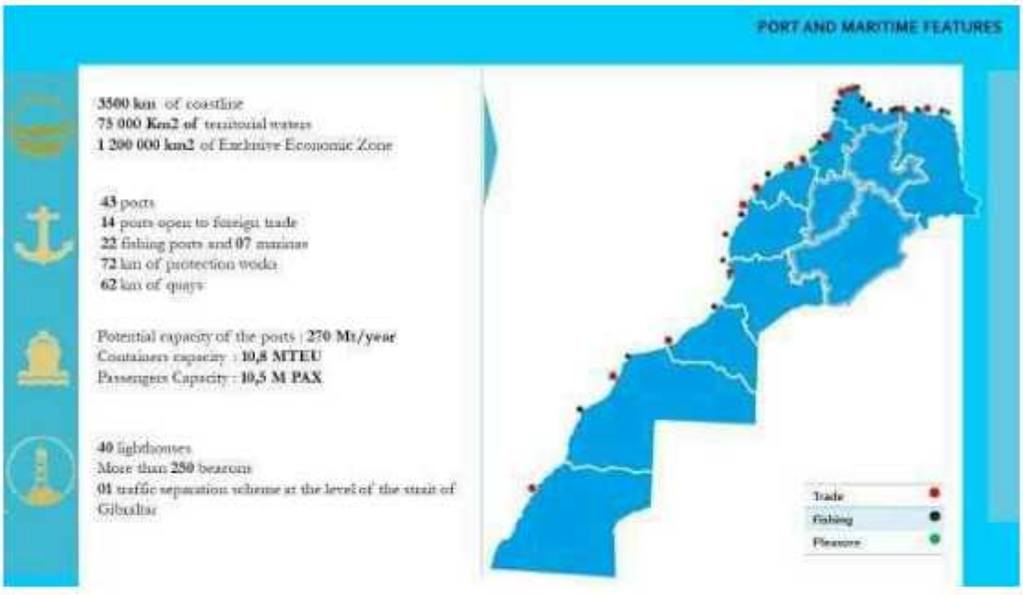
- The development and monitoring of the implementation of the Ministry's policy in the port sector and the maritime public domain.
- The construction of new ports and maritime infrastructures.
- The management, protection and enhancement of the maritime public domain.

The National Ports Agency (NPA): It is a public institution with a legal personality and financial autonomy and which is under the technical supervision of the Ministry of Equipment and Water. The agency is subject to the financial control of the State that is applicable to public institutions in accordance with current legislation

The National Port Agency which is entrusted by law with the role of the port Authority, carry out the following missions:

- Ensuring port management and proper procedure of the port police;
- Monitoring compliance with safety and operating rules under current laws and legislation;
- Optimizing the use of the port facility to improve port competitiveness and simplify procedures and modes of organization.

- Ports Typology:



- Targets of the 2030 Port Strategy:

- Connectivity with the African Continent:

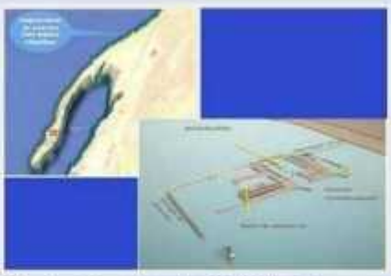
The structural strategy of the port sector by 2030 is gradually being implemented in the light of the development of the port landscape, which is reflected in the implementation of structuring projects, mobilizing an investment envelope of more than 60 billion dirhams, particularly for the construction of new port complexes. Several projects are planned within the framework of this strategy, such as the mineral port of Safi on the Atlantic.

According to the connectivity index (Liner Shipping Connectivity Index) measures Tangier Med which welcomes ships of large capacity is currently connected to 161 ports and 63 countries on five continents.

- Some Mega Future Port Projects:

New Port of Dakhla Atlantic

- This mega project of strategic importance for West Africa and for the southern provinces of the country will support the economic, social, and industrial development of the region.
- It will provide the region with modern logistics able to attract investment opportunities and boost connectivity, particularly with respect to African ports
- **industrial-logistic zone, a commercial exchange zone, and another dedicated to the promotion of maritime fishing activities**
- Main works: trade basin equipped with **an oil berth, a coastal and deep-sea fishing basin and a ship repair yard**
- Expted area : **1650 hectares**
- Expected cost : **12,5 billion DH**
- The timeline: **2021-2028**
- The first terminals will be in service in **2029**



40 km from the southern city of Dakhla located on the Atlantic coast of the country

New Port Nador West MED

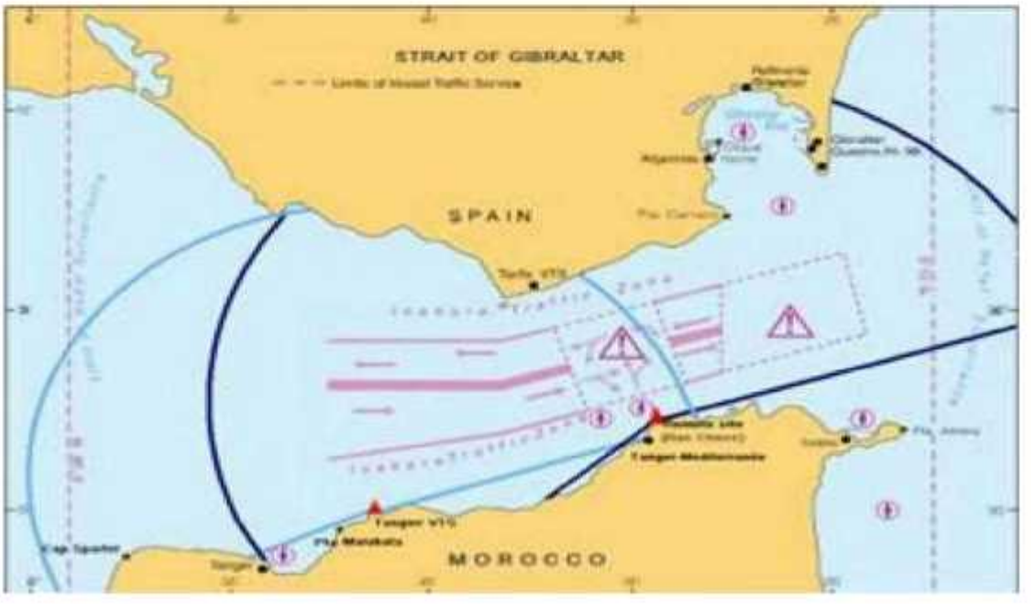
- Initiated in 2016, the port of Nador West MED envisages the creation of capacities for bulk and energy products, in addition to container terminals;
- This infrastructure seeks the economic, social, and industrial de development of the oriental region of the country;
- The construction of the first port module is expected to be finalized **before the end of June 2024**;
- *- a main breakwater: 4300 m*
  - two container terminals: 1620 m, 600 m
  - An oil terminal with three oil berths with a depth of -18 m
  - a bulk carrier terminal: 360 m quay and a depth of -20m
  - a miscellaneous terminal with a depth of -11m
- The EBRD granted a loan of 100 million euros to the Nador West Med company (NWM).

30 km from the northern city of Nador located on the Mediterranean coast of the country

- Maritime Safety and Security:

In accordance with its obligations as a coastal State, Morocco has established a coastal VTS operational in the Strait of Gibraltar since 1 December 2010, this latter which ensures the surveillance and safety of navigation in accordance with the adopted organization's guidelines in this regard.

Morocco has also installed along its coasts a network of AIS coastal stations, supported by a database for tracking ships carrying hazardous materials. In addition, a VMS scheme is in operation for monitoring of fishing vessels in Moroccan waters.



Maritime signaling is a major element of the overall concept of maritime safety, enabling all navigators to position themselves and avoid dangers. To this end, Morocco as a coastal State ensures the safety of navigation by the development, management, maintenance of maritime beacons, lighthouses and aids to navigation along the Moroccan coasts, as well as those marking routes in accordance with the rules of the IMO and the International Association of Maritime Signaling (IALA).

Pursuant to the provisions of Chapter V of the SOLAS Convention, Morocco also ensures the provision of nautical information by collecting, analyzing and distributing notices to mariners and sailing instructions. For this purpose, a national mobile application integrated into a Geographic Information System (GIS) for the publication and automatic updating of information on the availability of aids to navigation, nautical notices and incidents at sea has been set up to provide real-time alert information.

In terms of port and maritime security, Morocco as a port state approves security assessments and plans. To this end, it shall issue certificates of conformity to the ISPS Code for ships, ports and port facilities. Thus, all Moroccan ports and port facilities are certified. Morocco is aiming in the future to consolidate its national legal and regulatory background to make it in line with the existing mandatory international regulations prescribed by IMO.

As a flag state, Morocco has recognized by decree a number of classification societies (BV, LR, ABS, DNV, NKK...) to issue certificates on behalf of the Administration, in accordance with the rules of the international conventions, such as the load lines convention. These societies are allowed to carry out the necessary regulatory verifications (Initial, intermediate.), and issue the relevant certificates for the ships flying the Moroccan flag. The domestic legislation complies in this respect with the Directives concerning the authorization of organizations acting on behalf of the Administration, in virtue of resolutionA.739 (18), adopted by the International Maritime Organization.

Through the creation of its own national hydrographic service, Morocco aims to ensure its autonomy in the production and edition of nautical charts and works and securing of navigation and access routes to the Kingdom's ports.

9) Prevention of Marine Pollution:

Bearing in mind the crucial importance of the conservation and the protection of its marine environment, Morocco has ratified the majority of IMO conventions related to the prevention of marine pollution from ships including Annex VI of MARPOL and the Ballast Water Management Convention (BWM 2004).

In order to enhance the competencies of the human element with regard response and control against accidental marine pollution, Morocco organizes every two years a Simulation exercise.

It is to be noted that Morocco has established a National contingency plan for fighting against accidental marine pollution (PUN), in order to cope with massive accidental pollution or serious threats of pollution which may affect marine waters under the sovereignty or national jurisdiction and the Moroccan coast (and its related interests).

The National Contingency Plan for the Prevention of Marine Pollution which consists of a set of necessary information, directives and instructions enabling the public authorities to prevent or combat in best conditions any marine pollution by oil and other harmful substances, threatening the marine environment and the national coastline, aims inter alia:

- The establishment of an appropriate detection and warning system in the event of massive marine pollution
- The rapid, effective and coordinated organization of preventive and control actions and the definition of the main elements, in particular through the rational management of the means of fighting, the distribution of responsibilities and tasks, the identification of the most sensitive areas to be protected as a priority and storage sites for the recovered products
- International cooperation and facilitation of mutual assistance if such assistance is requested or if Morocco is engaged in agreements to which it is a party in international cooperation
- The accounting management of operations for possible future compensation
- the management of the stock of anti-pollution products and equipment and the updating of the inventory of available personnel and equipment
- Training of qualified personnel in the prevention and control of massive marine pollution by hydrocarbons and other harmful products

In terms of protection of underwater cultural heritage, Morocco has deployed a considerable effort to build an inclusive strategy, coherent and voluntary in this respect with a pool of officials and experts duly recognized on the international scene. Recently and as recognition for his outstanding performance by the international community, Morocco has been elected President of the Scientific and Technical Advisory Council of the UNESCO Convention on the Protection of the Underwater Cultural Heritage of 2001.

It should be stressed either that the organization of the 22nd Conference on climate change **COP22** in Morocco in 2016 is considered a recognition by the international community of the achievements carried out by the country all over these years towards the creation of a safer and cleaner environment, pursuant to the principles of sustainable development laid down by the United Nations SDG 2030.

It's to bear in mind that organization of the action of the state at sea and which is ensured by the Royal Navy, devotes an appreciated part to some other public activities, in particular:

- Maritime and Port security
- Protection of the marine environment
- Combating illicit trafficking by sea
- Fisheries surveillance and control

To carry out these missions, important types of naval means are deployed throughout the Moroccan maritime zones as well as some radar stations located all over the national coast.

- Plastic Pollution:

5. Interactions between marine litter and the blue economy (2)

- The adhesion of the country to the international efforts aiming to end plastic pollution as reflected through the adoption of the UN Environment Assembly **resolution 5/14** ((2022) is an impetus to promote the inception of more valorization and recycling projects;
- Initiatives such as the "**Moroccan Supermarkets tackling Single-Use Plastics**" (MOSSUP) project has been partnering with Moroccan supermarket chains since early Spring 2021, helping the country to take important steps to address plastic pollution.

10) Renewable Energy:

8. Marine renewable energies (1)

- The National Ports Agency has carried out an electrical audit on 15 ports, mainly small ones in order to identify the source of energy savings, with due consideration to the study of integration of renewable energy alternatives;
- A partnership agreement has been convened with the Solar Energy Research Institute (IRESEN), in order to provide support and technical assistance in the field of green hydrogen and its derivatives;
- Conclusion of a partnership with the Moroccan Agency of Sustainable Energy (Masen), aiming to speed up the transition process;
- Consultations are underway with the World Bank to launch a study on the bunkering of ships with clean fuel within moroccan ports.

11) Search and Rescue

As a party to the 1979 convention on rescue at sea (SAR), the Kingdom of Morocco has embarked on the path of developing its structures of search and rescue at sea, covering a strategic maritime area of over 1 million km^2 within which operates a significant number of merchant ships, fishing and leisure vessels.

Hence, the country has established a national scheme of search and rescue, provided with a set of means including equipment and skilled human resources, organized within a process of planning and coordination of interventions at sea. The SAR process, mainly initiated by the National Maritime Rescue Coordination (MRCC) located in Bouznika (Rabat) is based upon:

- 21 rescue boats and 21 semi-rigid lifeboats distributed along the coast of the Kingdom
- A number of air and sea units belonging to other national bodies that can be deployed when needed in accordance with the National Sar Plan (PNS)
- At the national level, programs have been launched in terms of capacity reinforcement, training of SAR personnel and acquisition of units dedicated to SAR missions
- At the regional level, it is essential to underline that Morocco has launched a cooperation scheme under the framework of the initiative <<5+5>> and has been the host of the Regional Maritime Rescue Coordination Center of the West African region, which covers respectively the maritime zones of Morocco, Mauritania, Senegal, Gambia, Cape Verde, and Guinea Bissau

12) Seafarers and Maritime Education and Training

Through its schools and training institutes, Morocco is highly involved in the maritime training of the human element. Apart from the specialized institutes in training merchant navy officers, mainly the Higher Institute for Maritime Studies, those dedicated to fisheries training (Institutes of Maritime Fisheries) and the Royal Naval School, the country has an extensive network of vocational training centers.

In this respect, it's to underline that the Higher Institute for Maritime Studies has launched during recent years a process of reforms of the educational programs and infrastructures in place. In fact, a notable endeavor has been carried out in terms of providing the Institute with a number of simulators, for bridge and machine respectively and proceeding to the renovation of its practical training laboratories. However, more efforts are to be done in upgrading the various laboratories, particularly those of electronics and electrical engineering, with a view to improving the research potential of the university, which may be crucial to attract donors likely to finance research works in issues with high added value.

To achieve its main objectives, the Institute has strived to set a modern system of governance, based on a quality approach covering the entire system (training, administration, support ...), so that all stakeholders are fully involved within the process. Already certified ISO 9001 version in 2008, the Institute is targeting for the next four years to extend its perimeter of quality to the environment and the management.

In this respect, new technologies have been introduced in all maritime training establishments through the use of different types of simulators, linking the acquisition of knowledge with the demonstration of skills, pursuant to a competency-based approach.

The GMDSS and basic training on maritime safety has also been prioritized and integrated into training programs in accordance with the provisions of the STCW and STCW-F Conventions ratified by Morocco.

Within the framework of South-South cooperation, Morocco welcomes annually candidates from countries of the African continent who follow their training in the various maritime and port institutes.

These candidates constitute 30% of the trainee intake. Among the countries covered by this cooperation, Senegal, Togo, Mauritania, Congo, Democratic Republic of Congo, Benin and Djibouti.

Academic Year	Number of Graduates				Total
	Deck officer First Class	Marine engineer First Class	Lieutenant Long Course	Lieutenant (Engineering) First Class	
2011-2012	13	20	21	23	77
2012-2013	23	26	22	25	96
2013-2014	18	14	22	18	72
2014-2015	9	13	13	10	45
015-2016	10	15	24	17	66

Number of Graduates of the Higher Institute for Maritime Studies since 2012

13) Non–Seafarers Maritime Education and Training

As for the port sector, Morocco has a specialized training institute (IFP) for continuous training aimed at improving the competence of human resources for national and international needs. Several international partnerships and cooperation actions have been undertaken or are underway, including the training of Aids to Navigation managers in partnership with IALA and IMO.

In order to reinforce the technical capacity of the personnel in charge with navigational safety, Morocco has set up a partnership framework with the International Association of Maritime Signaling

(IALA), for the first time in Africa, through a training Session for Level 1 Aids to Navigation Managers at the Port Training Institute (IFP), in July 2017.

The organization of this internationally renowned training has required at the first place an accreditation of the IFP by the national competent, authority as a training organization that is recognized worldwide for the organization of such kind of trainings.

The session was attended by 15 participants from various Moroccan public and private firms, operating in the field of maritime signaling. Among the participants, there have been three African nationals coming respectively from Coast Ivory, Benin and COMORES Islands and which have been sponsored by IMO.

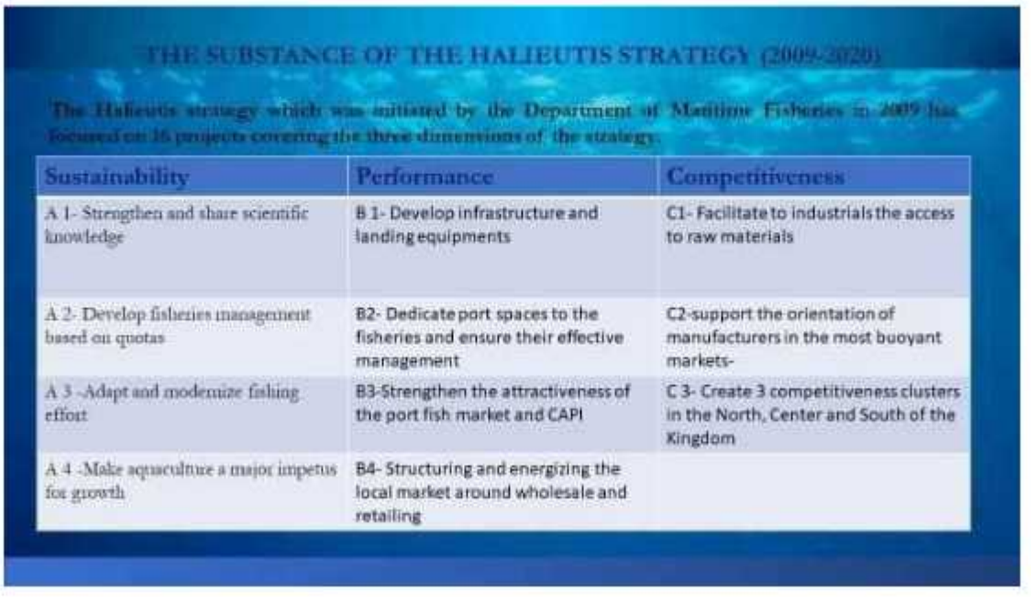
In the same perspective of consolidating a strong and tight relationship with IALA, Morocco hosted in 2018 the third pre-conference of this organization with the aim of accompanying it in its structural project, towards a change of status and a new positioning within the maritime world.

14) Moroccan Fisheries and Aquaculture:

- Fisheries:

With a total coastline of more than 3500 km on the Mediterranean Sea and the Atlantic Ocean, Morocco has an exclusive economic zone of more than one million km, The high biodiversity of the Moroccan coast is characterized by the presence of around 600 species, among them 60 species are commonly exploited. In terms of volume, 85% of small pelagic species are concentrated in the central and southern Atlantic. As for the distribution of the catches, 7% of the total harvest comes from the Mediterranean, 9% in the North Atlantic, 30% in the Central Atlantic and 55% from the South Atlantic. This potential puts Morocco among the world leaders in the international market for fishery products, in particular for certain products such as canned fish, fish meal, and Agar-Agar.

Given the economic and social importance of the fisheries sector in the Moroccan economy, a national strategy under the name of « Halieutis » has been launched since 2009, setting a number of objectives to be achieved by 2020. This ambitious and comprehensive roadmap has sought upgrading and modernization of the different segments of the fisheries sector as well as improving its competitiveness and performance within the international market for fish and fishery products.



From a practical perspective and in order to ensure a sustainable exploitation of fisheries resources, a set of management plans based on biological, environmental, technical and socio-economic consideration have been put in place regarding a number of endangered species such octopus, small pelagic fish, swordfish and crustaceans.

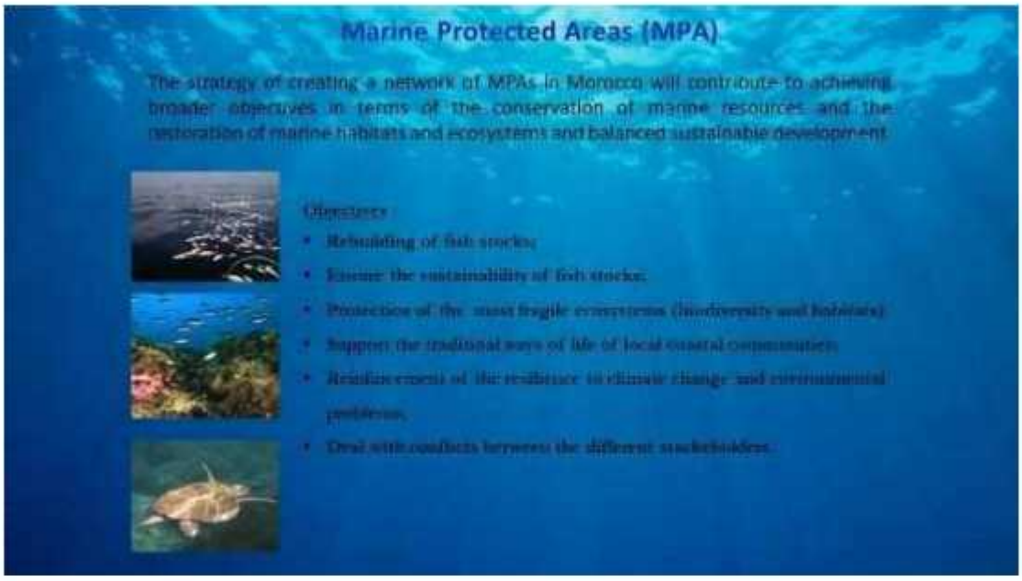
In this respect, the Halieutis strategy has set various management measures, to mention inter alia, introduction of quotas, spatio-temporal closure, regulation of bycatch and the use of vessel monitoring systems. It is significant to underline the great endeavor carried out in terms of deterring and combating Illegal, Unreported and Unregulated fishing, mainly through the enactment of a specific law in this regard.

Due to different hindrances faced by the artisanal fisheries, in particular with regard the conservation and the commercialization of the catches, the Department of Marine Fisheries has initiated in coordination with its partners a national program for the construction of fishing villages (VDP) and equipped landing points (PDA), along the Moroccan coasts (40 units)

The canning industry has experienced a great development over the years, due to the continual improvement of manufacturing technologies, the abundance of resources, and the diversification of products. This trend has permitted the Kingdom to acquire a renowned position in international markets in this specific segment.

- Aquaculture:

15) Protection Through Marine Protected Areas:



Establishment of 03 MPAs for fishing purposes- 2014

03 boats have been dedicated to carrying out control and surveillance

Three Ministerial orders have been adopted as relevant legal instruments related to these MPAS

Placing beacons within MPAs

2020-2022: Study for the installation of signaling and beaconing equipment at sea of three marine protected areas for fishing purposes (In the process of being finalized)

Nigeria

SASAKAWA FELLOWSHIP AFRICAN REGIONAL MEETING REPORT:

A REVIEW OF THE NIGERIAN MARITIME INDUSTRY

COUNTRY OVERVIEW

Nigeria is located in West Africa, and has a population of about 211 million people, which makes it the most populous country in Africa and the seventh most populous country in the world. It shares borders with Benin, Niger, Chad, and Cameroon.

The country is divided into 36 states and one Federal Capital Territory. Nigeria's physical geography is diverse, with areas of savanna, tropical rainforest, and coastal plains. The Niger River, the third-longest river in Africa, flows through Nigeria, and the country also has several large lakes, including Lake Chad. The official language is English, and the currency is the Nigerian naira. Nigeria is known for its diverse culture, music, and literature.

Nigeria has the largest economy in Africa, with a Gross Domestic Product (GDP) of $448.1 billion in 2020 according to the World Bank. The country's economy is heavily dependent on the oil sector, which accounts for over 80% of Nigeria's exports and government revenue. However, Nigeria has made efforts to diversify its economy by investing in other sectors such as agriculture, manufacturing, and technology. Apart from oil and gas, Nigeria is also rich in coal, iron ore, tin, limestone, lead, and many other natural resources.

Agriculture is an important sector in Nigeria's economy, employing over 60% of the workforce and contributing to 22% of the country's GDP. The country's main agricultural products include cassava, yam, maize, rice, sorghum, and millet. Nigeria is also a major producer of cocoa, palm oil, and rubber.

Nigeria's maritime industry is a vital sector for the country's economy, with its ports serving as major gateways for trade and commerce. The country has seven significant seaports, located in the west and south of the country. In 2020, the country's ports handled approximately 133.4 million metric tonnes of cargo, with imports accounting for over 80% of the total cargo. The ports also facilitate exports of various commodities, including oil and gas, agricultural products, and solid minerals.

Nigeria's marine ecosystem comprises the Atlantic Ocean, the Gulf of Guinea, and the Niger Delta region. It is rich in biodiversity and is home to a wide variety of flora and fauna, including over 1,000 fish species, 14 marine mammal species, and five species of sea turtles. The coastline is about 853 km long and includes sandy beaches, rocky shores, estuaries, and mangroves.

KEY SECTORS IN THE NIGERIAN MARITIME INDUSTRY

There are different sectors which make up the Nigerian maritime industry, including the following:

- Shipping and Ports
- Oil and Gas
- Fisheries
- Transportation
- Tourism

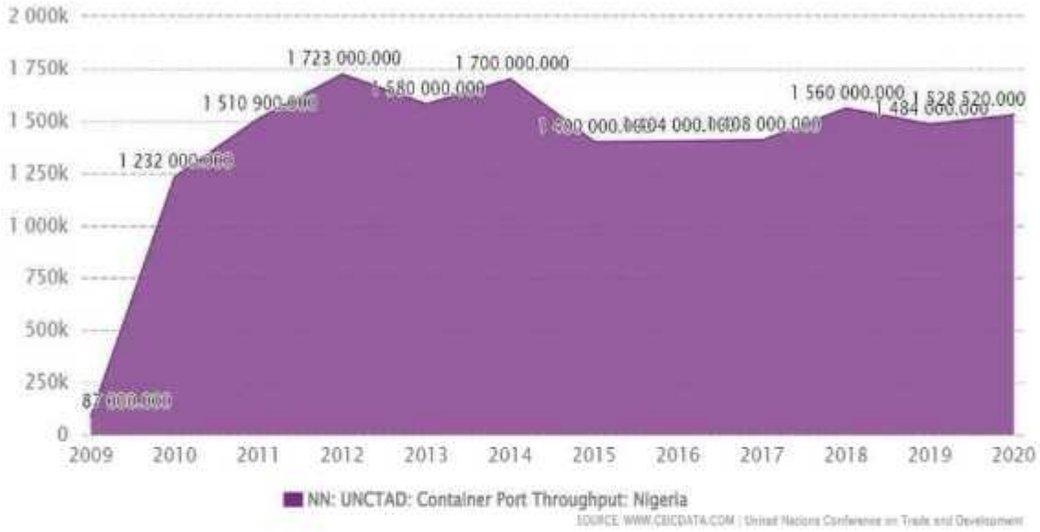
SHIPPING AND PORTS

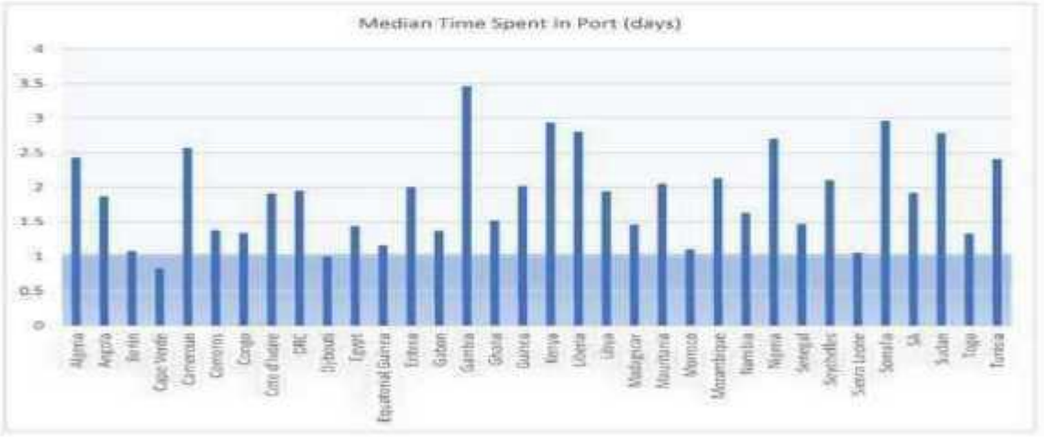
Six major seaports in Nigeria

The Nigerian shipping and port industry is a vital component of the country's economy. According to the Nigerian Ports Authority (NPA), over 90% of Nigeria's international trade is conducted through seaports. The country has six major seaports, including the Lagos Port Complex, Tin Can Island Port, Onne Port, Calabar Port, Delta Port, and Rivers Port. In 2020, the Nigerian Ports Authority reported a total cargo throughput of over 80 million metric tonnes, which was a 2.2% increase from the previous year.

The Nigerian government has implemented several initiatives to enhance the efficiency of the ports, such as the automation of operations and the construction of new terminals. These initiatives have helped to reduce challenges such as congestion, high shipping and handling costs, and inadequate infrastructure. According to UNCTAD, the container throughput numbers is on the increase since

2021 and cargo dwell time in the ports is above average and has improved in recent years.





Average cargo dwell time in Nigerian Ports compared to selected African countries

Seaport Services in Nigerian Ports

Seaports provide a range of services, including cargo handling, storage, and transportation. They also provide customs clearance, quarantine services, and other regulatory services necessary for the import and export of goods. In recent years, the Nigerian government has made significant investments in the seaport

infrastructure to improve their efficiency and capacity. This includes the construction of new port terminals, upgrading of existing facilities, and the implementation of modern technologies to improve port operations and reduce cargo processing time. Services offered by Nigerian Ports can be categorized into the following:

- Harbour services
- Cargo handling
- Marine services
- Health Safety and Environmental services
- Security services
- Commercial services
- Engineering and technical services
- Lands and estates services

Lagos Port Complex, Apapa

This is the largest and oldest port in Nigeria. It is located in Apapa, Lagos State, which is the commercial hub of Nigeria. The port was founded in 1913 and the first four deep-water berths were constructed in 1921. The Apapa Port is equipped with state-of-the-art cargo handling equipment and facilities, which makes it cost-effective and customer-friendly.

It is well-connected by rail, water, and road transportation modes. Furthermore, the port boasts a four-wheel gate with a height of about 8 meters, which gives it an advantage in handling oversized cargo.

Lagos Port Complex, Apapa.

Largest port in Nigeria with 21 berths, quay length of 2,537 meters, channel depth of 13.5 meters, container handling capacity of 3.9 million TEU

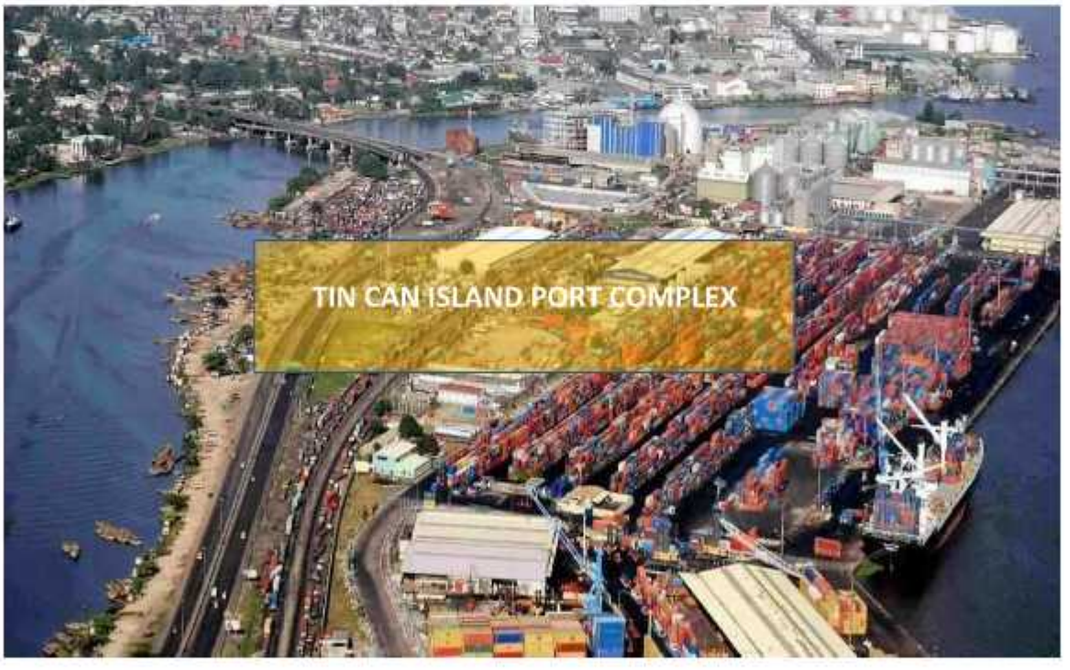
To improve the operational efficiency of the port, the Federal Government introduced the landlord port model, which led to the concession of the terminals to private operators in 2006. Currently, the Lagos Port Complex has five private terminals managed by experts with both local and international experience in port operations. These terminal operators include AP Moller Terminal Ltd. (APMT), ENL Consortium Ltd. (ENL), Apapa Bulk Terminal Ltd. (ABTL), Greenview Development Nigeria Ltd. (GNDL), and Lilypond Inland Container Terminal.

The port additionally features two logistics bases, namely Eko Support Services Ltd. and Lagos Deep Offshore Logistics (LADOL), as well as eight jetties. Sugar, salt, and flour are produced in factories owned by operators within the port premises. The Lagos Port Complex is registered as an ISPS-certified facility with the International Maritime Organization (IMO). The port operates 24 hours a day and has an impressive vessel turnaround time.

Tin Can Island Port Complex, Apapa

Tin Can Island Port is also located in Lagos and has a bearing of latitude 62*N longitude 30* 23E. It was established in 1975 when the country was experiencing an increase in economic activities during the oil boom coupled with the post-civil war reconstruction. This led to a high volume of imports and exports that resulted in severe port congestion. The port was constructed to address the congestion problem.

A map of Tin Can Island Port Complex, Apapa, Lagos.



Private terminal operators took over the port in 2006 as part of the government's port concession programme. Operationally, there have been marked improvements in turnaround time and berth occupancy. Average Berth Occupancy rate has improved to 83% as of 2022.

Rivers Port, Port Harcourt

The port is situated in River State, south-east Nigeria. It evolved from one berth for coal exportation to a port with a quay length of 1,259, capable of accommodating eight modern sea-going vessels loading and discharging at the same time. The port is also equipped with 16 tanks with a 3,048-ton capacity for bulk oil installation. This has a conveyor belt and a pier holding the structure, while there are also seven stacking areas of 27,407.15 square meters and four (4) Arcon sheds with a storage capacity of 12,486.15 square meters.

It is a multi-purpose port and plays the 'Mother Port' role to several surrounding jetties through the provision of pilotage and towage services, and catering to the various markets relating to dry, liquid and general cargo trades. It is worthy to note that the port is situated strategically in one of the world's largest crude oil production regions. Like other ports in the country, Rivers Port was also concessioned to private operators during the government port concession exercise.

A section of Rivers Port, Port Harcourt, Rivers State

Onne Port Complex, Onne

Onne Port is also located in River State along the Bonny River Estuary, covering an area of 2,538.115 hectares. It is the first port of its kind in Nigeria to operate the landlord port model with the aim of encouraging private sector participation in the port industry.

The port is one of the largest Oil and Gas Free Zones in the world, providing logistics support to the oil and gas industry in Nigeria both onshore and offshore. It also provides easy access to the entire West African and Sub-Saharan oil fields.

The port accounts for over 65% of the export cargo through Nigerian seaports. In addition to oil and gas operations, other port operations are also carried out in the port such as general cargoes, bulk cargoes (dry & wet), containerized cargoes, and other logistics services.

Delta Port, Warri

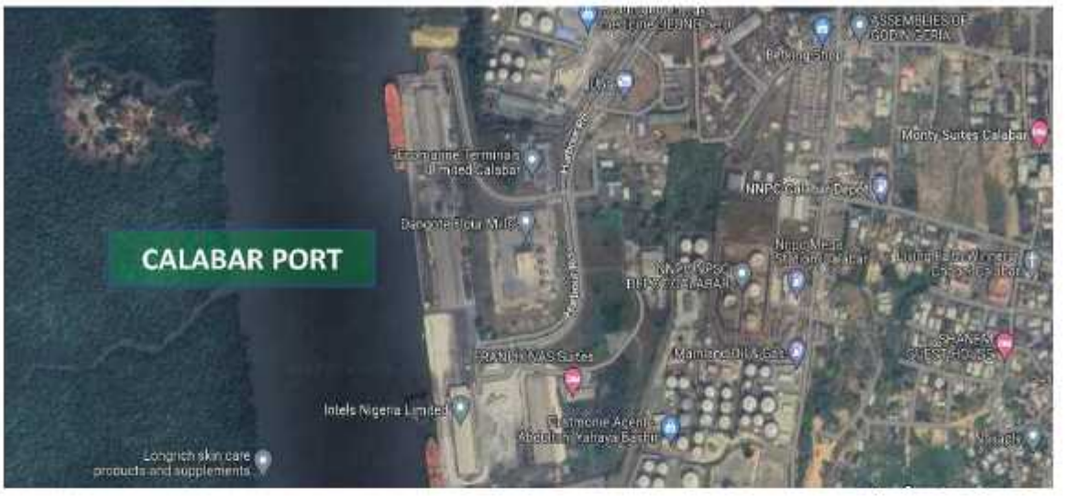
Delta Port is located in Warri, Delta State, in south-south Nigeria. It handles mixed cargo and some oil and gas operations. The port is operated by a number of private operators jointly with the Nigerian Ports Authority, and it has a shorter distance for the haulages of cargoes to states within the Delta catchment areas.

The port has a huge berthing capacity with many jetties, oil tank farms, and multiple companies taking advantage of proximity to the port. As part of efforts towards its growth and development, the port is establishing EGTL facilities for gas exportation which is about to commence production soon.

Calabar Port Complex, Calabar

The port is located in Cross River State. It has a total area of 400,000 square meters and a quay length of 270 meters, making it capable of accommodating vessels with a maximum draft of 7.5 meters. The port has four berths with a total capacity of 11,000 DWT and can handle up to 350,000 metric tonnes of cargo per year.

The port also boasts modern facilities and equipment, including a container terminal with a capacity of 6,000 TEUs and a dedicated oil and gas terminal. In addition, the port has a bonded terminal, a transit shed, and a truck park to facilitate efficient cargo handling and storage.



In terms of cargo, Calabar Port is primarily an export-oriented port, with most of its cargo consisting of cocoa, palm oil, rubber, timber, and other agricultural products. The port also handles imports of raw materials, consumer goods, and machinery.

Another notable feature of Calabar Port is its strategic location, which provides easy access to neighboring countries such as Cameroon, Chad, and Niger. This has made the port a popular choice for traders and shippers in the region, contributing to its status as a key player in the West African trade network.

NEW SEAPORT PROJECTS

- **Lekki Deep Sea Port:** This port is newly constructed by the Lekki Port LFTZ Enterprise and commissioned by the president of Nigeria. It is located in the Lekki Free Trade Zone in Lagos. It has a capacity of 1.5 million TEUs (twenty-foot equivalent units) per year and will be able to accommodate the largest container vessels in the world.

- **Bonny Island Terminal:** This port is being developed by the Nigerian National Petroleum Corporation (NNPC) and is located on Bonny Island in Rivers State. It is primarily intended to serve the oil and gas industry and will have the capacity to handle very large crude carriers (VLCCs).

- **Ibom Deep Seaport:** This port is being developed by the Akwa Ibom State Government and is located in the Ibom Industrial City in Akwa Ibom State. It is expected to have a capacity of 2.5 million TEUs per year and will be able to accommodate the largest container vessels in the world.

- **Badagry Deep Sea Port:** This port is being developed by the Lagos State Government and is located in Badagry, Lagos State. It is expected to have a capacity of 1.5 million TEUs per year and will be able to accommodate the largest container vessels in the world.

Lekki Deep Seaport

Lekki Deep Seaport is a multi-purpose deep seaport located in the Lekki Free Trade Zone in Lagos, Nigeria. It is one of the most modern seaports in West Africa, with a capacity to handle larger vessels and various types of cargo.

Here are some key data about Lekki Deep Seaport:

Location: The port is located in the Lekki Free Trade Zone, which covers approximately 16,500 hectares of land in the eastern part of Lagos State, Nigeria.

Capacity: The Lekki Deep Seaport is designed to have a handling capacity of 1.5 million TEUs (twenty-foot equivalent units) per year, making it one of the largest ports in West Africa. The port is expected to handle a range of cargo, including containers, dry bulk, liquid bulk, and automobiles.

Infrastructure: The port has a 16.5-meter draft, which means it can accommodate larger vessels. It also has four berths, each with a length of 680 meters, as well as a turning basin of 600 meters in diameter.

Economic Impact: The Lekki Deep Seaport is expected to have a significant impact on the Nigerian economy. It is estimated to generate over 170,000 direct and indirect jobs, and it is expected to attract over $200 billion in foreign direct investment over the next 50 years.

Partnerships: The project is being developed through a public-private partnership (PPP) between the Lagos State Government and the Tolaram Group, which is a Singaporean conglomerate with interests in consumer goods, infrastructure, and real estate.

Timeline: Construction of the Lekki Deep Seaport began in March 2021, and the first phase of the project was completed in 2023. The project is expected to be fully operational by 2024.

In summary, the Lekki Deep Seaport is a major infrastructure project that is expected to have a significant impact on the Nigerian economy. With its large capacity, modern infrastructure, and strategic location, the port is expected to attract significant investment and create jobs for thousands of Nigerians.

CHALLENGES IN THE NIGERIAN MARITIME INDUSTRY

- **Port Congestion:** Some ports are currently grappling with congestion challenges, particularly in busy locations like Lagos. The government has introduced different measures to address this issue. Some of the measures include use of technology, regulations and enforcement, new port infrastructure and others.

- **Lack of modern infrastructure:** Our ports are currently going through infrastructure modernization campaign by both the government and private sector investors.
- **Multiplicity of agencies:** Multiple regulatory agencies carrying out operations in the ports cause delays and conflicting regulations. The government is working to introduce efficiency measures as part of the Ease of Doing Business Policy.
- **Road traffic gridlock:** Lagos roads experience traffic gridlock as a result of its huge population and the high business activities of the city. Effort is currently being intensified into improving traffic management in the city.
- **Poor road network:** Intercity cargo transportation is hindered in some parts of the country due to poor road network. The government is currently investing in new interstate roads, bridges and flyovers to ease movement of cargo from the ports to other parts of the country and also to neighboring countries.
- **Inadequate railway system:** The ports have very few rail lines for cargo transportation out of the ports, taking advantage of intermodal transport. Existing rail systems are few and old. There are a number of Public Private Partnerships to invest in rail system all around the country.

- **Port security challenges:** Security remains a constant challenge in our ports other maritime sectors. These issues are tackled with different measures as they occur.
- **Under-utilization of eastern ports:** Due to their distance and cost of logistics, cargo owners prefer to use western ports more than eastern ports. The government has introduces a number of incentives and waivers to encourage importers/exporters to patronize eastern ports.

OCEAN AND COASTAL AREAS

Nigeria's ocean and coastal areas are rich in natural resources, biodiversity, and cultural heritage. The country's coastline is approximately 853 kilometers long, stretching from Badagry in the west to Calabar in the east, which is part of the Gulf of Guinea. The Gulf of Guinea is a major hub for international shipping, oil production, and fishing in the region. The countries that share the coastline with Nigeria and the Gulf of Guinea include Benin, Togo, Ghana, Cote d'Ivoire, Liberia, Sierra Leone, and Equatorial Guinea.

Nigeria's coastal zone is characterized by sandy beaches, mangrove swamps, lagoons, and estuaries. The offshore areas include continental shelf and slope, canyons, and seamounts.

Nigeria's maritime zones from the internal and territorial waters, contiguous and exclusive economic zones (EEZ) are critical to the country's economy, as they support a diverse array of marine species that are essential for food security, livelihoods, and economic development. The fisheries sector, which is dependent

on the ocean and coastal areas, provides direct employment to over 6 million people and contributes about 4.5% to the country's GDP.

Fishing in Nigeria

The oil and gas industry is another significant contributor to Nigeria's economy, with the majority of the country's oil production occurring offshore. However, oil

spills from oil exploration and production activities have led to significant environmental degradation, affecting the marine ecosystem and the livelihoods of coastal communities. In 2020, there were over 1,300 oil spills in the Niger Delta, which is the main oil-producing region in Nigeria. These numbers have reduced in recent years as a result of different intervention programmes of the government.

Oil and gas facility in the Niger Delta

Coastal erosion is another significant challenge facing Nigeria's ocean and coastal areas. It is estimated that Nigeria loses about 1.5 meters of its coastline each year due to erosion, resulting in the loss of homes, infrastructure, and livelihoods for coastal communities. Climate change is also a significant threat to Nigeria's ocean and coastal areas, as it can lead to sea level rise, ocean acidification, and changes in marine ecosystems.

Coastal erosion along the coast of Bayelsa state, Nigeria

Coastal defense infrastructure by Lagos state government

To address these challenges and promote sustainable development of Nigeria's ocean and coastal areas, the government and other stakeholders have developed policies and initiatives to improve the management of marine resources, protect marine ecosystems, and promote sustainable livelihoods for coastal communities. These efforts include the establishment of marine protected areas, sustainable fisheries management, and coastal zone management programs. However, more needs to be done to ensure the sustainable use and conservation of Nigeria's ocean and coastal areas.

Water Bodies and Marine Ecosystems in Nigeria

Nigeria's marine ecosystems are diverse and vital to the country's economy, food security, and cultural heritage. These ecosystems include coastal mangroves, estuaries, seagrass beds, coral reefs, and open ocean habitats. They support a rich biodiversity of marine species, many of which are important for fisheries and aquaculture. Nigeria's marine and aquatic ecosystems also provide other ecosystem services such as coastal protection, carbon sequestration, and recreation. However, these ecosystems are facing significant threats from human activities such as pollution, overfishing, coastal development and global warming. Effective management and conservation of these ecosystems are critical to ensure their sustainability and the continued provision of ecosystem services to present and future generations. Below is a list of some marine ecosystems in Nigeria.

- Rivers
- Lakes
- Lagoons
- Deltas
- Estuaries
- Seagrass
- Coral reefs
- Saltwater marsh
- Mangroves
- Sandy shores (beaches)
- Open ocean

Anthropogenic and Commercial Activities in Nigerian Ocean and Coastal Areas

The coastal and ocean areas of Nigeria support a variety of commercial activities, including fishing, aquaculture, shipping, oil and gas exploration and production, and tourism. The fishing industry is a significant contributor to the economy, providing direct employment to over 6 million people and contributing about 4.5% to the country's GDP. Aquaculture is also growing in importance, with several species of fish and shellfish being farmed along the coast. The country's coastal and ocean areas are also used for shipping, with the major ports located in Lagos, Port Harcourt, and Calabar. The oil and gas industry is another significant commercial activity, with most of the country's oil production occurring offshore. Finally, tourism is an emerging industry, with several beach resorts and cultural attractions located along the coast. Here is a list of key commercial activities in Nigeria's ocean and coasts:

- Shipping and ports
- Oil and gas
- Fisheries
- Tourism
- Wetland agriculture
- Dredging and sand mining
- Aquaculture
- Land reclamation
- Waste management
- Power generation

Challenges in the Ocean and Coastal Resources Development in Nigeria

The ocean and coastal development in Nigeria face several challenges that threaten the sustainability of these ecosystems and the benefits they provide. One of the primary challenges is pollution, with land-based sources of pollution and oil spills from offshore oil and gas activities causing significant damage to marine and coastal ecosystems. Overfishing is also a major issue, with many fish stocks already depleted or overexploited. Coastal erosion, resulting from poor land use practices and climate change, is another challenge that affects coastal development in Nigeria. Other challenges include habitat destruction, inappropriate coastal development, and the lack of integrated coastal zone management strategies. Addressing these challenges requires collaborative efforts from government, civil

society, and the private sector, including the adoption of sustainable development practices and the implementation of effective coastal zone management policies. Some of these measures are already being implemented by the government. Some challenges are here listed:

- Marine pollution and environmental issues
- Lack of significant Marine Protected Areas
- Lack of scientific data
- Lack of modern technological solutions
- Inadequate Marine Spatial Planning
- Slow implementation of Blue Economy
- Foreign invasive species
- Policy implementation challenges
- Government bureaucratic bottlenecks
- Security and social challenges

OCEAN AND MARITIME ORGANIZATIONAL CHART IN NIG

The administrative structure through which the Nigerian maritime industry and ocean management is managed starts from the presidency to the ministries, departments and agencies of government (MDAs), also includes private sector players. This can be categorized thus:

1. Approving authorities
2. Regulatory agencies
3. Industry Value System Providers

Approving Authorities

- **The Presidency**

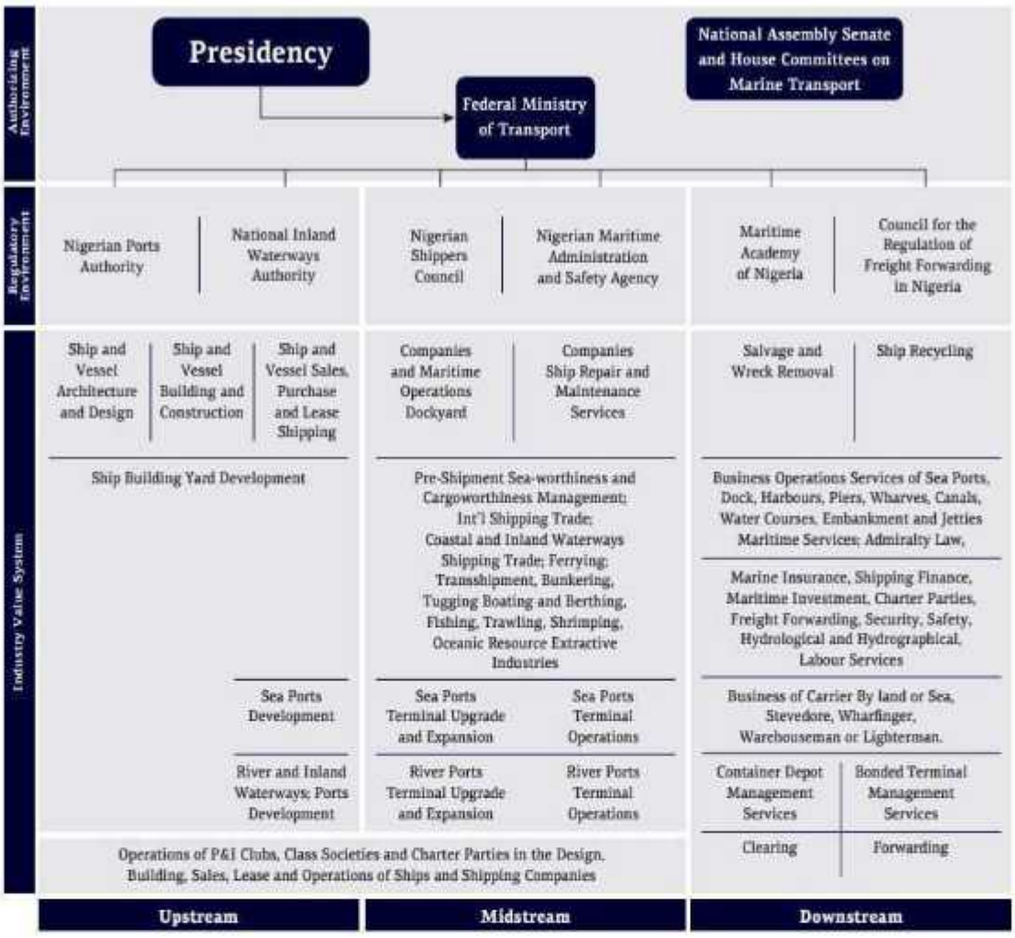
Appoints heads of agencies and ministries, approves their budgets and gives policy direction.

- **The National Assembly**

Makes laws, confirms appointments by the presidency and carries out oversight functions in the sector.

- **The Federal Ministries**

Implements presidential directives, oversees the activities of all maritime regulatory agencies.



Government Ministries Related To The Maritime Sector

- **Federal Ministry of Transportation:** *This is the lead ministry, policy formulation and planning at national level of basic marine infrastructure, Legislation and International relations.*

- **Federal Ministry of Environment:** *Administers Nigerian land, air and water environments.*

- **Federal Ministry of Agriculture and Rural Development:** *The lead administrative ministry for fisheries in Nigeria.*

- **Federal Ministry of Water Resources:** *Administers water supply, aquaculture and irrigation.*

Regulatory Agencies

- **Nigerian Maritime and Safety Administration Agency**: *Regulates all other agencies in the maritime sector.*
- **Nigerian Ports Authority:** *Provides port services and regulates activities of all port stakeholders in Nigeria.*
- **Nigerian Inland Waterways:** *Manages Nigerian inland waters and regulates activities of businesses and operators.*
- **Nigerian Shippers Council:** *Oversees the activities of importers and exporters, regulates rates, tariffs and coat of other economic services in Nigerian ports.*
- **Maritime Academy of Nigeria:** *Education, training and certification of shipboard officers, ratings, and shore-based management personnel.*
- **Council For The Regulation of Freight Forwarding in Nigeria:** *Regulates and controls the freight forwarding practice in Nigeria.*

Industry Value System Providers (Lagos Port and Tin Can Port**)**

No.	Types of Companies	Number of Companies		Description of Activities
		LPC	TCIPC	
1	Terminal operators	7	5	Loading/unloading of cargo on ships (wheat, clinker, container, oil, chemicals, and general cargoes) and storage.
2	Logistics bases	2	-	Warehousing, fabrication & assembly, helicopter base, sewage and 6waste water treatment.
3	Jetties	15	30	Local transshipment of different types of cargo
4	Oil tank farms	4	2	Storage and transportation of petroleum products
5	Pilotage	1	1	Navigation of visiting ships through the port channel for berthing
6	Towage	1	1	Towing of ships using tugboats within the harbor
7	Berthing and Mooring	1	1	Berthing and securing of ships at the quays in the port
8	Cargo handling	4	4	Movement of cargo from ships to storage facilities and trucks for removal from the port by stevedores
9	Channel management	1	1	Dredging, wreck removal, provision of navigational aids, monitoring of siltation.
10	Bunkering	5	5	Supply of fuel to ship tanks by bunkering facilities in the port
11	Salvage and rescue	3	3	Emergency response in the port or navigational area in the event of an accident, oil spill or fire incident.
12	Mid-stream operations	3	3	Loading and unloading of cargo midstream from ship to ship or barges or rigs
13	Anchorage	1	1	When ship anchors at the port while waiting to berth
14	Waste management	2	2	Collection, recycling, and disposal of ship waste by port reception facility
15	Ballast water management	1	1	Onshore ballast water treatment services
16	Liquefied Natural Gas operations	1	1	Berthing and discharge of liquefies natural gas
17	Handling of hazardous cargo	3	3	Accompanying of hazardous cargo from ships to destination
18	Construction projects	2	2	Construction of port infrastructure and expansion of existing
19	Fumigation and pest control	1	1	Sanitation of port using chemicals to control pests and germs
20	Sand winning/filling	1	1	Extraction of port sand or filling of port land with sand
21	Pipe laying	1	1	Laying of pipes on port land or in water
22	Onshore/offshore Drilling	1	1	Drilling operations for construction, exploration of resources or for other purposes in the port
23	Factory	-	5	Production of Flour and cement in the port.
24	Warehousing	5	6	Warehouses for storage of different categories of cargoes
25	Container stacking area	12	11	Storage of containers in outdoor stacking areas using cranes
26	Silo storage	-	2	Silos for storage of what, chemicals and other products
27	Offices, workshops & stores	7	10	Offices and shops for the personnel of companies in the port
28	Fishery operations	-	2	Fish cold storage and maintenance of fishing equipment.

OTHER MARITIME RELATED AGENCIES NOT DIRECTLY PART OF THE MARITIME ADMINISTRATIVE FRAMEWORK IN NIGERIA

- Department of Petroleum Resources (DPR)
- Manufacturers Association of Nigeria (MAN)
- Nigerian Customs Service (NCS)

- Nigerian National Petroleum Corporation (NNPC)
- National Oil Spill Detection and Response Agency (NOSDRA)
- Nigerian Hydrological Services Agency (NIHSA)
- Standard Organization of Nigeria (SON)
- National Agency for Food and Drug Administration and Control (NAFDAC)

OCEAN MANAGEMENT

- Ocean management in Nigeria is under the purview of the Nigerian institute for Oceanography and Marine Research (NIOMR). The agency reports to the Federal Ministry of Agriculture and Rural Development
- The agency's ocean research aspects covers aquaculture, biotechnology, fisheries resources, fish technology and product research, biological oceanography and other aspects.

CONCLUSION

In conclusion, the Nigerian maritime and ocean sector, including the country's seaports, plays a crucial role in the nation's economy, providing opportunities for trade, employment, and economic growth. However, this sector also faces significant challenges such as pollution, overfishing, coastal erosion, and port inefficiencies. Addressing these issues requires a collaborative effort from the government, civil society, and private sector to promote the sustainable use of Nigeria's ocean and coastal resources and improve the efficiency and competitiveness of its seaports. With the implementation of effective coastal zone management policies and investments in port infrastructure, Nigeria's maritime and ocean sector can continue to contribute to the country's economic development while protecting the health and productivity of these valuable ecosystems.

Tanzania

TANZANIA

1. Country Overview

Tanzania, officially known as the United Republic of Tanzania (URT) is a sovereign State formed after a union of two independent states of Tanganyika and Zanzibar in 1964. Is located between Latitude 6° 22' 22.17" S and Longitude 34° 53' 32.94" E. Borders Uganda to the north, Kenya to the northeast, Mozambique and Malawi to the south, Rwanda, Burundi and the Democratic Republic of Congo to the west; Zambia to the southwest. In the east shares maritime border of Indian Ocean with Comoros and the Seychelles.

The total territorial area of Tanzania is 945,087 km^2 whereas 93.51% is occupied by land and 6.49% is water with a coastline of 1424 km.

The country's highest point is Mount Kilimanjaro with 5,895 metres (19340.55 ft) while the lowest point found in Indian Ocean with 0 metres (0 ft). Tanzania population is estimated to be 63.58 million according to the United Nations on Population data of September 2022, with a growth rate of 2.9%. Official languages are Swahili and English.

2. Economic activities categorization

The Gross Development Product (GDP) of Tanzania grew at 4.90% in 2021 from 4.8% in 2020. Driven sectors contributing to economy were mostly agriculture and services on the supply side and final consumption and investment on the demand side. In which the share of services sector in the GDP was 34.34% whereby maritime sector is included.

The major downside risks relate to new COVID-19 variants which disrupts economic activities. The government plans for mitigation is by increasing public awareness and uptake of vaccines.

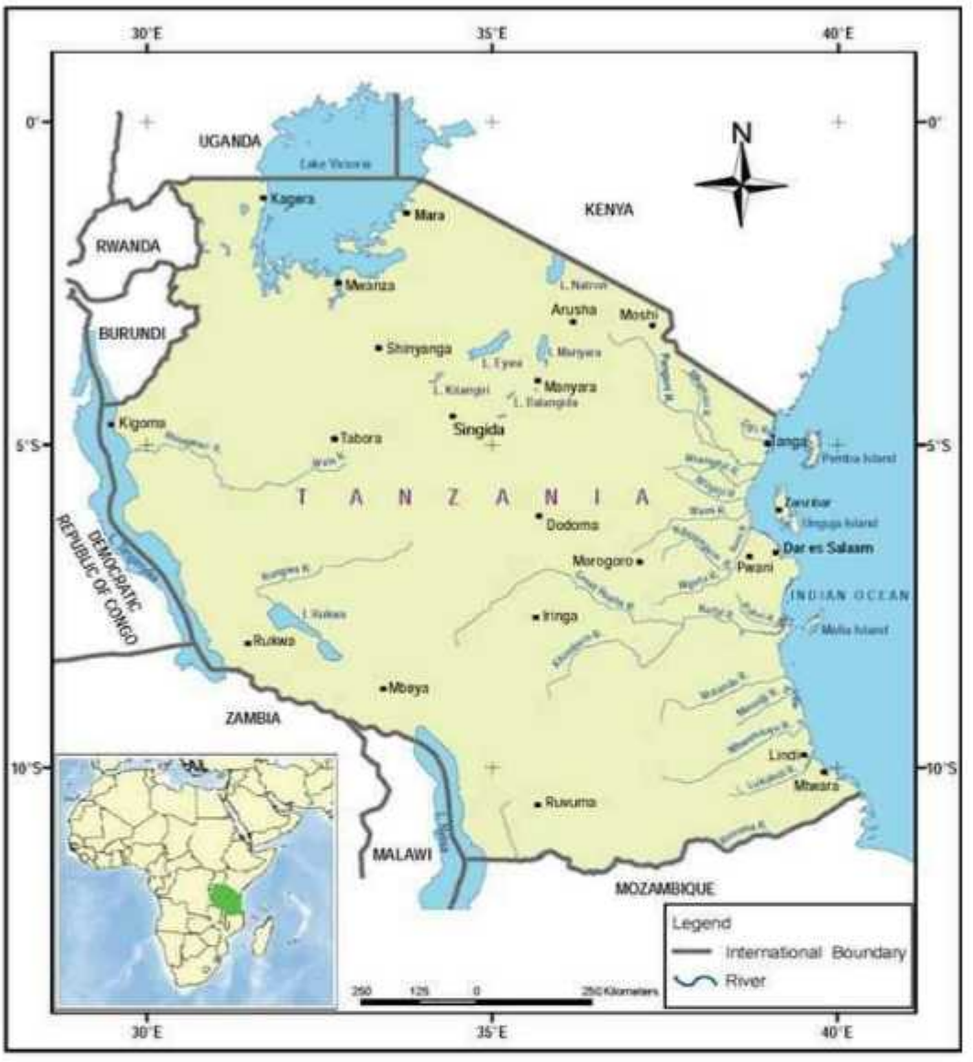
With transport sector continue to be a key to economic growth, GDP is further projected to grow at 5.0% and 5.6% in 2022 and 2023 this is due to improved performance in tourism and the reopening of trade corridors including maritime related activities.

3. State Administration

The State administration is provided under the constitution of the URT which recognizes the existence of two separate State administrations being the United Republic Government in Mainland Tanzania and the Revolutionary Government of Zanzibar in Tanzania Zanzibar.

3.1. Maritime administration

According to the URT Constitution, issues relating to maritime administrations are managed outside the parameters of the "Union". Thus, maritime administration is divided between two ministries namely Ministry of Works and Transport (MoWT) and Ministry of Infrastructure Communication and Transport (MoICT) using two independent maritime legal frameworks.



Tanzania maritime map

The country as a maritime State, undertakes maritime activities comprising of navigation in Indian Ocean and inland waters including great lakes namely Victoria, Tanganyika and Nyasa as well as major rivers, which are Ruvuma, Rufiji, Wami, Pangani and Kagera. All the mentioned major rivers drain their waters into the Indian Ocean except Kagera river flows into lake Victoria. In addition, there are other minor lakes and rivers.

Tanzania archipelagos and the EEZ

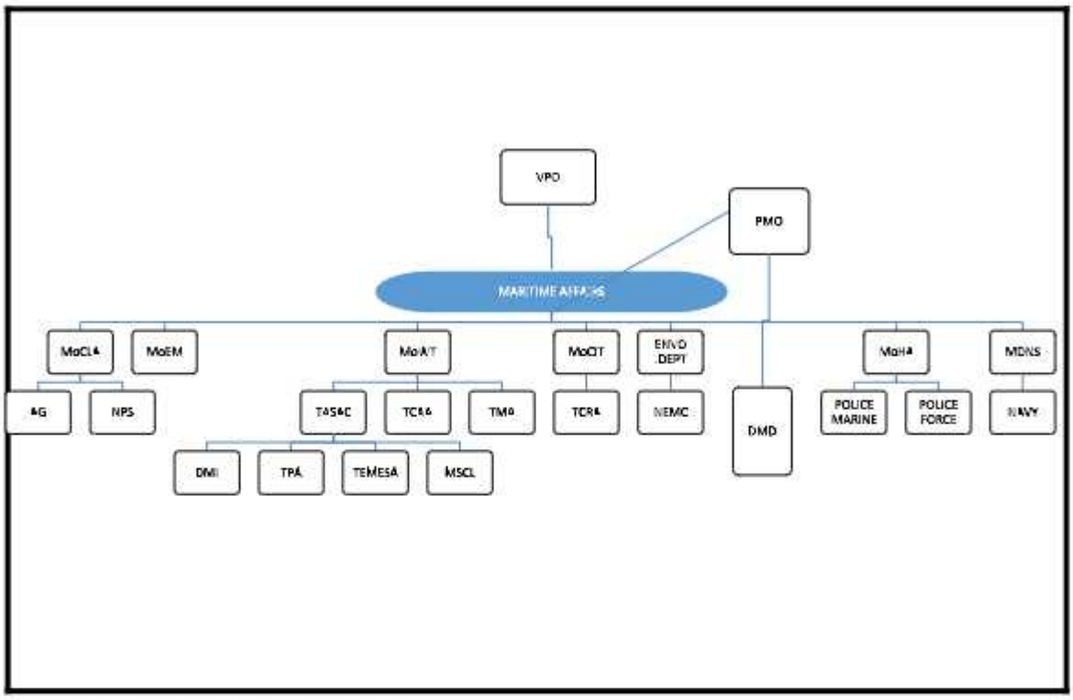
Tanzania has an Exclusive Economic Zone (EEZ) area of 223,000km2 and has two archipelagos of Zanzibar and Mafia whereby Zanzibar consisting of two large Islands of Unguja and Pemba, famous in coastal tourism.

Tanzania EEZ

Tanzania archipelago

3.1.1 Maritime administration – Mainland Tanzania

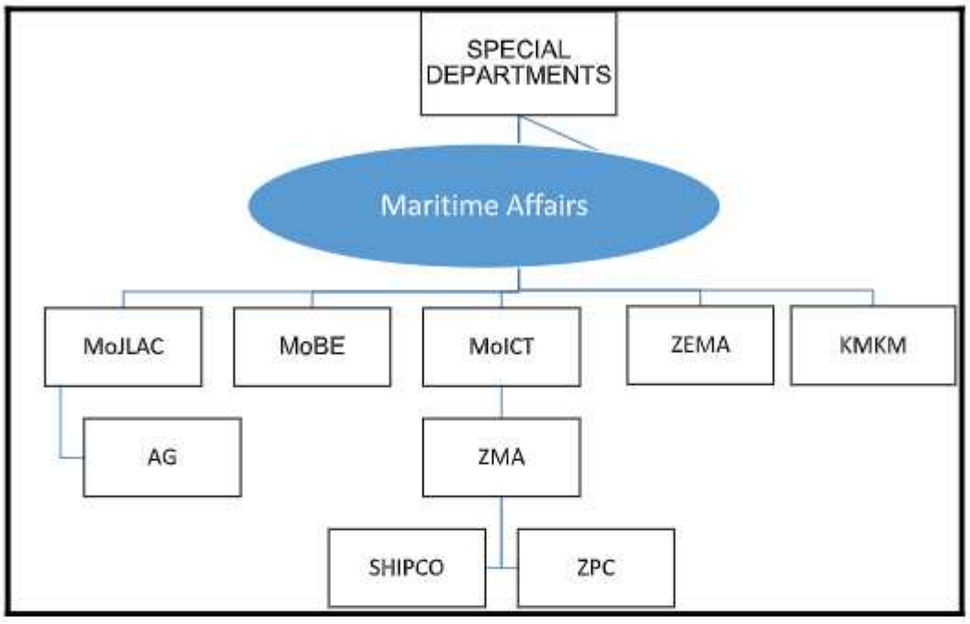
The MoWT established Tanzania Shipping Agencies Corporation (TASAC) under Merchant Shipping Act 2003 to regulate shipping activities including formulating of maritime transport policies and National overall strategy for the implementation of the IMO instruments; overseeing all maritime administration functions related to safety, security and pollution prevention; facilitating and coordinating ratification of IMO conventions; coordinating preparation of relevant acts and making regulations and coordinating evaluation; assessment of the implementation of the National Transport Policy with inclusion of maritime transport and Strategies; preparing new legislation and improving existing legislation related to the implementation and enforcement of the mandatory IMO instruments.



Maritime administration – Mainland Tanzania

3.1.2 Maritime Administration – Tanzania Zanzibar

In Tanzania Zanzibar the MoICT through Maritime Transport Act No. 5 of 2006 established Zanzibar Maritime Authority (ZMA) charging with the responsibility of regulating, monitoring and coordinating all maritime activities and related marine safety and environment matters in Tanzania Zanzibar except Seafarers registration which is being done by TASAC whereas ZMA issues seaman's discharge book. Tanzania has about 10460 seafarers.



Maritime administration – Mainland Zanzibar

4. Ships Registration

Ship registration, likewise, for other maritime activities is being done under two maritime administrations on each part of the union (Tanzania Mainland and Tanzania Zanzibar). In Tanzania Mainland, TASAC is doing ships' registration under a Close Register, whereby registration is limited to Tanzanian nationals while in Tanzania Zanzibar the Register is Open for all nationals and foreigners as well, under the Tanzania Zanzibar International Register (TZIR) which is operated by ZMA. Tanzania has a total of 322 merchant fleet, whereby 49 vessels with total GT of 72,126 have been registered in the Mainland Tanzania and 273 vessels with total GT of 388,482 have registration of TZIR.

5. Ports and Shipping

Ports are government owned and operated by the Tanzania Ports Authority (TPA) under MoWT and Zanzibar Ports Cooperation (ZPC) under MoICT.

TPA is mandated to operate sea and inland ports whereas, its major seaports include Dar es Salaam, Tanga and Mtwara while major inland ports are Mwanza North and South, Bukoba, Kigoma and Kyela. ZPC major ports are Malindi, Mkokotoni and Pemba.

Dar es Salaam port which is a principal port has a rated capacity for 4.1 million tons of dry cargo, 6.0 million tons of bulk liquid cargo, 3.1 million tons of general cargo and 1 million tons of containerised cargo. It handles 90% of the country's cargo traffic while the remainder goes primarily to Mtwara, Tanga, and Malindi port of Zanzibar. The port has twelve deep-water berths out of which four berths are dedicated for container handling operations, seven berths for general cargo operations, Kurasini Oil Jetty (KOJ) at the southern part of the port for handling liquid cargo vessels and single Buoy for handling crude oil vessels.

Dar es Salaam port

Almost 35 percent of all cargo is transit cargo to the neighboring landlocked countries of Malawi, Zimbabwe, Zambia, Democratic Republic of Congo (DRC), Burundi, Rwanda and Uganda.

In addition to seaports mentioned, TPA operates inland ports situated on lake Victoria, Tanganyika and Nyasa. Whereby local and traffic with the neighbouring countries of Uganda, Kenya, Malawi, Mozambique, the Democratic Republic of Congo, Burundi and Rwanda is conducted.

Ports authorities are also responsible for providing hydrographic services, establishing and maintaining aids to navigation (AtoN) in port areas, investigating reported incidents of pollution in port areas, providing of vessel traffic services, providing of security services in established port facilities and port reception facilities.

6. Maritime Transport

6.1. Seagoing vessels

Tanzania in partnership with China established Chinese - Tanzanian Joint Shipping Company (SINOTASHIP) for sea going ships. SINOTASHIP plays a role of exclusive agent of China COSCO shipping Group in Tanzania by providing full supply chain services including container, bulk and specialised cargo sea transportation, integrated logistics such as hinterland transportation, warehousing and customs clearance for all import and export customers.

6.2. Zanzibar Shipping Corporation

Zanzibar Shipping Corporation (SHIPCO) is a wholly owned government entity which was established to serve shipping needs of the people and goods, between the islands of Unguja and Pemba, and between islands and other ports of East and Eastern Africa.

SHIPCO operates four (4) owned vessels to provide variety of services in shipping industry. It offer sea transportation services of passengers and goods traffics. It also offers agency services to local and foreign vessels calling Zanzibar.

6.3. Inland Shipping

Transportation within inland waters is carried by a State owned company namely Marine Services Company Limited (MSCL) and private sector players. MSCL provide local services and to the neighbouring Burundi, DR Congo, Zambia and Malawi. It has total fleet of sixteen (16) vessels with carrying capacity ranging from 200 to 1200 passengers and 100 to 1000 Tonnes for cargo ships. Nine (9) vessels are for conveyance of passenger and cargo while seven (7) are for cargo only.

6.4. Coastal or short sea shipping

East Africa has a long history of connections to the global marketplace through coastal shipping as compared to other modes of transport

Hence, there are several companies which offer transport services of cargo and passengers along the coast of Tanzania. These include fast passenger ferries with a speed range 25 knots up to 40 knots which operates between Dar es Salaam and Zanzibar.

However, besides having TASAC and ZMA in regulation of maritime, it is still a challenge to regulate coastal shipping as compared to other modes. This is because it is charecterised with small crafts owned and operated by individuals with limited knowledge of shipping regulations.

Yet, coastal and lake traffic is a lifeline for many of the populations residing within the areas.

6.5. Ferry Services

The Tanzania Electrical, Mechanical and Electronics Services Agency (TEMESA) under the auspices of the MoWT is incharge for provision of

efficient and safe ferry services for passengers and vehicles from one point to another in the country.

Ferry Magogoni – Kigamboni

7. Meteorological services

Tanzania Meteorological Agency (TMA) is the sole provider of meteorological services through transmitting weather information and warnings and collects, processes, archives and disseminates meteorological data and related information in the whole country. It also provides marine meteorological services to shipping, fishing, and other marine activities within territorial waters and adjacent high seas, and issues severe weather-related warnings and advisories.

8. Seafarers and Maritime Education and Training

Dar es Salaam Maritime Institute (DMI) under MoWT is responsible for providing training to seafarers and maritime administrative staff. DMI also provide technical advice on maritime matters and conducting research and consultancy on activities related to the maritime sector.

DMI has a special unit which supports its graduates in establishing employment contracts. The unit is known as "DMI Crewing Agency".

Tanzania has ratified the Maritime Labour Convention, 2006 (MLC 2006), as amended in 2017. Thus, manifests the government's commitment to ensure that seafarers working and living conditions on board vessels is protected by law to ensure that are in good condition and in accordance to the requirement of the convention.

9. Search and Rescue

Search and Rescue services is being undertaken through partnering aeronautical and maritime authorities. Since Tanzania Civil Aviation Authority (TCAA) which is under MoWT is responsible for civil aviation, hence, it partners with TASAC and ZMA in coordinating search and rescue services, receiving distress signals and information, coordinating investigation of marine accidents or incidents by aircraft, and managing the implementation of the National Aeronautical and Maritime Search and Rescue Plan.

10. Other Ministries performing Maritime related activities

In addition to the two Ministries and their related agencies described above, there are several public service and government agencies under different ministries from those which are responsible for maritime that deals with maritime related affairs in both sides of the Union. This framework facilitates effective and smooth running of maritime affairs in the country.

10.1. Maritime security

The Tanzania Police Force (TPF) through Marine Unit under the Ministry of Home Affairs and Naval Command of Tanzania People's Defense Force (TPDF) – which operates under the auspices of the Ministry of Defense and National Service conduct surveillance in territorial and coastal waters respectively, they receive information on marine accidents or pollution incidents as well. In addition, TPF - Marine Unit exercises enforcement (board ships) and collect evidence. For prosecution and legal finish the players are the Office of National Prosecuting Services (NPS) and Police force respectively.

Moreover, Special Anti-Smuggling Unit (Kikosi Maalum cha Kuzuia Magendo - KMKM) is an armed enforcement body for Tanzania Zanzibar. The unit which is under the President's Office, Regional Administration, Local Governments and Special Departments was established by Act No.1 of 2003 to be responsible for security of the territorial waters of Zanzibar in prevention of smuggling and protection of marine natural resources and the environment.

10.1.1. Beach Management Units (BMUs).

The government has created local Beach Management Units (BMU's) to improve local fisheries, security as well as marine conservation management within their localities.

These community units are involved in surveillance and maritime domain awareness programmes. Through the said programmes, they do gain capacity to become first responders in case of incidents and accidents in their localities. They are also responsible to promote maritime safety and security and environment preservation within their areas.

10.2. Communication affairs

The Ministry of Foreign Affairs and East African Cooperation (MOFAEC) is responsible for relations with international organisations including IMO. It facilitates all communication between IMO and the URT and deposits instruments of ratification with IMO.

The Tanzania Communications Regulatory Authority (TCRA) operates under the Ministry of Communications and Information Technology (MoCIT) is responsible for regulating communication affairs in the country. TCRA coordinates all communication matters regulated under the International Telecommunication Union (ITU) relating to ships. It also issues call signs, Maritime Mobile Service Identities (MMSIs) to ships flying the flag of the State as well as radio station licenses.

10.3. Marine Environment Protection and Preservation

Maritime sector through maritime administration is having responsibilities to combat marine oil spill and prevent and conserve marine environment but the country's' mandate on environment administration is being undertaken by two entities in the Mainland and Zanzibar. The National Environment Management Council (NEMC) under the Vice President's Office (Environment) and Zanzibar Environmental Management Authority (ZEMA) under the auspices of Special Departments in Zanzibar are responsible for providing advice on all matters pertaining to environmental conservation, protection, enforcement and management in Mainland Tanzania and Tanzania Zanzibar respectively.

10.4. Maritime Disaster Management

Tanzania Disaster Management Department (PMO-DMD) which operates under the Prime Minister's Office and Zanzibar Disaster Management Commission (ZDMC) which was established under the under the auspices of Special Departments are responsible for disaster management in their respective areas by coordinating national response to major marine accidents and pollution incidents.

10.5. Hydrographic Services

The Ministry of Lands, Housing and Human Settlements Development (MoLHSD) in Mainland Tanzania and Ministry of Land and Housing Development (MOLHD) in Tanzania Zanzibar provide hydrographic services in their respective areas.

10.6. Legal framework

Matters in relations to legal verification of laws and regulations are being undertaken by the Attorney General's Office (AGO) under the Ministry of Constitutional and Legal Affairs for Mainland Tanzania and the Attorney General's Chambers (AGC) under the auspices of the President's Office, Constitution, Legal Affairs, Public Service and Good Governance for Tanzania Zanzibar.

These Offices are responsible in ratification of all laws related to maritime and enacting national legislation by vetting draft legislation and agreements, drafting new laws, giving advice on draft agreements and maritime legal issues, and publishing legislation and policies through Government notices.

10.7. Fisheries

The country has adopted the blue economy drive therefore the efforts to upsurge related activities goes to fisheries as well. In Tanzania mainland the Ministry of Livestock and Fisheries (MOLF) is responsible to support and build capacity to develop manage, and regulate the fisheries resources sustainably while in Tanzania Zanzibar similar responsibilities are under Ministry of Blue Economy (MoBE).

Over 98% of the fishing is conducted by small-scale fishermen and women in major lakes (Victoria, Tanganyika and Nyasa), the minor lakes, dams.

The Fisheries Sector generate different types of employment to national and non-citizen. About 200,000 people are employed in fisheries and 4 million people in the allied nodes of the value chain of fishing. Employments' opportunities include fishing, artisanal boatbuilding, net mending, fish processing, distribution, trade and aquaculture.

Currently there is no dedicated fishing port, however currently, the country is at the final stage of engaging a contractor for construction of a modern fishing port in Kilwa.

10.7.1. DSFA

The Deep Sea Fishing Authority (DSFA) is established under section 5 of the Deep Sea Fisheries Management and Development Act No 5. 2020 with the aim of protecting and regulating of deep sea fishing. DSFA is operating under the umbrella of the MOLF charged with formulation, implementation and monitoring of national policy and strategies concerning the conservation, management of fisheries, development and sustainable use of fishery resources and monitoring activities relating to fisheries in the Exclusive Economic Zone (EEZ) and all areas in which the URT exercises its jurisdiction for the purpose of effective control of fishing and related activities of nationals of the Tanzania in areas beyond national jurisdiction.

10.8. Offshore facilities

Natural gas production is at its early stage whereby the first natural gas discovery was in Songo songo Island followed by Mnazi Bay in Lindi and Mtwara Region respectively.

Construction of the pipeline in Songo songo began in 2003 and was completed in May 2004. There are 842 kilometers of gas transmission pipelines and the gas produced is processed for power generation and industrial use of which 58 km is utilised for industrial customers in Dar es Salaam. The produced gas is also used for household, institutions, and natural gas vehicles.

According to the data of 2017 from the Ministry of Energy and Minerals (MoMM) the discovered natural gas reserves amount to 57.54 trillion standard cubic feet (TCF).

The country is not producing crude oil and has not experienced a recent commercial oil discovery.

Tanzania consumes about 35,000 barrels of refined oil products per day in which all of it is imported.

11. WMU Graduates

We "Tanzanians" are very grateful to be part of a large family of World Maritime University which has about 5634 alumni from 171 countries and territories of the world. Although we are still working on the data base, but, Tanzania is still less privileged of the opportunity of sending her students to WMU. The challenge is the capability of funding for training hence depending on sponsorship from foreign organisation, partners and friends which is not enough.

We are also proud of our government for its recognition of WMU Sasakawa ALUMNI. Beside, our small number i.e. ten (10) in total, five (5) of us serves in senior positions in the maritime sector and the two who have retired, were also serving in decision making position.

Through Tanzania National Development Vision 2025 and the Five-Year Development Plan (FYDP II) the country focus is to become an industrial economy by 2025. With Maritime transport as a significant drive in economy growth, hence, it is inevitable to have a well trained personnel to undertake maritime activities as required.

It is therefore our request to the Ocean Policy Research Institute, the Sasakawa Peace Foundation to consider increasing a number of Tanzanian students for sponsorship, with the aim of

achieving well trained and adequate people at the helm then enable the country in pursuit of the goals articulated in its plan.

We believe through the continual support we will be able to achieve the nations' goal of economic and social development through maritime industry.

12. Relationship with Japan

Tanzania and Japan has been in good diplomatic relationship since the establishment of diplomatic relations with Japan in 1961 after Tanzania independence. In the following year, 1962 Japan International Cooperation Agency (JICA) opened its office in Tanzania. Through JICA, Tokyo International Conference on African Development (TICAD) and Ocean Policy Research Institute, the Sasakawa Peace Foundation, just to mention a few, Japan has been supporting development of Tanzania in general and capacity building in maritime sector in particular.

We pray that this relation live longer and never end.

13. Comments

WMU Sasakawa Fellow's Networks are important meeting because they facilitates the participants with learning from seeing in the fields and sharing of experience from each other. They should also be taken seriously as method of auditing ourselves; assessing on where we are in comparison to where we wanted to be after the graduation.

It is also an important gathering as they facilitates meeting old friends and making friendship with new ones.

Togo

Togo Report: Overview of Maritime Situation and Related Entities in Togo

I- Country Overview:

Togo is a small country located in West Africa, bounded on the north by Burkina Faso, on the south by the Gulf of Guinea, on the east by Benin, and on the west by Ghana. Opening to the Atlantic Ocean to the south, Togo enjoys a small coastline of 50 km with an area of 56,785 km^2 and has around 9 million inhabitants. Togo is characterized by relief consisting mainly of two savannah-covered plains, separated by the Togo mountain range, which is oriented from northeast to southwest. The plain of Oti is located in the northern part of the country. It is a vast flood plain with very low altitudes of 200 m on average. It is drained by the Oti and its tributaries.

The plain of Mono is the largest plain located in the south of the country. It comprises two units on either side of the Tsévié-Kouvé line. To the north of this line, the plain gradually rises towards the vicinity of Tchaoudjo. To the south of this line lies the eastern plain covered with red sandy-clay deposits, rich in phosphate and marshy in places. It constitutes the coastal sedimentary plateau or plateau of the bar land, which is cut by small plateaus. The plateau is also crossed diagonally by the marshy area of Togblékopé. It ends with a rectilinear cliff of Tokoin about 20 m high which dominates the 50 km long sandy coastline cut by lagoons and lakes. The two main rivers are the Oti River in the north and the Mono River in the Centre-south (Figure 1).

Togo has two types of climates. The north has a sub-Sahelian climate that alternates between a rainy season (from May to October) and a dry season the rest of the year. The south has a milder sub-equatorial climate with two rainy seasons.

One of the major maritime characteristics of Togo is the presence of small lagoons, lakes, dams, and rivers. They cover 50 km over a length of 600 km from south to north.

The country has two main ports. One port opens to the sea by a wharf (open seaport of KPEME) at 35 km south-east of Lomé and specializes in the export of phosphate. The other, the Autonomous Port of Lomé, is delimited by docking works and other port facilities.

It is around these ports that economic and social activities have developed, which have greatly increased the occupation of the coastal zone.

This vast expanse of water is little controlled. Navigation on the lagoons remains traditional and informal. The whole of the inland waters is almost unexplored. They are neither recorded nor marked out.

In Togo, 70% of the economic activities are linked to the sea front and the country gets more than 75% of its tax revenues from it. Maritime trade at the Port of Lomé platform accounts for a significant share of government revenue. In 2019, customs revenues at the Port of Lomé accounted for 80% of total maritime activities and 60% of state revenues.

In 2019, freight traffic increased from 22,117 million tons to 22,610 million over one year.

As for the fishing sector, it represents 4.5% of the GDP and employs more than 20,000 people. Each year, fisheries production is estimated at 20,000 tons but it reached a peak of 37,000 tons between 2018 and 2019, according to statistics from the Directorate of Fisheries and Aquaculture (DPA).

II- Togolese Maritime Situation Overview:

1- - Maritime Risks and Country Challenges:

1.1. Climate Change, Maritime Boundaries, Fishing, and Tourism Activities

The erosion of the Togolese coastline has increased in recent years to the point that many villages built along the coastline are at risk of disappearing.

Kossi Agbavi, a village located more than 30 km from Lomé, the capital city, is one of the most affected villages. Here, the advance of the sea is real. According to a study by the West African Coastal Observation Mission (MOLOA) conducted in 2015, between 1.8 and 5 meters of coastal loss are recorded per year.

As a result, the locality risks being completely wiped off the map within the next twenty years if no protective action is taken.

Since the construction of the hydroelectric complex of Akosombo in Ghana (west of Togo), and that of the Autonomous Port of Lomé (PAL) in 1963, more than 500 linear meters of land have been swallowed up by the sea in the agglomeration, including many fishing villages, roads, and infrastructure.

Today, the majority of the coastal population has become tenants. They are forced by the sea to abandon their homes to find rentals, even though they have lost their income-generating activities.

On the coast, a dozen localities are now in danger of disappearing in view of the alarming forecasts presented by the Togolese government in its communication in 2015 before the United Nations Framework Convention on Climate Change.

These forecasts indicate a rise in sea level between 0.10 and 0.17 m by 2025, 0.19 and 0.34 m by 2050, 0.29 and 0.55 m by 2075, and 0.33 and 0.75 m by 2100.

Figure 1 to 3: Overflow of the sea in Aného, Togo, June 11, 2017

Overflow of the sea in Aného, Togo, June 11, 2017

Figure 4: Beach affected by coastal erosion at the Ramatou Hotel (east of PAL) in November 2003

1.2: Maritime Boundaries Delimitation

Togo has a maritime space and lagoon area estimated at 16,100 km^2, which represents about 30% of the area of the national territory. Maritime spaces may also be added to these areas, such as the territorial sea, the contiguous zone, the exclusive economic zone, and the extended continental shelf.

These maritime areas offer many opportunities to the country in terms of wealth, employment, and positioning in international trade, if it is well managed, defended, and protected.

Thus, in order to fully exercise its sovereignty, control over the limits of Togo's maritime borders is an essential prerequisite.

By relying on the United Nations Convention on the Law of the Sea, Togo wishes to have a fair and equitable delimitation of its maritime borders.

Thus, for the delimitation of its maritime spaces, Togo has adopted laws No. 2016-007 of March 30, 2016, relating to maritime spaces under national jurisdiction and 2016-028 of October 11, 2016, on the merchant marine code, and set up a national commission of maritime borders since 2016. Since the creation of the Maritime Boundary Commission, Togo has undertaken negotiations with Benin and Ghana and the work to date has progressed significantly.

1.3: Fishing Sector

The annual production of fish at the national level is estimated at more than 70,000 tons per year. This low production is due to overfishing, poor catching techniques, and the natural poverty of the maritime waters in terms of fish products. Indeed, the natural continental shelf of Togo is too narrow to allow upwelling, a natural phenomenon that is favorable to fish life, and that can be observed in neighboring countries.

The artisanal maritime fishing sector is the most dynamic in Togo, to the detriment of a declining industrial fishery. Fisheries production is based on a larger pelagic stock and a very limited demersal stock. According to FAO (2019), about fifteen oceanographic surveys were carried out from 1959 to 2015 to assess the pelagic and demersal stocks in Togolese waters. They estimated the biomass of some clupeids such as *Sardinella aurita* and *Sardinella maderensis* at 4,000 tons and *Engraulis encrasicolus* at 2,500 tons. The biomass of the group of Carangidae, Scombridae, etc., is estimated at 2,500 tons.

1.4: Tourism Sector

Overall, tourism is the most poorly developed of almost all the social and economic development sectors in Togo. The low interest granted to this sector constitutes a real loss of earnings when one realizes that Togo has important tourist sites to develop. The sector is characterized, as a result, by a vacuum of legal text framing its management, although the sector is the subject of clear mentions in strategic policy documents related to the maritime sector, including the National Strategy for the Sea and the Coast (SNML), the Strategic Framework for the Development of the Maritime and Coastal Economy, and the Master Plan for Coastal Development (SDAL). However, a framework law on tourism is currently being prepared. It is

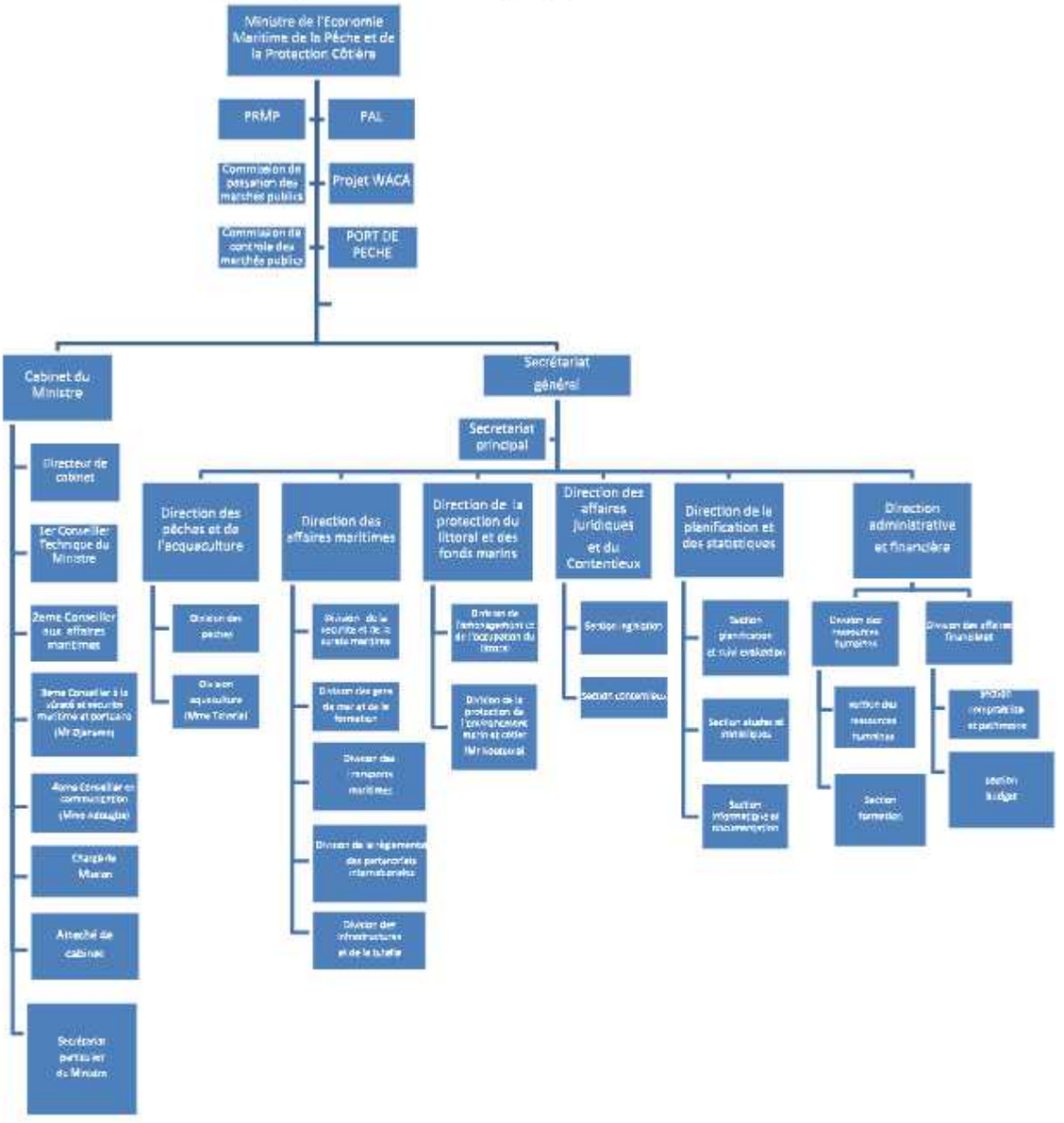
hoped that this law will be quickly adopted so that Togo can have a framework for guiding real initiatives for the sustainable development of tourism in all its forms, including seaside and coastal tourism in Togo. This is because the absence of a law framing the sustainable management of the tourism industry sector will lead to a strong impact of the sector's activities on marine and coastal areas, and the economic and social benefits that the sector could provide would be slowed down within a few years.

2. Maritime Sector Organizational Scheme

2.1. Ministry of Transport

Acting under the authority of the Prime Minister, the Ministry of Maritime Economy, Fisheries and Coastal Protection implements the Government's policies on the sea and the coast at national and international levels, particularly in the fields of maritime economy, fisheries and coastal protection, in collaboration with the ministries and institutions involved.

Figure 5: Ministry of Maritime Economy Organizational Chart



2.1.1. Directorate of Maritime Affairs

The Directorate of Maritime Affairs is in charge of the implementation of the State's maritime affairs policy as well as the implementation of the provisions of the Merchant Marine Code, international conventions, and other legislation and regulations in force.

It ensures, among other things, the following missions:

- The administration of ships and floating equipment: monitoring the registration of fishing, commercial, pleasure and service ships and boats; inspection and safety of the said ships and boats at the technical level; authorization and monitoring of the construction of ships; monitoring the acquisition, operation and maintenance of transport ships owned by the State; research, recording and investigation of offences

- The administration of artificial islands, sea and lagoon structures, wrecks, and maritime mortgages

- Participation in the administration of oil and gas drilling and production platforms and other mining and petroleum equipment with regard to maritime and lagoon activities

- Participation in the administration of public maritime, lagoon, and river domains

- The administration of maritime professions: monitoring of port tariffs, analysis of concession accounts and budgets; definition of transfer regimes and conditions of exercise of port public services; monitoring of companies intervening in the field of fluvio-maritime transport, etc.

- Administration of seafarers: organization of professional activity; management of the seafarers' registration; social protection system; maritime succession; maritime labor inspection; settlement of maritime labor disputes; control of seafarers' qualifications; inspection of maritime training; recording and investigation of offenses

- Participation in the protection and preservation of the marine, lagoon, and river environments

- Participation in the application of maritime labor rules

- Port security and safety: implementation, monitoring, control, and evaluation of port security and safety measures; development and control of the application of port security and police standards

- Safety and security of navigation

- Participation in search, assistance, and rescue at sea, in lagoons, and in the navigable parts of rivers

- Participation in the control and surveillance of maritime and river-lagoon fisheries

- Participation in the promotion of bilateral, regional, and international cooperation, and more generally, all economic cooperation falling within the above-mentioned object and likely to facilitate its development

- The elaboration and application of laws and regulations in the above-mentioned fields

- The control and application of national regulations in force and of international conventions to which Togo is a party, in matters of safety, security, and the marine environment

- The management of all the traffic rights resulting from maritime agreements signed by the State of Togo

- The coordination and supervision of all maritime activities and the monitoring of the activities of international and regional organizations working in the maritime field

- Monitoring the State's commitments in the field of maritime transport

Figure 6: Organizational Chart of the Directorate of Maritime Affairs

The Directorate of Maritime Affairs comprises three divisions:

2.1.1.1: Division of Maritime Transportation

The Division of Maritime Transportation is responsible for:

- Developing, conducting, and ensuring the implementation of the national policy in the fields of river and lake transport

- Monitoring the application of the IMDG Code in the Autonomous Port of Lomé with regard to the rules, conditions, and modalities of carriage of dangerous goods by sea, as well as their storage and management in ports and maritime spaces under Togolese jurisdiction

- Implementing the regulation of transshipment operations at sea

- Installing and maintaining navigational aids

Lighthouses and Beacons

Bè Lighthouse

Baguida Lighthouse

Main pier

BP 1

BW 1

BW 2

2.1.1.2: Maritime Safety and Security Division

The Maritime Safety and Security Division is responsible for:

- registering vessels under the Togolese flag

- monitoring the application of national laws and regulations relating to safety on board commercial, fishing, and recreational vessels

- issuing navigation permits and safety certificates for all vessels flying the Togolese flag, including port service vessels, except for warships

- controlling the visits of departure and any other visit of technical nature in the Togolese ports

- controlling the lighthouses and beacons

2.1.1.3: Seafarers and Training Division

The Seafarers and Training Division is responsible for:

- managing issues related to the embarkation of seafarers on board domestic and foreign vessels

- updating seafarers' files

- checking the professional qualifications of seafarers

- settle disputes between seafarers and shipowners out of court

- issuing certificates and other documents in accordance with the international conventions in force

- managing issues related to the training of seafarers

2.1.2: The Directorate of Fisheries and Aquaculture

The Directorate of Fisheries and Aquaculture is responsible for:

- promoting sustainable development of fishing and aquaculture and ensuring the application of the regulations in this field

- promoting the processing and valorization of fishery products

- defining objectively verifiable indicators of the elaborated programs and other activities in the field of fisheries and aquaculture

- proposing incentive measures for the promotion of fishing and aquaculture, in particular, the determination of the prices of fishery products, the factors of production, and the outlets

- taking care of quality control in regard to the products of fishing, aquaculture, and fish farming

- contributing to the determination of the themes of applied research on fishing and aquaculture by the structures in charge of research

- contributing to the development of the agreements of Togo with partners in the field of fishing and aquaculture and to see to their respect

- elaborating and applying, in consultation with the structures in charge of water resources management, the legislative and regulatory texts in the field of fisheries resources management

- studying and giving technical opinions on the requests for authorization of fishing and aquaculture

- certifying the legality of fishing catches for import and export of fishery products

- ensuring the follow-up, control, and surveillance of fisheries

- controlling the hygiene and sanitation of the landing sites, fishing vessels, and establishments processing and selling fishery products

- determining the technical and economic conditions for the development of fisheries and aquaculture and ensuring the follow-up of their implementation

A new fishing port with a capacity of 300 fishing boats was inaugurated on April 24, 2019. It contains an administrative block, two ice factories, three fish shops, two storage rooms, a mooring basin, a landing wharf, two slipways, a police station, a waste disposal site, a water tank, and public toilets.

This new facility should compensate for the 30% reduction in the size of the old fishing harbour basin, as well as the space reserved for the parking of fishing boats

The new fishing port is the result of a partnership between the Togolese and Japanese governments

The new fishing port

2.1.3: The Autonomous Port of Lomé

When it was created on April 7, 1967, as a public establishment of an industrial nature, the Autonomous Port of Lomé carried out industrial and commercial functions in addition to its regalian functions. In 1980, it was transformed into a General Directorate, under the supervision of the State. It was transformed into a state-owned company in October 1991 by the decree reforming the institutional and legal framework of public enterprises. In addition to its regalian functions, the Port Authority is in charge of the utilization of port facilities, piloting and towing of ships, the material and legal guard of goods, services of lighthouses and beacons, the watch and the radio, and management of the port and maritime domain. In addition, it retains the handling of certain categories of goods, including wheat, clinkers, and hydrocarbons.

The Port of Lomé has enormous potential that makes it a real hub on the West African coast.

Located at 06 ° 08 N and 01 ° 17 E, the Port of Lomé is the only port on the West African coast whereby it can be reached several capital cities in a single day. The Port of Lomé offers the advantage of carrying goods at very competitive rates and times. With a draught of about 17 metres, the Port of Lomé is the only deep-water port on the West and Central African coast that can accommodate the ships of last generations.

Due to the free port status that the Port of Lomé enjoys, the handling and transfer of goods within the port area are carried out without customs constraints, thus saving time in the processing of ships and goods. The Port of Lomé manages a large industrial free zone where industrial production units are located.

The port basin is bounded by two dikes of 950 m and 1720 m long which protect it from being silted up. Moreover, the Port of Lomé benefits from a low tidal range (1.20 m) and moderate winds. These conditions allow all types of ships to have access to the port at any time.

The Port of Lomé, with more than 900 hectares of land, is an international crossroads for trade and industry thanks to a vast industrial free zone where several companies are located. These companies benefit from quality port infrastructures, flexible regulations and taxes, and customs and financial advantages.

A view of the Autonomous Port of Lomé

17 metres of draught

Size of ships that call to the port

The port area (900 hectares of land)

One of the advantages of the Autonomous Port of Lomé is the speed of administrative formalities, which is the result of efforts to simplify goods collection circuits. Almost all collection formalities have been digitalized, and customers can have access services from their location via digital tools.

A digitalized system

In order to decongest the Autonomous Port of Lomé, the government built the dry port of Adétikopé in 2020, located on north side of Lomé at 27 km from the Autonomous Port of Lomé on the Lomé-Ouagadougou-Niamey corridor (hinterland countries). This new terminal is a real strategic asset for the Port of Lomé to strengthen trade with hinterland countries. It contributes to Togo's position as a leading logistics hub in West Africa. The operationalization of the dry port of the Industrial Platform of Adétikopé, still in progress, is marked by a process of reception and installation of the equipment on the dry port in order to attract the attention of the stakeholders in maritime logistics transport.


ARISE
PIA PORT SEC
PIA


PORT SEC
ATTENTION
TRAVAUX

The pictures of the new dry port of Adéticopé, known as the Industrial Platform of Adéticopé (PIA)

Truck parking at PIA

III- Action of the State at Sea: The National Organization in Charge of State Action at Sea (ONAEM)

The National Organization in Charge of State Action at Sea (ONAEM) was created in the context of deep regional and sub-regional maritime insecurity, at a time when the Togolese maritime sector was little or badly organized.

Thus, the National Organization in Charge of State Action at Sea was created by Decree No. 2014-113/PR of April 30, 2014, in order to strengthen the action of public administrations and coordinate intersectoral efforts in order to preserve the maritime interests of Togo.

The ONAEM is composed of three bodies, namely the High Council for the Sea, the services of the Advisor for the Sea, and the Maritime Prefecture

❖ Institutional Organization of the ONAEM

➢ The High Council for the Sea

The High Council for the Sea (HCM) is chaired by the President of the Republic. The Counsellor for the Sea ensures the permanence of the HCM. The following ministerial departments with responsibilities at sea are members:

- the ministry in charge of defense

- the ministry in charge of security

- the ministry in charge of the maritime economy

- the ministry in charge of transport

- the ministry in charge of economy and finance

- the ministry in charge of territorial administration

- the ministry in charge of higher education

- the ministry in charge of the environment

- the ministry in charge of foreign affairs

The HCM, the first body of the ONAEM, is the framework where the main orientations of the maritime policy of Togo are defined. It meets once a year and is convened by the President of the Republic with the participation of the Prime Minister, other members of the government, private actors of the maritime sector, and resource persons.

The HCM is the supreme body, the decision-making body of ONAEM where maritime policy decisions are taken and transformed into strategic actions within an interministerial framework (maritime conferences) by the services of the advisor for the sea and then implemented by the administrations involved, under the operational coordination of the maritime prefect.

- **The Services of the Advisor for the Sea**

The services of the Adviser for the Sea, created by Decree No. 2014-173/PR of 16 October 2014, on the attributions and organization of the services of the Adviser for the Sea, constitute the second organ of the ONAEM.

The Advisor for the Sea leads, on behalf of the President of the Republic, the interministerial work related to the sea. He prepares the deliberations and meetings of the HCM and ensures its permanence. Each year, he draws up a report for the attention of the President of the Republic and the Prime Minister on maritime policy and on the coordination of the State's actions at sea. It establishes, in collaboration with the bodies and administrations of the State, a master plan of maritime means which is revised annually, allowing to reach the fixed objectives.

- **The Maritime Prefecture**

The Maritime Prefecture (PREMAR) is composed of civilian and military personnel involved in the State's action at sea.

The Maritime Prefect is vested with the general administrative police power at sea. His policing power includes the power to intervene, notably in the protection of sovereign rights and national interests, the maintenance of public order at sea, the search and rescue of persons and the safeguarding of property, the protection of the maritime environment, the policing of maritime navigation, the safety of nautical activities, the protection of marine or submarine infrastructures, and the coordination of the fight against illicit activities.

He is responsible for safety and security measures taken by the administrations and services concerned in the framework of the State's action at sea, as well as for the implementation of their means. The Maritime Prefect coordinates operations in emergency or crisis situations in the maritime and port domain, particularly in the event of complex police operations, piracy, pollution, rescue at sea, and other illegal acts.

❖ **Operational Organization of the ONAEM**

At the operational level, the State's action at sea is made up of a decision-making level and a coordination staff on the ground.

- ✓ The decision-making level includes the interministerial authority made up of the member ministries of the High Council for the Sea, the Government Secretariat, the Advisor for the Sea and the Crisis Director, who is the Maritime Prefect. The latter is in direct contact with the Coordination Staff and reports to the interministerial authority on the situation on the ground.
  The decision-making level has the media for crisis communication, and the financial and logistical means to manage the crisis.
- ✓ The coordination staff is composed of a maritime command center (CCM) and a think tank.

The maritime command center includes the maritime operations center (COM) and other operational centers such as the rescue organization. The maritime operations center has an On Scene Coordinator who directs operations in the area and reports to the center. The other operational centers with external resources in the area provide assistance to the maritime operations center. Between the two operational centers is a buffer zone made up of a reception team responsible for the identification of victims, emergency triage, psychological support for the injured, reception of VIPs, etc.

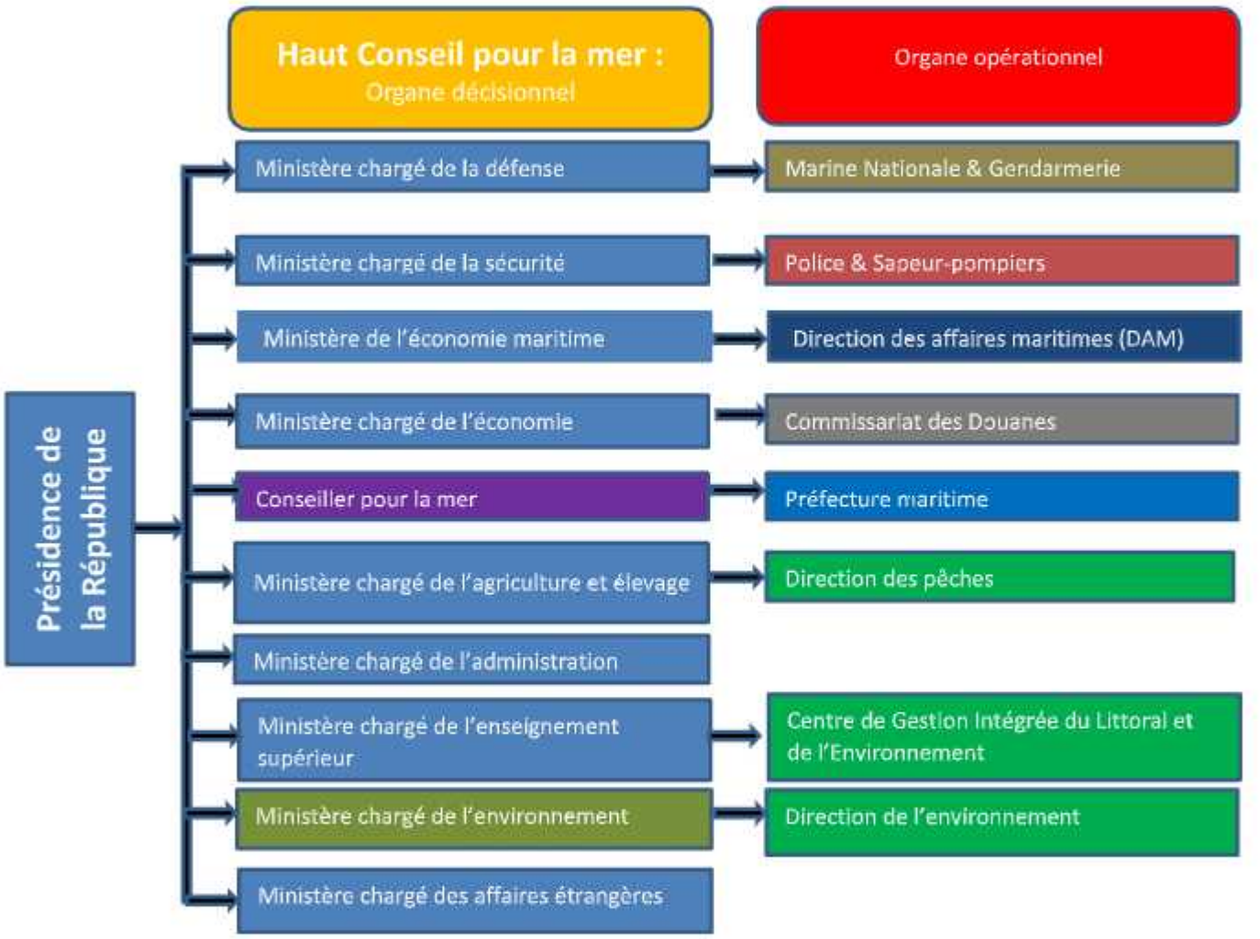
The think tank is composed of administrations with competences at sea, others without competences at sea but whose role is important for the management of crises, and a group of experts (meteorology, oceanography/hydrography, dangerousness and toxicity, oil industry, etc.).

The role of the think tank is to reflect, analyze, and make proposals at the technical level that can help authorities to make decisions in real time.

Next to the think tank is a third-party team composed of foreign resources, third-party states (flag, crew, cargo), and third-party vessels (P&I Club group, consignees).

In addition, it should be noted that the highest authorities of Togo have expressed a real willingness to secure the maritime areas under Togolese jurisdiction through Law No. 2016-004 of March 11, 2016, on the fight against piracy and other illegal acts and also on the State exercising its policing powers at sea. Its Article 5 is of paramount importance in that it gives the status of judicial police officer (OPJ) to the officers of the national navy, who by principle are military and do not have this power. Through this, they have the power to note offences at sea, investigate them, apprehend perpetrators, draw up reports and, once on land, hand them over to the public prosecutor for legal proceedings.

Organigramme de l'ONAEM



Tunisia

Tunisia Report: Overview of Maritime Situation and related Organizations in Tunisia

I- Country overview:

Tunisia is a country laid at the extreme north of Africa. Opened to the Mediterranean Sea from the north and east parts, Tunisia is endowed with more than 1300 km of coast line giving access to both eastern and western Mediterranean basins.

At the inland side, Tunisia is bounded to the west and southwest by Algeria and to the southeast by Libya, counting 163 610 km² of land extent and around 12 million of population. Its characterized by moderate relief and minor inland waterways. The Majadra River is the only continuously flowing stream which flows through the Majadra valley in the northwest and empties into the Gulf of Tunis close to the site of ancient Carthage in the northeast (Figure 1). It is still not used for maritime transport, however, it could be an alternative in the future.

(Source: Encyclopedia Britannica, Inc.)

Figure 1: Geographical position of Tunisia

Tunisia has known an intense maritime activity since antiquity. Its coasts have notably integrated its way of life and the commercial activities of its inhabitants. Moreover, the first signs of interest in the sea appear from prehistoric times. Many remains scattered on the Tunisian coast testify to this. But it was with the foundation of Carthage that the Carthaginians made our country one of the first bridgeheads of international maritime trade not only towards Europe but also towards Africa.

Admittedly, Carthage was above all a maritime power through its war and transport fleet. Frigates, under full sail, continued to ensure this commercial exchange by sea until the invention of the steam engine.

Tunisia has invaluable assets in terms of marine natural heritage and living and non-living marine resources that can, if effectively exploited, enable the country to strengthen its development capacities.

The following identified indicators demonstrate the economic and social importance of the maritime sector in Tunisia:

- 96,600 direct jobs and 289,000 indirect jobs in the maritime sector,
- 98% of Tunisia's foreign trade is carried out by sea,
- A major port infrastructure made up of 41 fishing ports, 8 commercial seaports which annually ensure the transit of 30 million tonnes of goods, 65% of which are exchanged with European ports and 8 marinas; the activity of pleasure crafts generated by these ports is increasingly confirmed and constitutes a promising niche for the development of the tourism sector in Tunisia,
- Fishing in Tunisia is an important economic activity representing 13% of GDP where 15% of production is exported. The sector employs 100,000 people, including 60,000 directly (fishing activities) and 40.000 indirectly, mainly in the food industry.
- Despite intensive tourist and seaside activity before the Covid-19 pandemic, several Tunisian beaches have often been ranked among the best in the world in terms of purity and transparency of the sea water giving the country a competitive advantage among other Mediterranean countries.

II- Tunisia's maritime situation overview:

1- Maritime risks and country challenges:

1.1. Climate change and intensified fishing and tourism activities:

A providential geographical position at the crossroads of the world with 99,701 km^2 of total maritime areas (to limit of executive economic zone), Tunisia is also exposed to an intense maritime activity.

The country's major coastal cities suffer from a strong littoralisation marked by a concentration of more than 80% of industries on the coast, 95% of the hotel capacity and more than 70% of total population.

Moreover, being at the heart of the Mediterranean and as many of other countries, Tunisia is facing lot of challenges. The area is most exposed to the effects of climate change faces the risks of erosion and sea level rise.

According to modeling and forecast tools, up to 200 000 people may be displaced by flooding and sea level rise by the year 2100 (Figure 2). A similar occurrence would likewise stop all commercial activity, seriously harm any structures, and perhaps deter tourism activities.

(Source: Earth.org)

Figure 2: Sea level rise projections by 2100

Furthermore, intensified fishing activities and the widespread of illegal, unreported and unregulated fishing has harmfully affected the fauna and the flora and threatened the biodiversity and the stability of the ecosystem.

In this respect Tunisia has been involved in the creation of Marine Protected Areas (MPA) in accordance with the Barcelona convention, ratified since 1977.

The aims of MPAs are mainly:

- Make sure to safeguard endemic, vulnerable, uncommon, or endangered species as well as special marine ecosystems,
- Raising public awareness on the fragility of natural resources and the need to protect and manage the natural environment,
- Promoting artisanal and environment friendly fishing methods and,
- Encouraging more sustainable tourism activities and products that respect the environment.

Tunisia have 19 MPAs, however, it represents only less than 1% of the total maritime area (761 $km^{2)}$.

The following table summarize the most important MPAs and its percentage of the total maritime area.

Zone Name	Site Marine Area (km2)	Site Percent of Total Marine Area in Tunisia
Lagune of Boughrara	369,1	0,4%
Jerba Bin El Ouediane	89,3	0,1%
Archipel of La Galite	82,1	0,1%
Zembra & Zembretta	76,1	0,1%
Kneiss iles	52	0,1%
Lagune of Ghar El Melh & delta of medjerda	35,4	< 0,1%

(Source: mpatlas.org)

Table 1: Tunisia's Most important MPAs

1.2. Maritime transport and major incidents:

Tunisia coasts are widely open to massive maritime traffic. Particularly the north and north-east coasts through which nearly 30% of international trade maritime traffic transits. Hence, the Tunisian coasts are exposed to the risk of accidents and pollution incidents generated by this traffic.

Some of major maritime incidents have been occurred recently in Tunisian coasts which seriously threatened the marine environment. Citing the following examples:

1.2.1. Grounding of M/T XELO:

The bunker tanker ship XELO has been sank in Golf of Gabes on 15 April 2022 after engine room flooding. On the night of 14 April, in the midst of a storm, her crew sent out a distress signal and sought refuge in the Gulf of Gabes. The crew was successfully evacuated, but the ship sank early morning of the next day in shallow water.

Figure 3: M/T XELO

The Equatorial Guinea-flagged ship was carrying 750 tonnes of diesel fuel as ship master declaration. After investigations it reveals that the ship tanks were loaded with seawater. Minor oil leakage from engines have been pumped out and no marine pollution has been detected.

The ship built since 1977 has a long series of detentions and deficiencies on her port state control inspection record, including a two-week detention in Neapolis, Greece in February 2022. Her fire pumps, SOLAS equipment, charts, and anchoring systems were among the elements that inspectors discovered to be defective.

Moreover, the crew has declared that the ship was sailing from Damietta port heading to Malta. However, Damietta Port control has denied this declaration. In fact, XELO was in Malta anchorage area before she heads to Sfax port then to Golf of Gabes according to AIS (Automatic Identification System) tracking data, strengthening the assumption that the vessel in question is an oil smuggling freighter that is sailing illegally or there was a volunteering action to get rid of the old ship. Nowadays, the crew has been released and investigations still in process to answer those questions.

1.2.2. Sinking of M/T LADY SANDRA:

Lady Sandra is a river tanker ship that has been breaking in two in Malta anchorage area in 25 March 2020 due to bad weather conditions. The stern part was drifted to reach Tunisian territorial water close to Djerba island, threatening Tunisian coasts of marine pollution. Uncertain how this inland tanker built in 1975 entered the Mediterranean and who authorized this river ship to navigate high seas, especially though she was only deployed for bunkering.

(Source: Maltatoday.com)

Figure 4: M/T LADY SANDRA after breakage

Fortunately, that the crew members have been successfully rescued and no pollution have been reported. The ship has sunk later on after towing it away from shore.

1.2.3. M/V HAMADA S grounding:

HAMADA S is a General Cargo that was built in 1979 and is sailing under the flag of Togo. In 11 December 2019, the ship has run aground after dredging its anchor in the coast of Bizerte. The ship apparently came from Algeria around two weeks ago to undergo repairs, but due to safety concerns, it was not permitted to transit through the Bizerte Canal. The disassembled

cargo equipment and overall impression of a neglected vessel give her the appearance of being ready for scrap.

Figure 5: M/V HAMADA S grounding off Bizerte coast

1.2.4. Grounding of an "Unanimous" ship:

The story was about a Turkish shipping company that purchased a Nigerian tanker, whose transfer to Turkey was appointed to an Italian tug. The latter faced the waves during a storm at sea on Friday 12 December 2014, which forced the tug boat to abandon the tanker. Finally, the ship was found grounded in the coast of Kuriat island in Tunisian maritime domain.

Figure 6: Grounded Tanker off Kuriat island coast

To conclude, the most common factor that relate the above accidents that happened few years ago is that all of them are aged of more than 40 years. Moreover, those incident have been occurred in maritime protected area which gravely affected the maritime environment and seriously threatened biodiversity and rare protected species living within it.

Tunisian Authorities have to pay more attention to those kind of ships by enhancing border monitoring and surveillance, increases ship inspections, enforcing laws and regulations and to heavily penalize uncompliant ships.

2. Maritime sector organizational scheme:

2.1. Ministry of Transport:

The maritime transport and administration sectors in Tunisia are governed and supervised by the Ministry of Transport. The Ministry of Transport's mission is to establish, maintain and develop a global, integrated and coordinated transport system that contributes to promoting sustainable economic and social development and to ensure that people's transport needs are met in the best possible way and conditions, in particular, in terms of safety, security, cost, quality and environmental protection. The transport system includes the activities of land, sea and air transports and logistics.

The following diagram explain how the Tunisian Minister of Transport is organized and where the maritime sector is being managed.

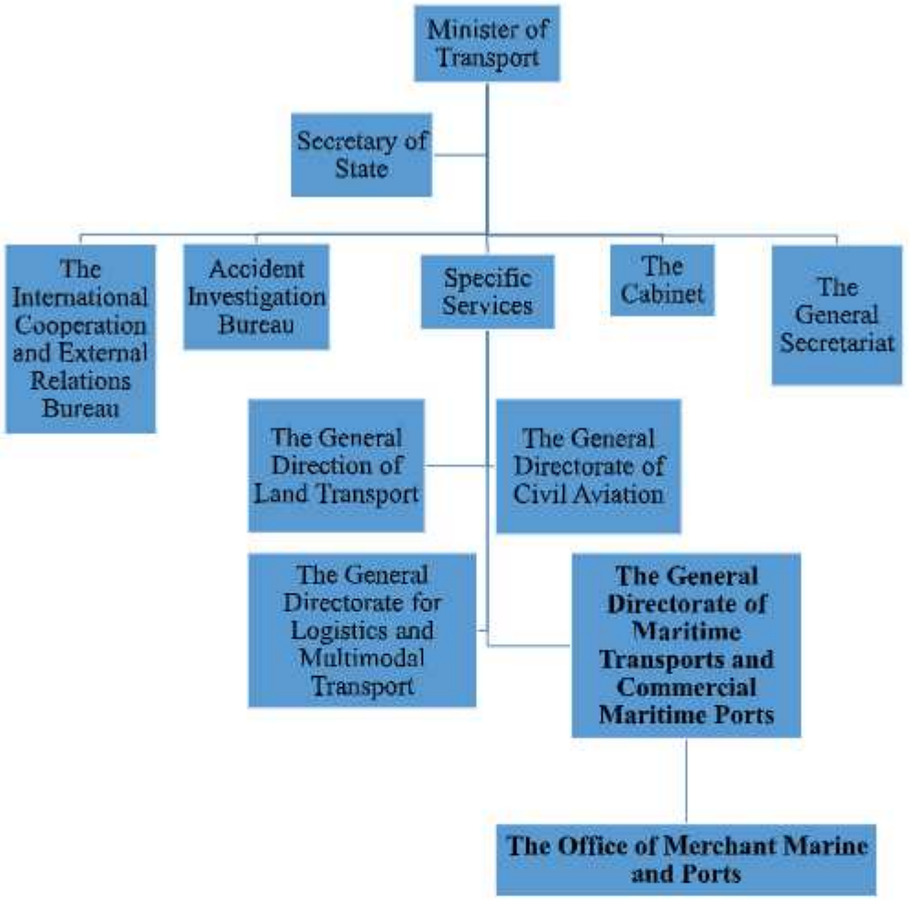


Figure 7: Ministry of Transport Organizational Chart

As figure 7 shows the maritime sector which is laid under the specific services of the ministry is supervised by the general directorate of maritime transports and commercial maritime ports while the Office of Merchant Marine and Ports (OMMP) that works under its auspices is the executive organization of the ministry in terms of development of maritime sector in general.

2.1.1. Office of Merchant Marine and Ports:

The Office of the Merchant Marine and Ports was established under the authority of Law No. 65-2 of February 12, 1965, as amended by Law No. 15 of February 1972.

The OMMP was required to carry out the attributions confided to the maritime authority and administration as well as the duties of port authority in line with Law in effect No. 98/109, issued December 28th, 1998.

The OMMP is a public organization with legal and financial independence which represent both maritime and ports authorities as the following Figure shows.

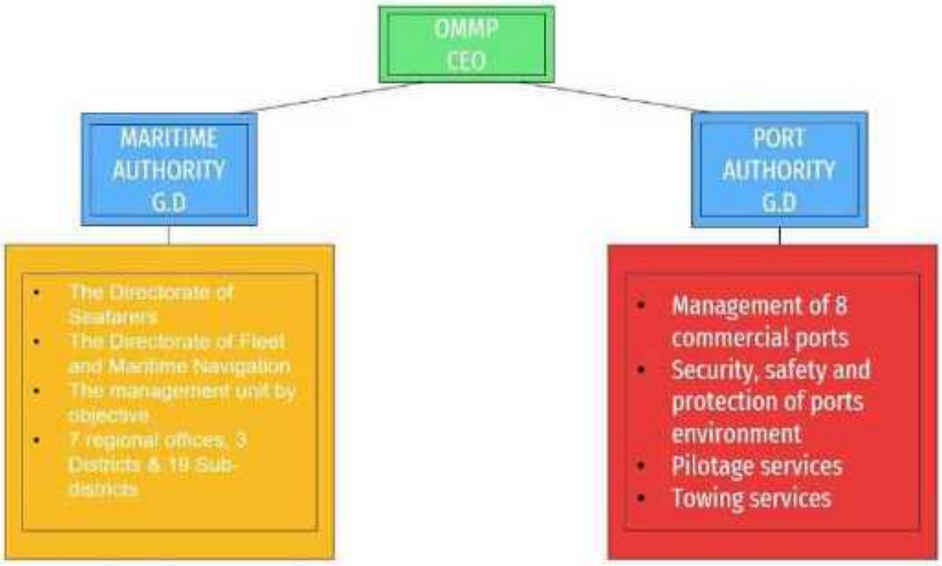


Figure 8: The OMMP main tasks

The OMMP is headed by a CEO where under his supervision two general directors are responsible for ensuring maritime and port authorities tasks.

A- <u>The Maritime Authority</u>:

It ensures the maritime administration's jurisdiction and authority mainly through three directorate dedicated to three primary tasks:

- **The directorate of fleet and maritime navigation that**:
  - Formulate and execute the national and international legislation pertaining to the management of the maritime fleet, particularly the administration of ship safety.
  - Participate in the work of national and international bodies that are focused on the management and safety of ships, including the processes of ships building.
  - Provide technical and maintenance studies involved in building and modifying ships,
  - Issue certifications of approval for the equipment and materials used in maritime safety
  - Conduct inspections and provide safety certificates, and
  - Handle maritime investigations.

- **The directorate of seafarers that:**
  - Guarantees that the national and international laws and regulations are followed and enforced,
  - Makes sure that seafarers are qualified and certified,
  - Formulates and implements laws, regulations, and orders, in accordance with international conventions ratified by Tunisia such as the Standards of Training, Certification and Watch-keeping for Seafarers convention as amended (STCW 2010) and the Maritime Labor Convention (MLC 2006),
  - Inspects and enforces procedures on maritime labor and monitor the good management on board commercial vessels,
  - Bilaterally coordinates with foreign authorities for the purpose of confirming the legitimacy and authenticity of the certificates granted to sailors by maritime authorities,
  - Ensures the implementation of quality system at the seafarer's department.

- **The management unit by objectives:**

  It is a department responsible of maritime regulatory intelligence. It main purpose is to keep an eye on updates and trends in the maritime legal framework internationally. It lookout as well on the right implementation of ratified convention on national law, to rise difficulties in its application to the maritime authority and to propose corrective plans. It takes part in the creation of projects for national decrees and orders that will go into effect. It coordinates also with international bodies in terms of voluntary audits and keeping up with IMO agenda.

To ensure its responsibilities and services throughout the Tunisian territory, the maritime authority, beside it headquarter, is represented by a number of regional, districts and sub-districts offices as the following table shows.

7 maritime regions	3 maritime districts	19 maritime sub-districts
- The Maritime Region of Bizerte - The Maritime Region of Tunis - The Maritime Region of Sousse - The Maritime Region of Monastir - The Maritime Region of Sfax - The Maritime Region of Gabes - The Maritime Region of Djerba	- Tabarka district, under the supervision of the Maritime Region of Bizerte - Kelibia district, under the supervision of the Maritime Region of Tunis - Mahdia district, under the supervision of the Maritime to the Monastir Region	Ghar El Melh, Beni Khiar, Hammamet, Sidi Bou Said, Rades, Kantaoui, La Chebba, Maritime complex of Monastir, Sayada, Teboulba, Ellouza, Kerkennah, El Mahres, Sekhira, Zarat, Ghannouch, Zarzis, Ajim and Ketaf.

Table 2: Tunisian regional maritime offices

Their duties are to:

- Represent the OMMP in regional commissions,
- Register all kind of vessels like fishing boats, pleasure crafts and commercial ships,
- Manage wrecks,
- Register sailors, issue maritime seafarers booklets and track their career at sea,
- Coordinate between seafarers and ship-owners to establish reconciliations,
- Conduct surveys as part of the port state and flag state inspections, and
- Conduct maritime investigations.

B- <u>The Port Authority</u>:

As port authority, the Tunisian maritime commercial ports are managed by the OMMP. It is offering and ensuring the best conditions for the management of ships and cargoes through Tunisian commercial ports in terms of time, cost, safety, and security. Its primary responsibilities include also the update of port services and ongoing development plans, the expansion of ports operations, increasing performances, monitoring the security and effectiveness of all commercial activities and developing ports strategical projects in partnership with the private sector.

The OMMP is managing ports as landlord governance model. Cargo handling services are secured by public and private companies but the OMMP still providing pilotage and towage services.

In addition to the above tasks, the port authority is responsible to ensure to all ships and port users the safety, security and environment protection throughout all port logistics chain segments in accordance with the law inforce and the ISM and ISPS codes.

- From sea to berth:

  Safety starts at sea; such is the rule. From the harbor, a Vessel Traffic Service (VTS) takes in charge of the ship until it docks. Before the ship is allowed to proceed inside, the harbor pilot must be onboard to monitor and secure the safety of the ship maneuver operation. The harbor master's office controls all the maneuvers carried out on the route to be followed to enter or leave the inner basins as well as any movement inside the port.

  Radio contact is maintained between the harbor master's office and the ship at all times 24 hours a day.

- At berth:

  Specific safety measures are taken for each cargo handling operation especially of loading or unloading petroleum products, chemicals and dangerous cargo. Port operators and officers of each port can thus identify the cargo and the nature of the risk that may arise, as well as the measures to be taken to avoid any risks or incidents. In this context, the harbor master ensures the control of declarations of any arrival in its facilities as well as goods classified as dangerous whether for import or export.

  Port officers are also responsible of all ships docking, mooring, unmooring and undocking operations. Monitor loading, unloading, handling and removal of goods and controlling access and movement of people, vehicles and machinery within the port enclosure.

In other perspective, the port authority plays an active role in coordinating interventions from all the authorities and ports operators by setting up security and port safety committees, reinforcing also security in ports through the assessment of security measures and the means of detecting and extinguishing fires, identifying and analyzing of possible risks to the environment and the implementation of internal operation plans in the event of pollution.

It has the obligation to equip all commercial seaports with marine pollution control equipment and to train the port personnel through periodic drills, exercises and simulation on a regional or even international scale.

Regarding port security, all commercial seaports covered by the OMMP are in compliance with the provisions of the ISPS code. Since 2004, the port authority has proactively treated security issues by approving the security audits and plans scheme (Port Facility Security Assessment and Port Facility Security Plan) even before the entry into force of the code and it have been audited each year.

Port Facility Security Officers have been designated in all ports and agents have been trained in accordance with the provisions of the ISPS code and in coordination with the International Maritime Organization (IMO) and the competent international and national organizations.

Security exercises have been also carried out each year in coordination with other authorities concerned and ships docked in the ports. Nevertheless, the OMMP has invested in means of enhancing security in ports through installing scanners to ensure effective control of containers, scanners for screening passengers and their baggage, truck scanners for vehicle and a remote surveillance system to control port enclosures.

2.1.2. TUNISIA PORTS CHAIN:

As mentioned before Tunisia has 8 commercial ports which through it 98% of international trade of the country is secured.

Figure 9: Tunisia's commercial port chain

- Bizerte/Menzel-Bourguiba Port:

The port of Bizerte/Menzel Bourguiba is a multipurpose port with direct access to the sea through a channel with a depth of up to 12 meters. The average traffic of goods generated by the port of Bizerte amounts to 5 millions of tons per year. The port is giving access to Bizerte lake where a shipyard of 4 dry-docks locate.

Figure 10: Bizerte Port

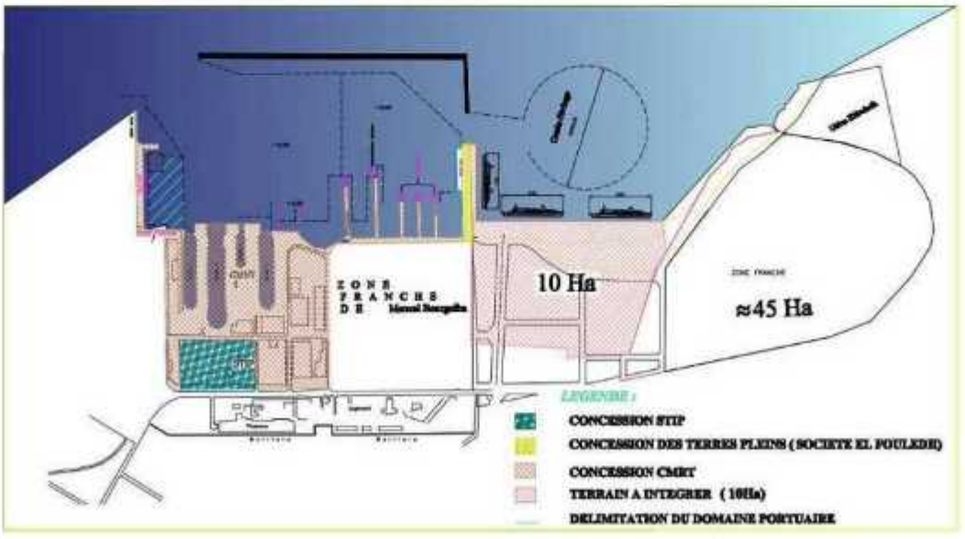


Figure 11: Menzel-Bourguiba port

The port of Bizerte-Menzel Bourguiba has 520 linear meters of standard docks in addition to 5 docks that are dedicated to the handling of hydrocarbons, cereals, steel, cement and clinker, and metallurgic items. The port hinterland is hosting 9 industrial estates with a surface area of 172.5 ha and a business park of 51 ha within it 533 industrial firms are established operating mainly in oil refining, metallurgical industry, cement works, mechanical, electric, food processing, textile and leather industries.

The main port facilities are as follow:

POSTE N°	LENGTH (M)	DRAUGHT (M)
1	100	9.30
2-3-4	260	9.65
5	160	9.80
Cereals jetty	200	9.75
Tunis Acier	120	9
Oil jetty A	250	10,67
Oil jetty B	150	8.25

Table 3: Bizerte Port Facilities (North part)

POSTE N°	LENGTH (M)	DRAUGHT (M)
South Dock	150	9,50
Honour Dock	100	5
North jetty N°2	150	7,60
South jetty N°2	150	6,70
Cement Dock	180	10,50
Support dock	90	5,50
Oxy Dock	16	6,20

Table 4: Menzel-Bourguiba shipyard docks and jetties

- La Goulette Port:

The port of La Goulette, situated in the capital city of Tunisia, is specialized in receiving passenger and cruise ships. It also receives RO-RO ships (Rolling on-Rolling off) transporting: cars, trailers and vehicles.

Figure 12: La Goulette Port

The access to the port is insured via a channel of 3.5 nm and 12m of depth. The port accommodates as well warehouses of 35 600 m2 total surface, 25 ha of quay side platform, a passenger station of 1160 cars capacity, a waiting room of 5200m^2 and 1096m of total quay length as detailed in the following table:

POSTE N°	LENGTH (M)	DRAUGHT (M)
1Bis	150	5.10
1	150	8,2
2	150	8,2
3	150	8.8
4	150	8.8
5	150	8.8
6	150	8.8
7	150	8.8
C1	335	9.00
C2	335	8.8

Table 5: La Goulette Port Facilities

- Rades Port:

Rades port is the main commercial seaport of the greater Tunis area. Geographically, it is the extension of the passenger port of La Goulette in the South Bank of the access canal. It compromises two terminals for both containers and bulk cargo like it shows in the figure below.

Figure 12 : La Goulette and Rades port location Map

The commercial port of Rades comprises two terminals, one is specialized in containers and rolling units and the other one is composed with specialized berths.

The Customs-controlled zone of the container and RO-RO terminal has a surface of 48ha, containing 6 hangars with a total surface of 50ha, 3ha of which are warehouses.

The following table summarize the port facility infrastructure:

POSTE N°	LENGTH (M)	DRAUGHT (M)
1	150	9,00
2	205	9,00
3	205	9,15
4	205	9,00
5	205	9,00
6	140	9,00
7	180	9,15
Oil jetty	170	9,45
SILO	190	9,75
DGX DOCK	130	7,20

Table 6: Rades Port Facilities

- Sousse Port:

Established since 1885, the port of Sousse is located at the center of the eastern coast of Tunisia. It is composed of two independent areas separated by a basin of 21ha dredged to 10,5m with a 400m turning circle. It is specialized in the handling of various goods and some small cruise ships traffic.

Figure 13: Port of Sousse

The port is composed with the following infrastructures:

POSTE N°	LENGTH (M)	DRAUGHT (M)
1	115	8,50
2	170	8,50
3		8,50
4		8,50
5	170	8,50
6	170	8,50

Table 7: Sousse Port Facilities

- Sfax port:

Located in the eastern south of Tunisian coasts, Sfax port is a multipurpose port. Its main traffic consists in solid bulk such as phosphate, sea salt, cereals and containers. Based in the biggest

industrial city of the country, the port hinterland contains more than 2300 firms, around 800 of them are exporting diversified products.

The port is composed with an access channel of 10,5m depth and 6,15km of length and three basins of 62ha of surface in which a turning circle of 300m diameter is based.

Figure 14: Sfax Port

The docking structure consist of 15 berths distributed as follows:

POSTE N°	LENGTH (M)	DRAUGHT (M)
1	150	10.50
2	220	10.50
3	245	10.50
4,5,6	584	10.50
7,8,9	520	10.50
10	60	10.50
11	150	10.50
12,13,14	517	10.50
15	110	10.50
Oil Quay	150	10.50

Table 8: Sfax Port Facilities

- La Skhira Port:

It is a port dedicated to wet bulk traffic mainly petroleum and chemical products such as oil and acids. It is located about 350 km south of the capital Tunis. It has an important infrastructure of storage of crude oil and oil refined products, as well as loading and unloading pipelines.

Figure 15: La Skhira Port

It is mainly composed of three berths constructed on dukes of alba where two of them are oil posts of 300m of length and a depth of 15m which they can receive tanker ships of 120000 tonnes loading capacity and one post for phosphoric acid of 150m of length and a depth of 8.7m.

- Gabes Port:

The commercial port of Gabes is located in the southern part of the country, whose activity is characterized by an industrial vocation. It essentially ensures the handling of chemical products on behalf of the neighboring factories located in the industrial zone of Gabes.

It is specialized in all kind of either wet or bulk cargoes. This bulk traffic consists mainly of sulfur, ammonia, gas and cereals on import and phosphoric acid, phosphate fertilizers and cements products on export.

The channel of the port is 3,22Km of length and 13.5m of depth giving access to the outer basin of 50 Ha dredged to 12.5m and an inner basin of 30 Ha with 10.5m of depth. The turning circle have a diameter of around 600m.

Figure 16: Gabes Port

The main docking offer 1725m of quay length dedicated to commercial ships which structured as follows:

POSTE N°	LENGTH (M)	DRAUGHT (M)
3	140m	10.5
4	200m	10.5
5	200m	10.5
6	200m	10.5
7	200m	10.5
8	260m	11
9	225m	11
10	300m	11
Service Quay	139m	5

Table 9: Gabes Port Facilities

- Zarzis Port:

The Port of Zarzis is located in the extreme southern part of Tunisia. It takes charge of the commercial exchange of the region, consisting mainly in exporting sea salt and crude oil and importing pure oil products. It has been equipped lately with a passenger terminal.

The port is accessible via a dredged channel of 5nm length and 11m of depth where it opens to a main basin of 35ha and 11m deep with a turning circle of 450m diameter.

Figure 17: Zarzis Port

The port has a land reserve covering an area of 135 hectares in the port public domain, located on the West side of the harbor and bounded on the North by the city and in the South by the sea, dedicated to the establishment of projects in conjunction with port activity. It covers also 41ha of quay side land and around 9000m^2 of covered areas. The quay descriptions are as follow:

POSTE N°	LENGTH (M)	DRAUGHT (M)
1	150	11
2	150	11
3	150	11
4	150	11
Oil Jetty	175	10
Quay Service	155	5.5

Table 10: Zarzis Port Facilities

III- Tunisia Maritime related organizations:

The maritime sector is mainly managed by mostly public organizations supervised by Ministries. As the following figure shows, 5 main Ministries are engaged in the maritime sector.

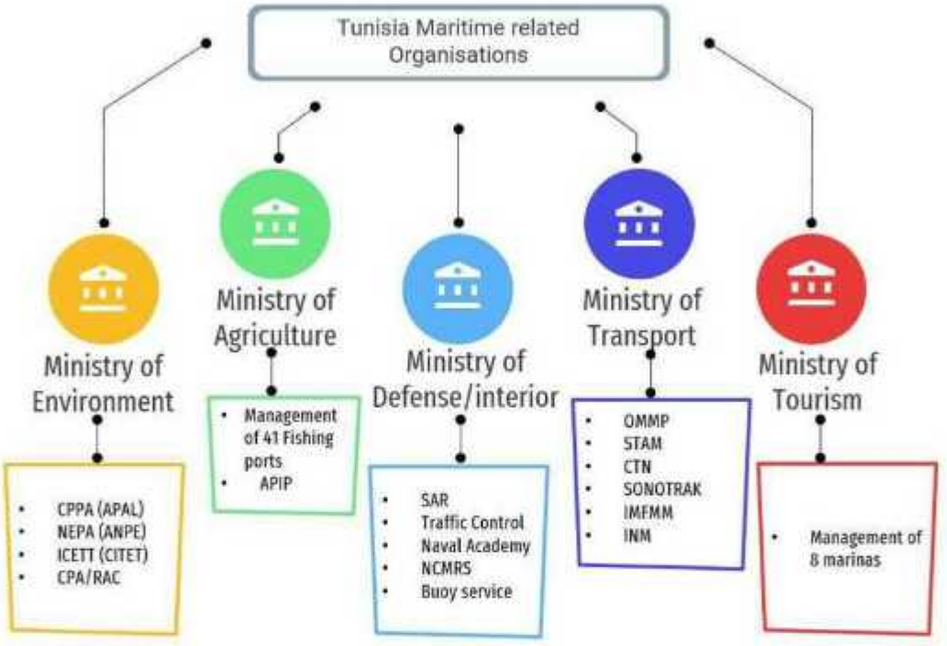


Figure 18: Main maritime related organizations in Tunisia

1- The ministry of environment:

It is in charge of protecting the environment through proposing and applying the general policy of the State in the fields of the protection of the environment, the safeguard of nature, the promotion of the quality of life and the establishment of the foundations of sustainable development in the State policies. In the maritime field, to perform its obligations, the Ministry have under its auspices a number of organizations.

- CPPA: The Coastal Protection and Planning Agency is missioned to implement the state policy in the area of coastal protection and development. It protects the maritime public domain against illegal occupation. Also, it is in charge of the rehabilitation and

management of natural coastal areas, conducts research and studies related to the protection of coasts and the development of natural and sensitive areas.

- NEPA: The National Environmental Protection Agency actively participate in the development of the government's general policy in the fight against marine pollution and environment protection including the maritime sector. Its ensure the implementation of regulations and law enforcement through specific and global actions within the framework of the national development plan.

- ICETT: The International Center for Environmental Technologies of Tunis works to strengthen the capacities of Tunisia and Arab-African and Mediterranean counties in the field of environment protection and the sustainable management of natural resources through skills development and capacity building.

- CPA/RAC: In the framework of the application of Barcelona convention, Tunisia has been hosting the Regional Activity Center for specially protected areas that was established by the contracting parties in order to assist Mediterranean countries in implementing the protocol concerning specially protected areas and biological diversity in the Mediterranean.

2- Ministry of Agriculture:

The management of fishing activities and regulations are assigned to The Ministry of Agriculture which undertakes within the scope of the tasks entrusted to it the preparation of:

- Agricultural development plans within the scope of national economic and social development plans
- Sectoral programs for the development of agriculture and fisheries,
- Studies related to various elements and means aimed at developing the agricultural sector, and
- Preparing legislative drafts and regulatory texts for the advancement of agriculture and ensuring their implementation.

The Ministry has the obligation of managing 41 fishing ports established all around the Tunisian coasts through the Agency of the Harbors and Fishing Facilities (AHFF).

The assignments of the AFHH are:

- Exploiting, managing, and developing the fishing harbors,
- The management of the harbor public domain,
- The exercise of the harbor police,
- Supplying different kind of services to fishing boats, and
- The involvement in some studies about fishing harbors extension.

3- Ministry of Defense and the Ministry of Interior:

Both ministries are globally in charge of protecting Tunisia's territorial sea and its Exclusive Economic Zone from illegal activities and border crossing. The Ministry of Interior has the obligation of monitoring illegal fishing activities and inforce the law on uncompliant fishing boats. Through the coast guard service, it has the obligation of ensuring Search and Rescue (SAR) activities.

The Ministry of Defense beside its obligation of monitoring ships traffic transiting Tunisian waters through Tunisian Navy Force, it has other organizations engaged in the maritime field

Citing the following:

- The Naval Academy: It is the only Maritime University that has the role of ensuring the training of officers for both the Navy and the Merchant Marine in the military fields and the techniques of navigation. It organizes also cycles of complementary or refreshment training such as STCW trainings and conduct scientific and technical research in the maritime field in favor of public or private organizations.

- NCMRS: The National Center for Cartography and Remote Sensing is ensuring bathymetric survey and monitoring coast line changes. It provides as well paper and electronic navigational charts of Tunisian maritime areas.

- Buoy service: The Ministry ensures through this service the maintenance of all buoys and maritime signals in all Tunisian ports and coasts.

4- Ministry of Transport:

It is the major actor in the maritime field as described before (Paragraph II-2.1). It has a number of organization to fulfill its obligations.

- OMMP: (See Paragraph II-2.1.1)

- STAM: Tunisian Stevedoring Company is a public owned company that operate in Tunisian ports to secure cargo handling operations with other private companies except the port of Rades where it has the monopole. The STAM ensure ship to shore cargoes operations and the management of quay side land and storage areas through concession agreement with ports authorities.

- CTN: The Tunisian Navigation Company is a shipping company that mainly works in regular line with south Europe. It manly carry trucks, trailers, containers and passengers through 6 RO-RO/Pax ferries.

- SONOTRAK: It is a local ferry company that provide passenger and vehicles transport services between Sfax and Kerkenah archipelago.

- IMFMM: The Mediterranean Training for Maritime jobs institution is specialized in maritime transport and ports logistics education and training. It offers courses for both deck and engine seafarers in accordance with STCW convention as well as complementary trainings.

- INM: The National Institution of Meteorology take cares of meteorological maritime and aeronautical weather forecast, issuing notice to mariners and supports research groups in meteorology and geophysics.

5- Ministry of Tourism:

It is mainly involved in the maritime sector by managing 8 marinas.

Beside public sector, the private sector is also involved in the maritime affairs. Some of Tunisian flagged ships are operating under private shipping companies in the fields of international transport and offshore supplying. In addition, the private sector contribution appears in according other services such as ship repairs and maintenance, ships mooring and cargo handling operations.

Uganda

CURRENT SITUATION OF UGANDA'S MARITIME INDUSTRY

Uganda is a land linked country with a land surface area of 241,550 square kilometers area. 18% of Uganda's surface area is covered with water bodies and swamps. The country is also endowed with a number of navigable waterways and these are Lake Victoria (shared between Uganda, Kenya and Tanzania), Lake Albert (shared between Uganda and Democratic Republic of Congo), Lake Kyoga, Lake Edward and George.

Location of Uganda on World Map (Geoscience News and information, 2022)

As a land linked country, Uganda is dependent on the Ports of Mombasa in Kenya and Port of Dar Es Salaam in Tanzania for the importation and exportation of all her cargo.

The Ugandan government under the Ministry of Works and Transport established the Maritime Administration in 2016 responsible for regulating the water transport and started operational in 2017. Since then the Maritime administration has put up the new laws and regulations to replace the old ones that were obsolete. The current laws governing water transport are:

- the Inland Water Transport Act 2021,
- Lake Victoria Transport Act, 2007, and
- Rivers Act, 1907.

Currently the Maritime Administration is in the process of developing regulations to operationalize for the Inland Water Transport Act 2021.

Uganda became a member of IMO in 2009 and in 2018 acceded to the following IMO Conventions: International Convention for Safety of Life at Sea, 1974 (SOLAS 1974), International Convention for the Prevention of Pollution from Ships, 1973 (MARPOL 73/78), Convention on Facilitation of International Maritime traffic, 1965 (FAL 1965), Convention on the International Regulations for Preventing Collisions at Sea 1972 (COLREG 1972), International convention on Load line (LL), International Convention on Standards of Training, Certification and Watch keeping for Seafarers, 1978 (STCW 1978), International Convention on Maritime Search and Rescue, 1979 (SAR 1979), International Convention on Standards of Training, Certification and Watch keeping for Fishing Vessel Personnel, 1995 (STCW-F 1995).

Nine (9) Search and Rescue centers are being set up at the respective inland waterbodies. There is also a maritime call centre under the 110 code that has been established together with a Maritime Rescue Coordination Centre (MRCC) for the purposes of supporting the safety of seafarers on our waterways.

Lake Victoria is the main navigable waterbody in Uganda that is used for the transportation of cargo imports and exports for Uganda. Lake Victoria is a transboundary lake that is shared between Uganda, Kenya and Tanzania. To facilitate the cargo movement on this lake, there are

3 main ports, and these are Port Bell and Jinja Port for Uganda, Kisumu Port for Kenya and Mwanza Port in Tanzania.

Port Bell: This is the main port for Uganda handling most of the import and export cargo. The port facility is connected by road and railway line linking it to the hinterland of the three East African Countries. The port is also served with railway wagon ferries that enhance this linkage.

Ships and ferries operate between this port and Jinja, Kisumu Port of Kenya, Musoma, Mwanza and Dar-es-salaam of Tanzania.

Vessel on dry dock at Port Bell

Port of Jinja: This is the second largest port in Uganda after Port Bell and it is situated on Lake. Just like Port Bell, the port is served with a railway link span as shown below.

Link span at Port Jinja

Bukasa Inland Port: Uganda plans to construct a cargo port facility to boost the country's trade network since all other port facilities are limited to expansion. The Bukasa port development started in 2019 however it stopped midway due to the government's demand of renegotiating its financial agreement with the German port development firms and involving African companies to reduce costs. The port is expected to become fully operational by 2030 and would comprise administration offices, wharves, multi-purpose terminals and shipyards. The port would handle around 5 million tonnes of goods every year.

Plan of Port Bukasa

CONCLUSION

Maritime Administration is still in the infancy stage having been established 5 years ago. Currently, the Maritime Administration is focusing on setting up systems such as, development of laws and regulations. Mostly, the international cooperation and partnership under Sustainable Development Goal 17 (United Nations, 2022) ought to be important and recommended for capacity building and resources for continual development. All hands should be put to the deck towards development of the maritime sector to grow steadily and more efficiently to great standards in Uganda.

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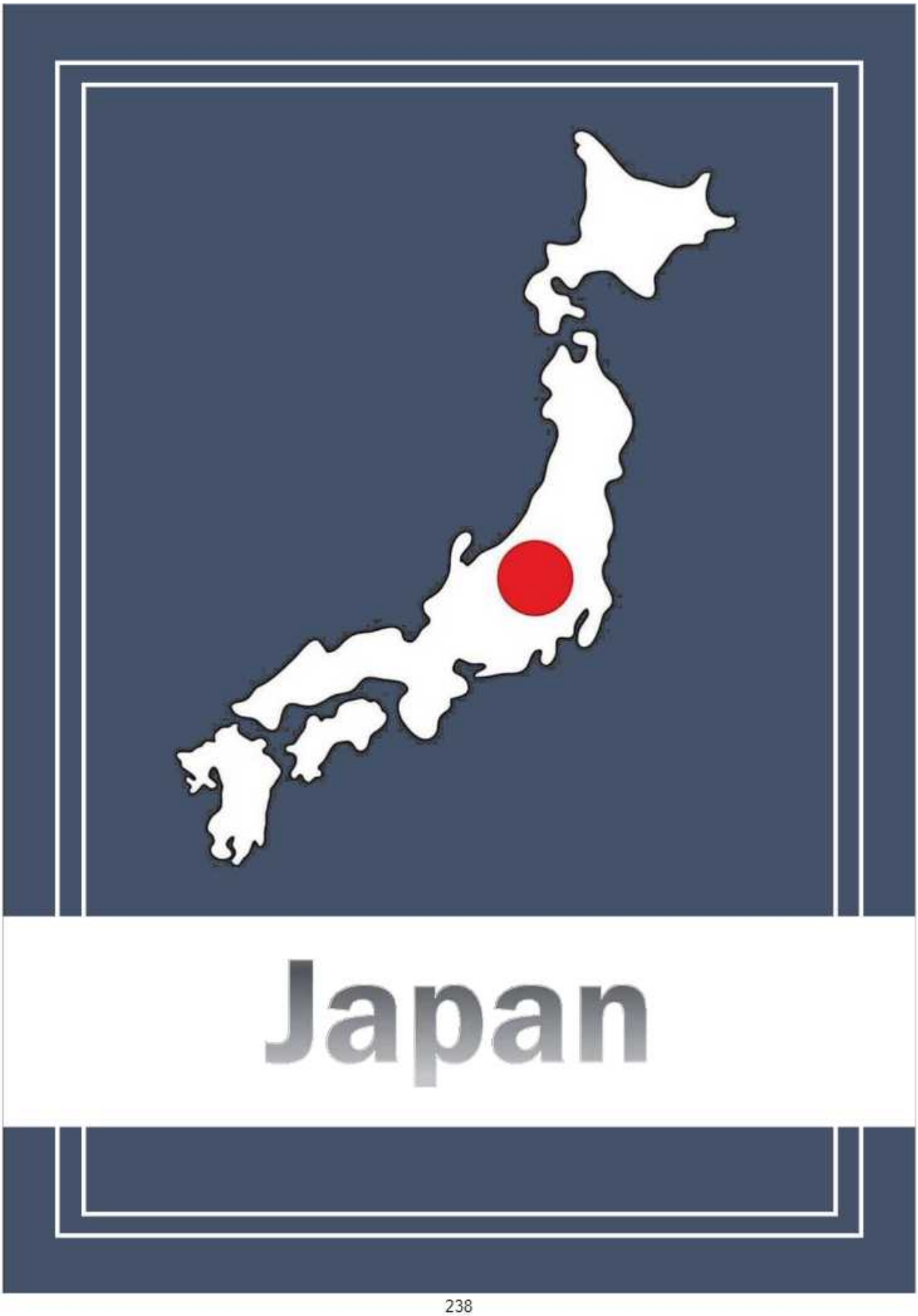

Japan

Overview of the Current Maritime Situation in Japan

Yusuke Mori (Japan, 2014)

Photo by Andreas Dress on Unsplash

1. Governmental Organization

In 2001, as the reorganisation of central ministries and agencies, the Ministry of Transport, which has jurisdiction over land, water and air transportation, railways, ports, ships, automobile traffic, and weather, the Ministry of Construction, which has responsibility for social infrastructure development such as city planning, roads, buildings, housing, rivers and government building, Hokkaido Development Agency, which carries out comprehensive development affairs in Hokkaido, and National Land Agency, which has jurisdiction over land, water resources, remote island development, disaster countermeasures, and metropolitan area policies were merged into one Ministry. The scale of the reorganisation was particularly large. The Maritime Bureau under the ministry is the bureau which responsible for maritime-related affairs. In the bureau, there are 9 divisions: General affairs division, Ship safety division, Ocean development and environment policy division, Seafarers policy division, international shipping division, coastal shipping division, Shipbuilding and ship machinery division, Inspection and measurement division and seafarers license and maritime

promotion division.

2. Shipping

2.1 International Shipping

In Japan, 99.5% (in 2020, on a tonnage basis) of the trade volume (total of imports and exports) is transported by sea, and the Japanese merchant fleet covers 60.1% of this maritime trade volume. Japanese merchant fleet refers to ocean-going merchant ships of 2,000 gross tons or more operated by Japanese ship companies, consisting of Japanese-flagged ships and foreign-flagged ships (ships chartered by foreign companies). In particular, Japanese-flagged ships are the core of Japanese economic security in terms of transporting goods to sustain the lives of the people in the case of an emergency. In 2021, there are approximately 2,340 merchant fleets operated for international shipping which accounts for 10 % of world freight movement.

Container yard in Tokyo - Photo by Ari Ara on Unsplash

2.2 Coastal Shipping

Coastal shipping plays an important role as a fundamental transportation infrastructure in supporting the lives of people and economic activities in Japan, accounting for about 40% of domestic cargo transportation and about 80% of the transportation of basic industrial goods such as steel, petroleum products, and cement. Moreover, in the event of recent disasters, emergency transportation has fully demonstrated its function as an alternative to land transportation. On the

other hand, since the transportation of basic industrial goods accounts for the majority of transportation demand, due to factors such as population decline, contraction of domestic demand, and changes in industrial structure due to the development of international competition, the transportation volume of overall coastal cargo reached its peak in 1990, and it has decreased in recent years. There are about 5,240 merchant fleets operating for coastal shipping.

2.3 Seafarers

From the point of view of economic safety and security, it is necessary to retain and educate a certain number of Japanese ocean-going seafarers. However, the number of Japanese ocean-going seafarers is about 2,200, which has not changed in recent years. Although there are 28,000 seafarers serving for domestic shipping, 44.6% of them are over the age of 50, accounting for about half of the total. In 2021, the number of seafarers serving domestic shipping below 30 years old was about 5,660 (19.8% of the total), and the number of young seafarers has been gradually increasing in recent years. Of the approximately 31,000 domestic and international Japanese seafarers, 870 are women.

3. Ports

It is known that Japan opened its ports in order to export green tea and silk. Since then, ports have been important in our lives as Japan relies on 99.7% of natural resources by import; there are 102 major ports in Japan. In these ports, 5 are defined as "international container hubs": Tokyo, Yokohama, Kawasaki, Osaka, and Kobe. And there are 18 major international ports in Japan. In fact, the total number of ports is 808 in Japan, and when including the fishing ports, the number is more than 3,000.

4. Maritime Education and Training

In Japan, there are 2 maritime universities, 5 maritime colleges and 7 maritime schools which provide seafarer education and training (certification training). Both maritime universities and maritime colleges are the places where their graduates would obtain the certificate of competency for the officer in charge of the watch (operational level certificate, navigation, and engineering), while graduates from maritime colleges obtain certificates for the support level. Most international seafarers are graduates of universities or colleges. At the high school level, Maritime colleges provide education and training for students who would mainly serve domestic shipping. What is unique about the seafarer education system in Japan is

that most of these students have their onboard training on dedicated training ships. The MET institution owns and operates 5 dedicated training ships, including two sailing ships.

5. Shipbuilding and Machinery Industries

The shipbuilding industry contributes to economic security by providing a stable supply of ships for maritime transport, which is essential for Japan as the nation is surrounded by sea. In addition, as a broad-based industry, it contributes to the local economy and employment. The industry also plays an important role in national security as they build and repair all the destroyer and patrol ships that are indispensable for national defence and coast guard. In general, as the overseas production ratio of the manufacturing industry increases, the shipbuilding industry maintains domestic production bases, and most of them are located in rural areas, making it a valuable industry. Especially in Setouchi and northern Kyushu, there are many areas where the shipbuilding industry plays a central role in the regional economy and employment as a major manufacturing industry. There are 790 shipbuilding yards capable of constructing vessels over 20 GT, and 80 of them can build vessels of more than 2,500 GT.

Sasakawa Fellows' Network Meeting in the African Region 2022

Working Group Discussions

MARITIME TRANSPORT AND PORT/HARBOR ISSUES

Presentation by Working Group 1 (WG 1)

MR. PROSPER SENYO BEDIAKO
MR. FAWZY FATHALLA DEKINESH
MR. HOUCEM EDDINE CHERNI
MR. N' HOBOUTOUN SANTA
MS. BIBIAN TURYAHUMURA
MS. MARGARET WANJIKU WACHIRA

POINTS OF DISCUSSION

- ❑ GREEN PORT APPROACH
- ❑ ISSUES: Emissions
  - ❖ Challenges Faced In Implementation Mechanisms
  - ❖ Solutions
- ❑ GLOBAL CHALLENGES ON PORT PERFORMANCE
  - ❖ Global Challenges
  - ❖ Effects
  - ❖ Interventions

1. GREEN PORT APPROACH

Challenges

- Inadequate Resources
  - Poor Infrastructure
  - Funds
- Policy priorities & commitments by Government
- Resistance by Shipping Companies and Port Authorities

GREEN PORT APPROACH

Solutions

- Provision of incentives to the port users
- Enforcement of the policy
- Technology transfer
  - Skills
  - Expertise
- Green Bonds Initiatives

2. GLOBAL CHALLENGES ON PORT PERFORMANCE

- ❑ COVID-19 Pandemic
- ❑ Russia-Ukraine War


GLOBAL CHALLENGES & PORT PERFORMANCE
Challenges:
COVID-19
Supply Chain Disruptions
Shore operations
Ship Operations
Shortage of Labour
Diversion of funds by governments
Russia-Ukraine War
Soaring Energy Costs
Inflation
Low ship traffic
Port throughput Reduction


GLOBAL CHALLENGES & PORT PERFORMANCE
Interventions:
COVID-19
Investment in Technology
Co-operation in Ports
Cargo Sharing Agreements(CSA)
Information Sharing
Emergency Response Plans
Russia-Ukraine War
Bilateral Agreements
Scurcing new markets
Diversification
Scientific Research


GLOBAL CHALLENGES & PORT PERFORMANCE
Interventions:
COVID-19 cont.....
Secure continuity of domestic supply chains.
Secure continuity of critical maritime transport supply chains.
Measures to facilitate safe crossborder trade

MARITIME SAFETY AND ENVIRONMENTAL PROTECTION

Presentation by Working Group 2 (WG 2)

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Introduction

Port Reception Facilities

- A port reception facility is anything which can receive shipboard residues and mixtures containing oil, noxious liquids, or garbage. (Ship generated waste and cargo residue)

Introduction

- Marpol requirements – Annex 1 – prevention of pollution by oil
  Annex 2 – prevention of pollution by noxious liquid substances
  Annex 3 – prevention of pollution by harmful substances in packaged form
  Annex 4 – prevention of pollution by sewage
  Annex 5 – prevention of pollution by garbage
  Annex 6 – air pollution

- IMO has recognized that provision of reception facilities is crucial for effective MARPOL implementation, and strongly encouraged Member States, particularly those Parties to MARPOL as port States, to fulfil their treaty obligations on providing adequate reception facilities.

Effects of Improper Waste Disposal

- Pollution (chemical pollution, plastic pollution, air pollution)
- Negatively affecting the environment (negative impact on flora and fauna, diseases, negative impact on health of humans and animals

Case of Improper Waste Disposal in Cote d'Ivoire

Ten years ago, the cargo ship the Probo Koala reached the end of a four-month journey that resulted in toxic waste being dumped illegally in Côte d'Ivoire.

"I DON'T KNOW HOW WE DISPOSE OF THE SLOPS AND I DON'T IMPLY WE WOULD DUMP THEM, BUT FOR SURE THERE MUST BE SOME WAY TO PAY SOMEONE TO TAKE THEM.

Internal Trafigura email dated 10 March 2006

Challenges

- Absence of legal framework
- Inadequate enforcement strategies
- Lack of financial capability
- Lack of regional cooperation
- Inadequacy of waste treatment systems
- Human factors (prioritizing needs)

Solutions

- Formulate/review legal framework
- Strengthen enforcement tools (follow up actions, SOPs, strategy)
- Upgrade existing facilities to enable treatment of all kinds of waste (incinerators, use of barges
- Develop a financing plan for reception facilities (allocation of percentage of port generated revenue)
- Agreements between ports in the same region to set up regional facilities

Recommendations

- Ratification of MARPOL (all 6 annexes)
- Domestication of international conventions such as MARPOL
- Enforced implementation of legal framework, policies, strategies
- Use of waste for power generation and fertilizer production
- Innovation or alternatives in waste management (sale of waste, development of local technologies)
- Leverage on existing regional cooperation, i.e. PSC MoU)

MARITIME EDUCATION AND TRAINING

Presentation by Working Group 3 (WG 3)

CAPT. AMR MONIR IBRAHIM
DR. TUMAINI SHABANI GURUMO
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INTRODUCTION

❖The international maritime Labour possess immense opportunities for Africa but so far been rarely explored or exploited.

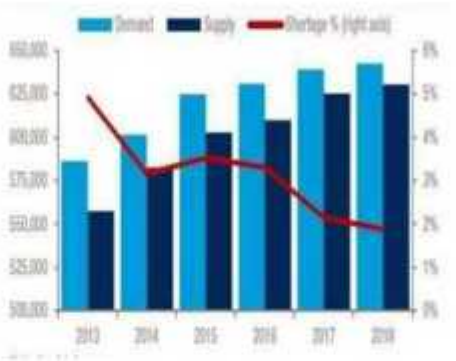
❖This group explores the challenges that Africa is facing and gives out suggestions on how to tackle them.

GLOBAL OFFICER DEMAND AND SUPPLY

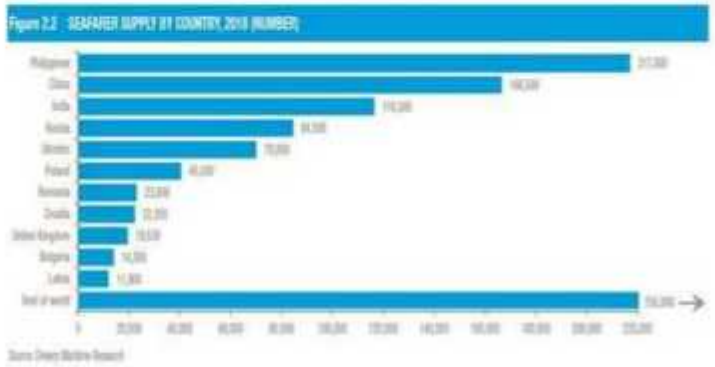
•According to Drewry's latest assessment the current officer shortfall is around 12,100, based on an officer supply of around 630,400 (see Figure 1).

• This is a slight reduction on 2017 when the shortfall stood at 13,700. driven by a slowdown in the growth of the fleet and so the demand for officers.

•Meanwhile, officer supply has also reaccelerated but at a less gradual pace than demand.



SEAFARER SUPPLY BY COUNTRY,2018



STRATEGIC ISSUE- LOW NUMBER OF African Based METs

Details of the problem	Initiatives
•Low numbers of approved institutions offering maritime education and training in Africa. •Inadequate policies and regulatory framework	•Enhancing collaboration among African countries development of training institutions •Create centres of excellence across Africa.

STRATEGIC ISSUE- INADEQUATE INFRASTRUCTURE FOR MET

Details of the problem	Initiatives
•Most of the training institutions across Africa lack adequate training infrastructure required to deliver MET courses	•Funding for development and continues upgrading of same e.g. Simulators, laboratories, classrooms, online learning facilties, internet facilities, fire fighting, lifesaving, swimming pool, libraries, training ship, workshops.

STRATEGIC ISSUE- CURRICULUM DEVELOPMENT

Details of the problem	Initiatives
Current requirmnets of STCW are not meeting the future industry needs. STCW needs to be reviewed to address future trends	•Work with IAMU in implementing GMP •African countries should take an active role in the Comprehensive review of STCW under IMO.

STRATEGIC ISSUE- RETENTION AND DEVELOPMENT OF INSTRUCTORS – TRAINERS AND EXAMINERS

Details of the problem	Initiatives
Insufficient number of Maritime instructors, Trainers, and examiners employed in MET institutions un satisfactory levels of Competency in MET Instructors	•Provide incentives to attract and retain trainers and examiners. •Road map for Career development for seafarers. Enhance training of Trainers and similar personal development courses

STRATEGIC ISSUE- LACK OF SHIPBOARD TRAINING

Details of the problem	Initiatives
•Lack training vessels to accommodate cadets graduating from MET institutions •inadequate training berths for cadets •Weak linkage between the industry, administrations, and METs .	•Close collaboration between shipping companies and maritime administration and offering incentives to adsorb cadets. •Develop MET support policy - government to set up a fund for financing placements of cadets onboard commercial vessels

STRATEGIC ISSUE-
RECOGNITION OF CERTIFICATES
(Nationally& Bilaterally)

Details of the problem	Initiatives
•Problem towards getting IMO approval for Administration to issue COCs •Lack of recognition agreements among African countries.	•Improvement of training standards and implementation of STCW requirement will set up a platform that wilfacilitate recognition process

CONCLUSION

Reforms in the African Maritime Education and Training sector are necessary for the continent to be one of the leading suppliers of maritime labour thus fight against unemployment and helping towards economic development.

OCEAN GOVERNANCE

Presentation by Working Group 4 (WG 4)

MR. MARVIN BANG-GESINA AYOO
MR. ROLAND OLADIPO IJABIYI
MR. ETAKONG TABEYANG
MR. NABIL ANWARI
MS. MAUREEN KANINI KITHEKA
MR. YAKUBU ABUBAKAR
MR. KWILASA LUSHANGA NG'WIGULU

General issues relating to Ocean Governance

- Marine data
  - Ocean literacy
- Fisheries management
- BBNJ Negotiations
- Tools for ocean governance
  - Marine Spatial Planning
  - Marine Protected Areas
- Maritime boundary disputes – Is ITLOS/Hague the solution?
- Climate change impact
- Pollution

1. Marine data

Challenges:

- Lack of research vessels
- No central data
- No synergy/cooperation

Solutions:

- Ocean literacy/education; schools, media programmes (TV), language
- Regional/national strategy on.....
- MoUs on data sharing(bathymetric data...)
- Conscious efforts to allocate state budget (1.5%) for ocean research

2. Issues in fisheries management

Challenges:

- Lack of capacity to fish
- Poor monitoring and enforcement(MCS) – Yellow card
- Poor fishing methods (DPT/Dynamite)
- Illegal/unregulated and unreported fishing

Solutions

- Government intervention/ PPT
- Regional cooperation on fisheries management- RFMOs
- Legal framework for enforcement
- Enforcement – MCS
- Collation and monitoring
- Political will/interest
- Training for fisheries -STCW-F

3. BBNJ AND AFRICA'S POSITION

Issues

- Benefits sharing
- Area based management tools
- Capacity building and transfer of marine technology
- Environmental impact assessment
- Marine generic resources

Challenges

- Lack of technology
- Lack of funding for resource and planning for exploration

Solutions

- Establishment of a common strategy of Africa on BBNJ
- Capacity building
  - Human resource
  - Infrastructure

4. TOOLS FOR OCEAN GOVERNANCE

Issues

i. Marine Spatial Plan (MSP)
ii. Marine Protected Areas (MPA)

Challenges

- Lack of awareness on the importance of MSP/MPAs
- Lack of Data
- Conflict among marine space users
- Limited expertise

Solutions

- Alignment of interests byusers groups
- Consultative workshops
- Sharing of data/Establishment of central data system
- Establishment of an institutional regulatory and legal framework
- Political good will

5. Maritime boundary Disputes

Issues:

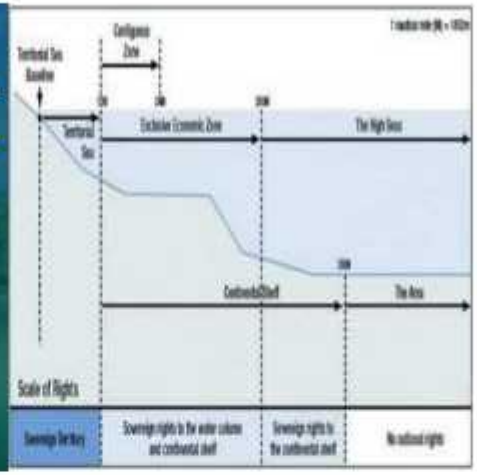
Cameroon vs. Nigeria
Nigeria vs. Sao tome
Ghana vs. Cote D'Ivoire
Kenya vs. Somalia

Challenges

- Overlapping EEZ
- Overlapping fisheries resources
- Unresolved boundary disputes
- Maritime security

Solutions

- Bilateral agreement
- Joint commission on MBDR
- Joint development zone
- Arbitration



6. Climate Change

Challenges:

- Reluctance by developed countries to cut down on emissions
- Massive Industrialization
- Data unavailability
- Political will and power play
- Lack of awareness

Solutions

- Carbon trading/blue carbon/carbon sequestration
- Sensitization and awareness campaigns

7. Marine plastic pollution

Challenges

- Lack/weak legal/institutional framework on plastic production/use and management
- Lack of awareness on the impact of plastic on the marine environment
- Lack of proper technology for waste management and recycling
- Conflict of interest

Solutions

- Recycling of waste
- Education and awareness on segregation of waste
- Tax on plastics
- Ban on single use plastic
- Regional collaboration on plastic use and management

Sasakawa Fellows' Network Meeting in the African Region 2022

Discussion on Alumni Networks in Africa

Sasakawa Fellows' Network Meeting in the African Region 2022

Discussion on Alumni Networks in Africa

Moderator: Stella Joshua Katondo (Tanzania, 2001)

Main Topic of Discussion: How can we make the WMU alumni network more active?

The WMU Sasakawa Fellows Network

Alumni Network Activities

As a starting point for discussions, the Friends of WMU, Japan Secretariat did a presentation on the types of activities being conducted in the WMU Sasakawa Fellows Network. The following is a summary of what was said:

It was the Secretariat's opinion that these activities could be divided into two categories: passive and active. They categorized passive activities as ones that require little to no alumni involvement. The Friends of WMU, Japan website and the Sasakawa Fellows directory were considered as such; these are resources primarily maintained by the Secretariat and are readily available for Fellows to access and take advantage of.

On the other hand, activities such as the annual Gathering Orientation, Japan Field Study Trip, and the Sasakawa Fellows Award Ceremony require the active participation of alumni. The social nature of these events is crucial for connecting those of the same graduating classes. Students may otherwise never know which of their classmates belong to the WMU Sasakawa Fellowship Program. Then, how should alumni of different graduating years connect with one another? This is where the Regional Network Meetings come in. Though Regional Network Meetings occur only once every several years, they bring together a large group of alumni from not only different classes, but also from various countries. All the aforementioned events ensure that alumni are given opportunities to create relationships and ultimately, networks, spanning countries and years.

Alumni Newsletter

It can be argued that the Newsletter actually falls under both categories. Issues will be sent to the alumni's offices or homes four times a year regardless of whether they are involved in its production. That being said, as an *alumni* newsletter, it cannot exist without Fellow contributions. Its continuation – its survival – depends on alumni to actively propose ideas for future newsletter content and write articles.

Report from Each Country

Fellows were asked one by one to report on the current status of their respective countries' Sasakawa Fellows alumni network - whether it is an active group or not, or if there is one at all. They were also asked to mention if their country had a WMU alumni network that was separate from the Sasakawa Fellows alumni network.

Ghana: There are 17 Fellows total. They have a WhatsApp group with ten people in it, so there are seven missing from the group. There has been no formal meeting.

Kenya: There are 15 Fellows total, but only ten members are on their platform. They do communicate with one another, but do not meet. There is an active WMU alumni group which makes efforts to recognize the members' achievements and projects.

Togo: There is only one Fellow.

Uganda: Has two Fellows, and one is currently overseas.

Egypt: There are 12 Fellows total, of whom ten are working at the same employer. The majority have the opportunity to meet on a daily basis.

Tunisia: There are three Fellows total, one is overseas but two work at the same organization and communicate with each other.

Africa	Algeria	3
	Benin	2
	Cameroon	8
	Cape Verde	2
	Comoros	1
	Cote d'Ivoire	2
	Egypt	12
	Eritrea	1
	Ethiopia	3
	Gabon	1
	Gambia	3
	Ghana	17
	Kenya	15
	Liberia	9
	Madagascar	1
	Malawi	1
	Morocco	4
	Mozambique	1
	Namibia	5
	Nigeria	13
	Seychelles	1
	Sierra Leone	3
	South Africa	1
	Sudan	1
	Tanzania	11
	Togo	1
	Tunisia	3
	Uganda	2
Total	28 Countries	127

Number of WMU Sasakawa Fellows per country as of Sep. 2022

Tanzania: There are 11 Fellows total. They are part of a WhatsApp group and meet from time to time, but meeting is difficult as they all work in different institutions and regions. A successful regional meeting with other Fellows from Africa has been convened under their leadership. They are considering registering their alumni association.

Nigeria: There are 15 Fellows total. They are part of a larger group of 77 WMU alumni, which had a meeting recently.

Benin: There are two Fellows total. They are part of a group of 12 WMU alumni, many of whom are retired. The alumni have a WhatsApp group to communicate and support each other when they have events or need help.

Côte d'Ivoire: There are two Fellows total. Though the exact number of WMU alumni is uncertain, most of them are retired. The Fellows do not meet unless it's for work. There is no official WMU alumni association, but there are efforts to set one up.

Cameroon: There are eight Fellows total. They are part of a larger group of 31 WMU alumni that is active, conducting activities and elections. They are in the process of registering their alumni association with their government, which is a requirement in their country. The Fellows live in close proximity to one another and meet from time to time.

Morocco: There are four Fellows total. They are part of a larger group of approximately 15 WMU alumni. They will try to establish a platform even with their limited numbers.

Challenges

Inadequate funding is one of the biggest issues that was discussed. It can be expensive to organize in-person events, especially since some must travel great distances, and it's not realistic for Fellows to pay out of their own pockets for travel and lodging every time. Funding was also a factor for why some alumni were unable to participate in an independent regional meeting that was held by Tanzanian Fellows. Thus, it is very helpful when the Sasakawa Peace Foundation (SPF) organizes and offers financial support for those events. It was however acknowledged that due to many constraints - including financial - it's difficult for SPF to bring together all the Fellows in one place. This means that some Fellows may never receive the chance to get to know the entire network on a personal level. Even if there's a directory, in-person meetings are indeed crucial for developing ties.

In fact, another challenge mentioned was related to the directory itself. People pointed out that even if they could find information about Fellows through it, they don't have comprehensive or up-to-date knowledge on the Sasakawa Fellow graduates who may be on there. The directory is most useful when there's a person in mind already whom you wish to contact. While it could bring people together, it is not a platform on which new people can meet one another. One more note about the directory is that some have trouble accessing it.

In relation to accessibility issues, the Friends of WMU, Japan website can be difficult to navigate. Suggestions were made about improving the functionality of the website and make it more user-friendly. Furthermore, similar to the directory, it is not a platform for socializing or meeting new people.

There is also lack of steady updates on Fellow activity and nowhere for Fellows to contribute their knowledge such as new information and worldwide trends. Though this can technically be done through the Newsletter and the website, they are not like Facebook where any user at any time can easily post content, which is a shame since there is such a high caliber of talent and wisdom among the alumni. Furthermore, many Fellows are busy with their own lives and cannot necessarily devote themselves to alumni network activities. However, this creates a loop where the absence of activity leads to other Fellows losing motivation to maintain the network, which further propagates the issue.

Lastly, it was pointed out that there actually is a dedicated Facebook page for the WMU Sasakawa Fellows, but it is in disuse. This is due to the simple fact that the Secretariat lacks the personnel to properly manage the Facebook group on top of maintaining the website, directory, newsletter, and day-to-day program operations. This was an insightful comment: there is an ongoing problem where networking activities do not happen unless the Secretariat, SPF, or NF take the initiative do so.

Conclusion

Ideas for Solutions

Though many types of challenges were brought into the discussion, they could be generally summarized as 1) the lack of organized activity and events initiated by Fellows, and 2) the lack of a socializing platform accessible to all Fellows. Several suggestions for solutions were made in response to these two larger issues.

First, it was decided that there needs to be a group of Fellows who are consistently and willingly involved in the network, even if it's in small numbers. Thus, an alumni group was created on the spot from just those who came to Tunisia for the Sasakawa Fellows' Network Meeting in the African Region 2022. It felt appropriate that these members take the initiative as they have already shown committed effort and involvement in this regional meeting. The Fellows also created a WhatsApp group so they could easily communicate with one another after the meeting. There was mention of eventually expanding this group to include as many WMU Sasakawa Fellows as possible.

Furthermore, an organized leadership structure was established within the group. This would hopefully address the issue of the absence of Fellow activity: the leadership's role is to keep the network engaged. This can be a demanding role, so for now an interim president and secretary were elected for a year-long period, after which different Fellows would rotate into the positions.

Though the following was not stated in the discussion, it is the Friends of WMU, Japan Secretariat's goal to improve the various networking resources to make it more user-friendly and engaging. This would include, for starters, making consistent posts on the Friends of WMU, Japan website, and leaving clearer instructions on logging in and using the directory. The final objective is to resume utilization of the defunct Facebook group and keeping it active.

All of the above solutions will involve the efforts of many people who all lead their own busy lives outside of the alumni network framework. Bringing together people who come from all over the continent and maintaining these ties is no easy task. However, it was clear from these discussions that there is much to gain from being part of the network and a strong desire to maintain it. As long as this desire and determination exist, the flame that is this alumni network – even if it may dwindle at times - will surely never die.

WMU Sasakawa Fellows from diverse backgrounds gathering in one place

Sasakawa Fellows' Network Meeting in the African Region 2022

Port Visit

Sasakawa Fellows' Network Meeting in the African Region 2022

Port Visit

Date: August 29, 2022

Locations: Port of La Goulette, Port of Radès

Port of La Goulette

On the morning of August 29, the Fellows gathered in front of the hotel in a timely manner to board the bus that would take them to their first stop: Port of La Goulette (also called La Goulette Port). The weather was hot as usual, but otherwise the clear skies made it a perfect day for educational excursions.

En route to the Port of La Goulette

Settling down in the ornate guest room

Arriving at La Goulette Port

After passing through security, the Fellows were led to a beautiful meeting room for honored guests at the La Goulette passenger terminal. They were warmly welcomed by Mrs. Radhia Ben Arbia, Director of the External Affairs Relations Department, Mr. Amine Hosni, Head of the Safety Division, and Mr. Jobrane Ben Mansour, Head of the Development and Statistics Division. It was nice to see the delegation from the Office of Merchant Marine and Ports (OMMP) again after the opening ceremony on August 27, and as Mrs. Ben Arbia explained the day's itinerary, it was very apparent that they went to remarkable lengths to make the port visits happen.

They then proceeded outside for a thorough overview of La Goulette Port's functions and learned about its strategic importance being a major port in the western basin of the Mediterranean Sea. Even Fellows who didn't necessarily work or specialize in the fields of ports or shipping showed great interest and asked many follow-up questions.

Learning about La Goulette Port's operations

Welcomed by the gracious hosts of OMMP

Tugboat Travel

Next came the much-anticipated tugboat trip to the next destination, the Port of Radès (also called Radès Port). Everyone excitedly lined up to board the tug and assumed the best positions for taking videos and pictures as they slowly pulled away from land. The trip in and of itself was a refreshing and scenic tour around the different passenger posts and bulk terminals, and included sights of the touristic village of the terminal. In addition, when Fellows needed a reprieve from the sun's rays, they could venture inside the airconditioned vessel and enjoy "piloting" the tug.

All aboard the tug

A "captain" in action

Port of Radès

Upon arrival at the Radès container terminal, the Fellows were greeted by a large crowd of welcomers including the Director of Radès Port, Mr. Karim Nouira, port staff, and photographers.

Pink, green, and blue safety vests for everyone

Neon-colored safety jackets were handed out after disembarking, and many commemorative photos were taken of the whole group together wearing them (see cover). They were divided into two groups and boarded buses to tour the terminal, and given a briefing of its characteristics, equipment, and performance. After getting dropped off at the port administrative building, the two groups went on separate tours of the building and the L'Institut Méditerranéen de Formation aux Métiers Maritimes (IMFMM, also known as Mediterranean Institute of Maritime Training).

Touring the Facilities

Mr. Karim Nouira answering questions on Radès Port

(The groups switched facilities after finishing touring one. The following is a summary of one group which saw the administrative building first and the training institute second.)

The Fellows were ushered inside the building, with some pausing along the way to snap pictures of the many decorative and informative maritime-related displays adorning the hallways. Much to their delight, the conference room they were guided to presented plates of exquisite traditional Tunisian sweets in front of each seat. As they munched on stuffed dates and pistachio balls, they were shown a comprehensive short video about the port, which was followed by a Q&A session.

Tunisian WMU Sasakawa Fellow Mr. Houcem Cherni sharing his knowledge

Next, they visited the video surveillance control room which had several personnel monitoring an array of camera feeds. They learned about the different procedures in place that would ensure the security and safety of all the port areas. The ever-studious Fellows asked many detailed questions about these operations.

After leaving the surveillance room, they walked over to the Mediterranean Institute of Maritime Training where they were introduced to the academic director. He led the Fellows to several different simulators, much to the interest of those who also worked at academic and training institutions. In addition, they had the chance to hear about the various course specialties and STCW training courses offered by the Institute.

Simulator at the IMFMM

The tours were now officially done, and everyone convened back in front of the administrative building. When the air filled with the tunes of the WMU song, the Fellows broke out into a chorus to the familiar melody. This was followed by final group photos and thank you speeches. Though it has already been a packed morning, no one showed their tiredness. It seemed, in fact, that everyone was feeling more invigorated after such a rewarding experience. The port visits ended in resounding success.

Commemorative Video

It doesn't end there, either. OMMP even went as far as to commemorate the whole day with a video!

The Office of Merchant Marine and Ports produced a video on the tour

The OMMP put an amazing amount of thought and care into every part of this day, from planning the fun tugboat tour to preparing mementos and desserts. We could easily tell that they spared no effort or expenses to provide a truly memorable experience for the WMU Sasakawa Fellows. They went above and beyond to make this day extraordinary, and it was no doubt one of the highlights of the regional meeting for the Fellows.

Words cannot begin to express how grateful we are to them for providing such a memorable and educational excursion. We would also like to express our utmost thanks to Houcem Eddine-Cherni for his tireless efforts before, during, and after the regional meeting. This entire meeting would not have been possible without our kind Tunisian friends. We are forever thankful to have had such reliable and supportive partners. May the WMU Sasakawa Fellows' Network Meeting in the African Region 2022 be just one of many future occasions of Tunisian and Japanese maritime partnership. More importantly, may this be a lasting symbol of the strong friendship between Tunisia and Japan!

Sasakawa Fellows' Network Meeting in the African Region 2022

Photos

Pre-Meeting

Welcome Reception

Opening Ceremony

Visit from Chairman Sasakawa


WMU Sasakawa Fellow
Tunis
2022

Various Photos from Sessions








Port Visit






Tunis Sights







Resolution Signing and Farewell Ceremony




Other



WMU Sasakawa Fellows' Network Meeting
in the African Region 2022

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Edited by the Friends of WMU, Japan Secretariat

ISBN978-4-88404-369-8

Supported by THE NIPPON FOUNDATION

OPRI OCEAN POLICY RESEARCH INSTITUTE
SASAKAWA PEACE FOUNDATION