



REPUBLIC OF KENYA

SECTOR PLAN FOR BLUE ECONOMY

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STATEMENT BY THE CABINET SECRETARY THE NATIONAL TREASURY AND PLANNING

Kenya's long term development blue-print, Kenya Vision 2030, is in its third implementation phase under the Third Medium Term Plan (MTP III) 2018-2022. A total of 28 MTP III Sector Plans have concurrently been prepared through 25 MTP Working Groups and three (3) Thematic Working Groups. The Plans provide in detail policies, programmes and projects to be implemented in each sector for the period 2018-2022. The Plans also incorporate policies, programmes and projects necessary for the effective implementation of the "Big Four" initiatives namely: manufacturing and agro-processing; food and nutrition security; universal health coverage and affordable housing. Ongoing flagship projects and other priority programmes and projects carried forward from the previous Medium Term Plans will also be implemented. The Sector Plans have also mainstreamed key priorities outlined in the Manifesto of the Jubilee Government.

The MTP III and the Sector Plans have been prepared through a participatory and inclusive process involving representatives from the government, development partners, private sector, Civil Society, NGOs, organizations representing vulnerable groups, faith-based organizations and professional associations, among others and in line with the constitutional requirements.

The Sector Plans detail specific programmes and projects for implementation during the plan period, 2018-2022. The programmes and projects outlined in these plans will be implemented in close consultation and collaboration with county governments and in line with the Fourth Schedule of the Constitution. The Public Private Partnerships (PPPs) framework will be the vehicle through which the private sector will contribute to the implementation of programmes and projects highlighted in the plans.

The County Integrated Development Plans, County Spatial Plans and Ministries, Departments and Agencies (MDAs) Strategic Plans (2018-2022) will be aligned to the MTP III and the National Spatial Plan. Implementation of these plans will also be linked to the Results-Based Management Framework through Performance Contracts and Staff Performance Appraisal System.

A robust monitoring and evaluation framework will be put in place. In this regard, National Integrated Monitoring and Evaluation System (NIMES), County Integrated Monitoring and Evaluation System (CIMES) and the electronic Project Monitoring Information System (e-ProMIS) will be fully integrated with other governmental financial systems. This will ensure effective tracking of implementation of programmes and projects and also boost Public Investment Management.

In conclusion, I would like to appreciate the respective Cabinet Secretaries, Chief Administrative Secretaries, Principal Secretaries, staff in the MDAs and all those involved in the preparation of the Sector Plans for their valuable inputs. In addition, I commend staff from State Department for Planning led by Principal Secretary, Planning for the effective coordination of the MTP III preparation process.



Henry Rotich, EGH
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FOREWORD

The Blue Economy sector is one of the emerging economic frontiers that is expected to significantly contribute to the country's economic growth and development as envisaged in our long term development blue print the Kenya Vision 2030. In recognition of the sector's potential during the Third Medium Term Plan, 2018-2022, the Blue Economy has been added as the eighth priority sector under the Economic Pillar. The range of economic investment opportunities in Kenya's Blue Economy include but not limited to: maritime transport, fishing, aquaculture, tourism, ship building 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 bio-technology, blue data, aqua-business, cargo consolidation, marine insurance, bunkering, ship handling, port agency, port related services, water sports, as well as leisure boating.

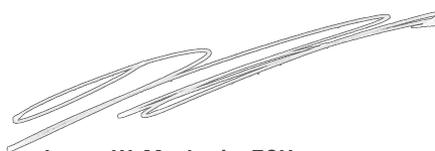
The development and management of the Sector will require support, cooperation and collaboration of many players at different levels, given the wide array and complex nature of the Sector. These include but are not limited to: Ministries, Departments and Agencies (MDAs) both at National and County Governments; private sector and development partners.

The proposed flagship projects and other programmes for the plan period will contribute to the "Big Four" Government initiatives on: manufacturing; housing; universal health care; and food and nutrition security. This is envisaged to spur the development of the sector with a view to creating employment, generating income, reducing poverty, creating foreign exchange earnings and wealth creation consistent with the aspirations of the Government Manifesto and its strategic interventions.

We take cognizance that, realization of full potential of the Blue Economy requires the effective inclusion and active participation of all societal groups. We therefore, call upon all the sector stakeholders to play their role in the implementation of this Plan. This will undoubtedly propel the sector, the national economy and livelihood of Kenyans to a higher sustainable path as envisioned in the Kenya Vision 2030.



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PREFACE

The Blue Economy Sector Plan, 2018 - 2022 was developed through an extensive consultative process with relevant key stakeholders. These included: National and County Governments Ministries, State Departments and Agencies; development partners; and private sector among others.

In preparation of the Sector Plan, the process was guided by the Constitution and in particular Article 10 (2), on the national values and principles of governance; Article 6 (2), on devolution and access to services; Article 187, on cooperation between national and county governments; and the Fourth Schedule. The process was also guided by the Kenya Vision 2030; international and regional instruments such as Agenda 2063 and the Sustainable Development Goals; national aspirations towards poverty reduction and employment creation, mainstreaming of Gender, HIV/AIDS and climate change; the principles of Public Private Partnership; and Information Communication Technology.

We recognize the Cabinet Secretaries, Hon. Mwangi Kiunjuri, EGH, MGH, Ministry of Agriculture and Irrigation, and Mr. James Macharia, EGH, Ministry of Transport, Infrastructure, Housing and Urban Development, for their leadership, support and guidance in the development of this Plan. We appreciate the support provided by Mr. Willy Bett, EGH, the Former Cabinet Secretary Ministry of Agriculture, Livestock and Fisheries. We also wish to acknowledge the commitment demonstrated by the Sector Working Group (SWG) and the Secretariat under the leadership of the SWG Secretary, Mr. Joseph M. Katumo - Chief Economist, Mr. Daniel Mwaura-Deputy Chief Economist; Mr. Abdalla Hatimy- Technical Advisor; Mr. Simon Wekesa - Senior Economist 1; and Mr. Simon Mungai - Senior Economist.



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LIST OF ABBREVIATIONS

AG	-	Attorney General
AIDS	-	Acquired Immune Deficiency Syndrome
AIMS	-	African Integrated Maritime Strategy
ATVET	-	Advanced Technical and Vocational Education Training
AU	-	African Union
BMU	-	Beach Management Unit
CFR	-	Cost and Freight
CGs	-	County Governments
CIF	-	Cost, Insurance and Freight
CIFAA	-	Committee of Inland Fisheries and Aquaculture in Africa
CO₂	-	Carbon Dioxide
CBFI	-	Convention on Biodiversity, and Committee on Fisheries
DPs	-	Development Partners
EAC	-	East African Community
EAF	-	Ecosystem Approach to Fisheries
EEZ	-	Exclusive Economic Zone
EPA	-	Economic Partnership Agreement
EU	-	European Union
FAO	-	Food and Agriculture Organization
FLTF	-	Fish Levy Trust Fund
FPA	-	Fisheries Partnership Agreement
GDP	-	Gross Domestic Product
GDPI	-	Gross Direct Premiums Income
GHG	-	Green House Gases
GoK	-	Government of Kenya
HIV	-	Human Immunodeficiency Virus
ICT	-	Information Communication Technology
IFAD	-	International Fund for Agricultural Development
IGOs	-	Inter-Governmental Organizations
IMO	-	International Marine Organization
IMS	-	Integrated Maritime Strategy
INMP	-	Integrated National Maritime Policy
IOTC	-	Indian Ocean Tuna Commission
IUU	-	Illegal, Unregulated and Unreported

IWC	-	International Whaling Commission
KeFMA	-	Kenya Fish Marketing Authority
KeFS	-	Kenya Fisheries Service
KFAC	-	Kenya Fisheries Advisory Council
KFS	-	Kenya Forest Service
KIRDI	-	Kenya Industrial Research and Development Institute
KMA	-	Kenya Maritime Authority
KMFRI	-	Kenya Marine Fisheries and Research Institute
KNSL	-	Kenya National Shipping Line
KPA	-	Kenya Ports Authority
KRA	-	Kenya Revenue Authority
KWS	-	Kenya Wildlife Service
LDFNs	-	Long Distant Fishing Nations
LNG	-	Liquefied Natural Gas
M&E	-	Monitoring and Evaluation
MCI	-	Marine Cargo Insurance
MCS	-	Monitoring, Control and Surveillance
MDAs	-	Ministries, Departments and Agencies
MoD	-	Ministry of Defence
MoE	-	Ministry of Education
MoFAIT	-	Ministry of Foreign Affairs and International Trade
MoTW	-	Ministry of Tourism and Wildlife
MOU	-	Memorandum of Understanding
MPSY & GA	-	Ministry of Public Service, Youth and Gender Affairs
MT	-	Metric Tonnes
MTP	-	Medium Term Plan
NACC	-	National Aids Control Council
NACOSTI	-	National Commission for Science, Technology and Innovation
NEMA	-	National Environment Management Authority
NYS	-	National Youth service
°C	-	Degree Celsius
PLWDs	-	Persons Living with Disabilities
PPP	-	Public Private Partnership
PSMA	-	Port State Measures Agreement
RAS	-	Recirculation Aquaculture Systems
RECs	-	Regional Economic Communities

RFMOs	-	Regional Fisheries Management Organizations
RMP	-	Residue Monitoring Plan
SDF&BE	-	State Department for Fisheries and the Blue Economy
SDGs	-	Sustainable Development Goals
SDM & MA	-	State Department for Maritime and Shipping Affairs
SDPSY	-	State Department for Public Service & Youth Affairs
SDSP	-	State Department for Special Programme
SDT	-	State Department for Transport
STC	-	Specialized Technical Committees
STCW	-	Standards of Training Certification and Watch-keeping
SWIOC	-	South Western Indian Ocean Commission
SWIOFC	-	South West Indian Ocean Fisheries Commission
TEUs	-	Twenty-foot Equivalent Units
TNT&MP	-	The National Treasury and Ministry of Planning
UN	-	United Nations
UNCLOS	-	United Nations Convention on the Law of the Sea
UNCTAD	-	United Nations Conference on Trade and Development
UNFSA	-	United Nations Fish Stocks Agreement
VMS	-	Vessel Monitoring System

EXECUTIVE SUMMARY

Blue Economy means the use of the sea and its resources for sustainable economic development. The Blue Economy covers both aquatic and marine spaces including oceans, seas, coasts, lakes, rivers, and underground water. It encompasses a range of productive sectors, including fisheries, aquaculture, tourism, transport, shipbuilding, energy, bio prospecting and underwater mining and related activities.

The preparation process of the plan was guided by the Constitution and in particular Article 10 (2), on the national values and principles of governance; Article 6 (2), on devolution and access to services; Article 187, on cooperation between National and County Governments; and the fourth schedule. The process was also guided by the Kenya Vision 2030; relevant international and regional instruments; poverty reduction and employment creation; mainstreaming of gender, HIV/AIDS, climate change, and Sustainable Development Goals; Public Private Partnership; and Information Communication Technology. Further, this was guided by the “Big Four” Government initiatives on: manufacturing; housing; universal health care; and food and nutrition security.

This Sector Plan identifies a number of challenges encountered over the plan period. These challenges include: lack of policy integration and uncoordinated development in the Blue Economy sub-sectors; weak enforcement of laws, legislative gaps, duplication, overlaps and high cost of doing business; inadequate human and institutional capacities to fully exploit the potential of the sector; and fragmented knowledge base of the sector that is domiciled in different institutions leading to loss of the country’s resources to other nations. Other challenges are: excessive fishing effort; use of destructive fishing gears and methods; high cost of inputs especially fuel and fishing gears; inadequate fisheries infrastructure such as cold storage facilities, landing sites, market-access roads and energy; environmental degradation and pollution; limited commitment and involvement of stakeholders in management of fisheries resources and protection of critical fish habitats; and low investment in the sector.

The lessons learnt during the implementation of fisheries and marine sub-sector programmes and projects during the MTP II period include: the need to enhance Monitoring, Control and Surveillance to curb illegal activities in fisheries and maritime sub-sectors; development of appropriate and adequate capacity building is critical in ensuring that priority interventions deliver the expected development results; and close collaboration and co-operation among national Ministries, Departments, Agencies, County Governments and other stakeholders is crucial in development and implementation of sector policies, strategies, programmes and projects.

The plan has identified three emerging issues in the sector namely: terrorism, piracy and trafficking in illicit cargo in water bodies which poses a major threat to the security of authorized fishing vessels, occasionally leading into hijacking of fishing vessels in the Exclusive Economic Zone (EEZ) and the high seas; invasive species in water bodies mainly Water Hyacinth in inland waterways especially in Lake Victoria, presents a major challenge to navigation of fishing and transport boats and vessels leading to inefficiencies in fishing operations and sea/inland water transport, and harmful algal blooms associated with ballast water exchange that affect the marine ecosystem; and fish cage farming.

The major flagship programmes and projects to be implemented during the Plan period include: development of Blue Economy Master Plan; maritime education and training to supply the blue economy with skilled labour for the international market; implementation of Fisheries Management and Development Act, 2016; development/review of policy, legal, regulatory and institutional framework for Kenya’s Blue Economy; development of a National Maritime Spatial Plan; development of national fishing and maritime

fleet; development of fisheries and maritime infrastructure; aquaculture technology development; revival of Kenya National Shipping Line; Vijana Baharia Programme and enforcement of the Insurance Act. In addition, there will be fish stocks monitoring; certification of fish processing establishments and landing beaches; marine aquaculture development; maritime transport services; coastal shipping development; maritime cluster enterprises development; research and development of the Blue Economy.

The Sector Plan is structured into seven chapters. Chapter one gives an introduction to the Blue Economy Sector. It provides the productive and investment opportunities in the Sector and the relevant stakeholders. Chapter two presents the situation analysis of the sector and review of the performance of the maritime and fisheries sub - sectors during the Second Medium Term Plan (MTP II), 2013/14 – 2017/18. Chapter three contains the emerging issues, lessons learnt and challenges. Chapter four outlines proposed sector programmes and projects for implementation during the MTP period (2018/19 – 2022/23). Chapter five presents the policy, legal and institution reforms required to support implementation of planned programme and projects in the Sector. Chapter six provides the cross cutting issues, including mainstreaming of gender, climate change, HIV/AIDS, and Sustainable Development Goals. Chapter seven is on Monitoring and Evaluation of the proposed flagship programmes and projects. The details of the programmes and projects in terms of objectives, expected outputs, performance indicators, implementing agencies, source of funds and the indicative budget during the plan period contained in Matrix 1 on Budget Implementation.

1.0 INTRODUCTION

Overview

Blue Economy refers to the sustainable use and economic development of both aquatic and marine spaces including oceans, seas, coasts, lakes, rivers, and underground water. It encompasses a range of productive sectors, including fishing, aquaculture, tourism, transport, shipbuilding, energy, bio prospecting and underwater mining and related activities. Kenya is endowed with rich coastal and maritime resources, which have huge potential for development of the Blue Economy that has not been developed to full capacity.

The maritime domain is the cornerstone of the livelihood of humanity, habitat, resources and transport routes for up to 90 per cent of global trade. The oceans and seas connect states and regions and make otherwise distant nations, neighbours. Humankind depends on a safe, sound and secure maritime domain in order to preserve peace, enhance international security and stability, feed billions of people, foster human development, generate economic growth and prosperity, secure energy supply and preserve ecological diversity and coastal livelihoods.

The range of economic investment opportunities in the Blue Economy in Kenya include but not limited to: fishing, aquaculture, tourism, ship building and repair, education and training, marine cargo handling, maritime law, safety and security, marine salvage, international shipping, transport, energy, bio-prospecting, offshore mining, marine bio-technology, blue data, aqua-business, cargo consolidation, freight forwarding, marine insurance, bunker supplies, ship-handling, port agency, port services, sports fishing, and marine governance. The sector can significantly contribute to the economic growth of the country, as has been the case in other countries. For example, in 2012 the sector contributed 10.8 per cent of the Mauritius's Gross Domestic Product (GDP), made up of fisheries and seafood processing with 13.2 per cent, seaport related activities at 18.0 per cent, coastal hotels and marine leisure at 60.1 per cent, and 7.7 per cent for other related activities respectively. Kenya's share of Blue Economy to the GDP is 2.5% and the sector contributes an estimated Kshs. 178.8 billion to the economy annually. If fully exploited, it has the potential to generate revenue approaching Kshs. 500 billion² each year. During the Plan period, the Sector will contribute significantly towards attainment of the "Big Four" initiatives on: Manufacturing; Housing; Universal Health Care; and Food and Nutrition Security. This will be realized through full exploitation of the productive sectors and their forward and backward linkages.

Given its wide array and complex nature, the management and development of the Blue Economy Sector will require support, cooperation and collaboration of many players at different levels that include but not limited to: Ministries, Departments and Agencies (MDAs) at both National and County Governments, the private sector, development partners and the civil society. This will be guided by the Constitution and in particular Article 10 (2), on the national values and principles which includes cooperation between national and county governments; Article 232 on values and principle of public service, and the fourth schedule on the distribution of functions between National and County governments.

Aware of the ocean's immense importance and its potential in terms of economic growth and employment creation, Kenya played an important role in the establishment of a legal order of the seas and oceans, the United Nations Convention on the Law of the Sea, (UNCLOS) of 1982. The Convention facilitates international communications, promotes better uses of the seas and oceans, equitable and sustainable

¹ The Blue Economy and Small States: Commonwealth Blue Economy series. No.1, Commonwealth Secretariat, 2016.

² Government Manifesto, 2017.

utilization of the resources and research. Kenya is also a signatory to the United Nations (UN) and supports the 2030 Agenda on Sustainable Development of 2015 and its 17 Sustainable Development Goals (SDGs). The Blue Economy is covered under SDG 14, “Conserve and sustainably use oceans, seas and marine resources for sustainable development”. Further, Kenya has sovereign rights to explore, exploit, conserve, and manage the natural resources within the areas of her Exclusive Economic Zone (EEZ) and continental shelf.

At the continental level, the 2050 African Integrated Maritime Strategy (AIMS) provides a broad framework for the protection and sustainable exploitation of African maritime domain for wealth creation. The Policy Framework and Reform Strategy for Fisheries and Aquaculture in African of 2014, also provides a comprehensive framework for governance and exploration of Africa’s fisheries and aquaculture resources. Additionally, the Africa’s Blue Economy: A Policy Hand Book 2016 provides a guideline for sustainable blue economy development for African Union (AU) Member States.

During the Economic Commission for Africa Sub - Regional Office for Eastern Africa 19th Session of the Intergovernmental Committee of Experts meeting held on 2nd - 5th March, 2015, in Antananarivo, Madagascar on “Harnessing the Blue Economy for the Development of Eastern Africa”, the meeting urged States in Africa to mainstream the Blue Economy into their national and regional development plans, where applicable. Further, States were encouraged to establish the necessary institutions and build the relevant capacities to better harness the potential represented by the Blue Economy. Towards this end, His Excellency, The President through Executive Order No. 1/2016 on “Organization of the Government of the Republic of Kenya” established the State Department for Fisheries and The Blue Economy. The functions of the State Department among others include: coordination in the development of the Blue Economy policy; legal, regulatory and institutional frameworks; and plans. This is with the aim of harnessing the country’s potential of the Blue Economy and in pursuit of structural transformation, sustainable economic growth, and enduring societal progress. It is against this background that the 2018 - 2022 Medium Term Plan (MTP) aims to address the Blue Economy domain for the socio - economic development of the country.

2.0 SITUATION ANALYSIS

Overview

During the MTP II period, the key achievements in the maritime and fisheries sub-sectors included: Development of the Kenya Coast Guard Service Bill 2017; localization of the Marine Cargo Insurance in accordance with Section 20 of the Insurance Act of 1984 which became operational in 1987 and enforced in January 2017; development of Fisheries Management Plans; Kenya Tuna Fisheries Development and Management Strategy 2013 -2018; enactment of the Fisheries Management and Development Act No. 35 of 2016; procurement of an Offshore Patrol Vessel (OPV Doria) for surveillance of deep sea fishing and two patrol boats one for Lake Victoria and another for Lake Turkana; acquisition of an Offshore Research Vessel (R.V Mtafiti); reflagging of four foreign deep sea fishing vessels (with the Kenyan flag); establishment of an Monitoring, Control and Surveillance (MCS) centre in Mombasa and installation of a Vessel Monitoring System (VMS). Other achievements realized during the period include: restocking of 135 dams, 11 rivers and 3 lakes with a total of 4,881,663 assorted fish fingerlings to increase productivity; mapping and delineation of thirteen (13) critical fish habitats, 5 in Lake Naivasha, 3 in Lake Baringo and 5 in Lake Turkana to protect the breeding areas and thus increase in-situ stock recruitment.

In addition, during the MTP II period, a Residue Monitoring Plan for farmed fish was developed and approved by the European Union (EU) and thereby, opening up export markets for farmed fish and fishery products in the EU; three Fish Quality Control Laboratories were established in Nairobi, Mombasa and Kisumu; four cold storage and mini fish processing facilities were established in Meru, Kakamega, Nyeri and Migori; seaweed farming was developed in Kibuyuni - Kwale County; improved local strain of tilapia was developed and transferred to 10 certified hatcheries for mass production of quality seed; an intensive Recirculation Aquaculture Systems (RAS) demonstration infrastructure was established in Sagana; and an aquaculture curriculum for Advanced Technical and Vocational Education Training (ATVET) was developed.

The fisheries sub-sector contributed about 0.58 per cent to the country's GDP at ex-vessel/farm-gate prices of fish in 2016. The sub - sector overall performance in terms of fish production dropped by 21.3 per cent from 163,389 Metric Tonnes (MT) in 2013 to 128,645 MT in 2016. Fish production in the freshwater dropped by 22.5 per cent from 154,253 MT in 2013 to 119,550 MT in 2016. Lake Victoria continued to make the highest contribution of the fresh water fish production of 82 per cent on average since 2013. The marine fish landed also declined by 0.45 per cent from 9,136 MT in 2013 to 9,095 MT in 2016. Fish production from fish farming declined by 36.4 per cent from 23,501 MT in 2013 to 14,952 MT in 2016. The total value of fish landed during the period under review also declined by 13 per cent from Ksh. 21.281 billion in 2013 to Ksh. 18.517 billion in 2016. The decline was associated to decline in fish production from the shrinking lakes and the Tana dams, excessive and unregulated fishing, climate change, deteriorating environment, inadequate fisheries infrastructure, poor database, use of destructive fishing methods and the presence of water hyacinth particularly in Lake Victoria.

Total cargo handled at the port of Mombasa increased from 22.3 million tonnes in 2013 to 27.4 million tonnes in 2016. During the same period, the total container traffic handled rose from 894,000 Twenty-foot Equivalent Units (TEUs) to 1,091,371. This was mainly due to larger capacity of the vessels docking at the port in the review period. Total exports handled grew from 3 million tonnes to 3.7 million tonnes.

The localization of Marine Cargo Insurance (MCI) is expected to positively contribute to GDP growth through increased marine cargo insurance premiums by local insurance companies as well as reduction of capital flight from our borders. Marine insurance business increased by 13.3 per cent from the premiums

reported in March 2017 against an increase of the total monthly Gross Direct Premiums Income (GDPI) during the same period in 2016. Cumulatively, the marine insurance business increased by 19.4 per cent during the first three months of 2017.

Other sector achievements included: establishment of task forces to oversee the restructuring of Bandari college and Kenya National Shipping Line (KNSL); sensitization of Kenyans and the media fraternity on maritime opportunities and potentials in Kisumu, Homa Bay and Mombasa counties; conducted sensitization workshops on MCI in Eldoret and Kisumu and Nairobi for stakeholders; collaborated with both regional and international organizations (Intergovernmental Standing Committee on Shipping, Lake Victoria Basin Commission, IMO, among others) to improve regional and international integration for maritime industry; and established Marine Technology Cooperation Centre for Africa Region which is aimed at capacity building for climate change mitigation in the maritime shipping industry. The potential of the Blue Economy has not been fully exploited despite the many initiatives undertaken in the sector. For example, approximately United States Dollars (US\$) 3 billion or equivalent to Kshs. 300 billion is paid out to foreign ship service providers annually, despite the existence of the Kenya National Shipping Line (KNSL) as the National Carrier. Further, the high freight costs negatively compromise the competitiveness of our exports and imports.

3.0 EMERGING ISSUES, CHALLENGES AND LESSONS LEARNT

Overview

The Sector noted some emerging issues, encountered several challenges and learnt lessons during the MTP II period as indicated below.

3.1 Emerging issues

3.1.1 Terrorism, Piracy and Trafficking in illicit cargo in water bodies

Irregular and poor inspection of fishing vessels, combined with fishing vessels' ability to move easily and relatively undetected from country to country make them an attractive option for transporting illicit cargo (drugs, firearms, human trafficking) while operating under the cover of fishing. This situation poses a major threat to the security of authorized fishing vessels, occasionally leading to hijacking of fishing vessels in the Exclusive Economic zone (EEZ) and the high seas.

Over the past years, the problem of piracy in the Gulf of Aden and Indian Ocean has substantially been addressed through the effort of African Union Mission in Somalia (AMISOM) and with assistance from a 25-nation Maritime Task Force. However, increased trade volumes within the marine routes are bound to attract more piracy activities, armed robbery at sea and poaching. Further, the desire by some players to continuously benefit from insurance claims and the massive resources required for maritime safety and security complicate the matter.

3.1.2. Invasive species in water bodies

The emergence and proliferation of Water Hyacinth in inland waterways especially in Lake Victoria, presents a major challenge to navigation of fishing and transport boats and vessels leading to inefficiencies in fishing operations and sea/inland water transport. In addition, invasive species and harmful algal blooms associated with ballast water exchange affect the marine ecosystem.

3.1.3. Fish Cage Farming

There has been a lot of interest over the last few years in fish cage farming especially in Lake Victoria. However, although the guidelines have been developed in the recent past, there is need for regulations to ensure sustainability and mitigation of the negative environmental impacts that could emanate from cage farming.

3.2 Challenges

- i. Inadequate policy integration and uncoordinated development in the Blue Economy sector
 - This has led to slow growth of the sector, weak enforcement of laws, legislative gaps, duplications, overlaps and high cost of doing business. At the regional level, there is lack of regional institutional framework for collaboration for some of the trans-boundary water bodies.
- ii. Insufficient training facilities and equipment to offer training required for qualification and certification under the Standards of Training Certification and Watch-keeping Convention. This is compounded by lack of mandatory shipboard training opportunities.
- iii. Lack of capacity to offer special training required for personnel on certain types of ships

such as oil tankers, chemical tankers and Liquefied Natural Gas (LNG) carriers, passenger ships, fishing vessels, dynamic positioning ships, mobile offshore drilling units, anchor handling vessels and offshore supply vessels may lead to loss of job opportunities in offshore oil and gas exploration activities among others.

- iv. The knowledge base of Blue Economy in Kenya is fragmented and domiciled in different institutions at various levels of processing and competencies. As a result, the country is losing its resources to those nations that have developed capacity to research and information sharing that enable exploitation of the resources. For instance, in fisheries, Long Distant Fishing Nations (LDFNs) are exploiting Kenya's fisheries without reference to Kenya. The same applies to other economic sectors such as the extractives and international shipping.
- v. Capture fisheries is confronted by: excessive fishing effort, overfishing, use of destructive fishing gears and methods, ineffective management and extension systems, inadequate information for decision making, high cost of inputs especially fuel and fishing gears, inadequate fisheries infrastructure such as cold storage facilities, landing sites, market access roads and energy. In addition, other challenges include: high post-harvest losses, weak Monitoring, Control and Surveillance (MCS), lack of protocol on information sharing among agencies and states in the region, increased Illegal, Unregulated and Unreported (IUU) fishing activities, ineffective enforcement of fisheries laws and regulations partly due to inadequate capacity, and limited commitment and involvement of stakeholders in management of fisheries resources and protection of critical fish habitats.
- vi. There is low investment in the sector due to perceived risk of investing in both fisheries and aquaculture. This is exacerbated by cash economy where fisher folks have a poor saving culture coupled with limited re-investment along the fish value chain.
- vii. Lack of a harmonized licensing system for shared water bodies and the fact that only few water bodies have specific fisheries management plans.
- viii. The fisheries sub-sector also faces serious threats from agricultural, industrial and municipal pollution arising from the developments around the basins
- ix. Insecurity at sea, piracy, gear thefts, and non-viable alternative livelihoods.
- x. The offshore marine fisheries are exploited by foreign fishing companies who do not land fish in Kenya thus denying the country raw material for fish industries and food security from non-target fish by-catch. The inshore waters, which are fishing grounds for artisanal fishermen, are over-exploited and degraded due to demand created by the increasing population pressure and reliance on the fisheries for both food and incomes. The artisanal fishermen have limited fishing capacities for semi-industrial and industrial fisheries in deep waters.
- xi. Aquaculture is faced with: low extension capacity; high cost and inadequate supply of inputs such as quality seeds and fish feeds; low uptake of technology; lack of agro-ecological specific fish strains; and hatcheries especially for marine aquaculture thus compelling farmers to rely on wild seeds which are seasonal.
- xii. Lack of domestic commercial vessels, supportive legislative framework and policies such as cabotage regime and cargo reservation policy have led to repatriation of foreign currency through shipping with foreign lines, unstable freight rates, missed job opportunities and slow development of a hub status.

3.3 Lessons learnt

The lessons learnt during the implementation of programmes and projects under the fisheries and marine sub- sectors during the MTP II period are:

- i. Monitoring, Control and Surveillance is key to curbing illegal activities in marine space ;
- ii. An appropriate and adequate capacity building is critical in ensuring that priority interventions deliver the expected development results; and
- iii. Close collaboration and co-operation among national MDAs, County Governments and other stakeholders is crucial in development and implementation of sector policies, strategies, programmes and projects.

4.0 PROGRAMMES AND PROJECTS FOR 2018/19 – 2022/23

OVERVIEW

The proposed flagship programmes and projects in the Blue Economy Sector have been carefully considered taking into account, the Constitution and in particular Article 10 (2), on the national values and principles of governance; Article 6 (2), on devolution and access to services; Article 187, on cooperation between National and County Governments; and the fourth schedule. They are also guided by the Kenya Vision 2030; international and regional instruments; poverty reduction; employment creation; mainstreaming of gender, HIV/AIDS and climate change; Public Private Partnership (PPP); Sustainable Development Goals (SDGs); and use of Information Communication Technology (ICT). Further, this was guided by the “Big Four” Government interventions on: Manufacturing; Housing; Universal Health Care; and Food Security and Nutrition.

4.1 Flagship Programmes and Projects

4.1.1. Development of Blue Economy Programme

This programme will involve the following:

- Development of a Blue Economy Master Plan;
- Capacity building for Blue Economy;
- Promotion of Kenya as a centre for Agro-based Blue Economy;
- Development of Blue Book;
- Development and management of Blue Economy database;
- Sensitization of young population on the Blue Economy;
- Strengthening of Beach Management Units (BMUs); and
- Restructuring and reviving of Kenya National Shipping Line (KNSL) to a pre-eminent logistics and transportation hub on the eastern seaboard of the African continent.

It will also involve:

- Establishment of Coast Guard Unit;
- Transformation of Bandari College to a centre of excellence to supply competent and highly skilled Blue Economy labour;
- Launch of Vijana Baharia Programme to provide youth with proficiency-based training so as to access jobs in the maritime sector;
- Capacity needs assessment at both the National and County levels; and
- Diversification of tourist products to include cruise, sport fishing, game safaris, marina, dolphin and whale watching.

4.1.2. Fisheries and Maritime Infrastructure Development Programme

The programme will involve the following:

- Construction of fish ports in Mombasa, Kilifi, Lamu and Shimoni that are expected to create 12,000 jobs and add Ksh. 20 billion to the GDP;
- Construction of a small commercial port in Takaungu;
- Construction of fish markets in Kisumu, Mombasa, Lamu, Malindi, Nairobi, Kilifi and Shimoni;
- Construction of jetties in Mombasa, Kilifi and Malindi and a Jetty for RV Mtafiti;
- Installation of fish processing plants, cold storage facilities and ice plants;

- Development of maritime water transport;
- Development of coastal shipping; and
- Provision of inspection facilities at border inspection posts and recovery of encroached public land reserved for jetties.

4.1.3 Exploitation of Living Resources under Blue Economy Programme:

The programme will entail:

- Development of coastal fishing facilities;
- Establishment of a National Fishing Fleet for the Exclusive Economic Zone (EEZ), initially through reflagging of foreign fishing vessels with the Kenya flag;
- Development of capacity for artisanal fishers;
- Development of value addition programs for seaweed and up-scaling seaweed farming;
- Promotion of fish production and consumption;
- Diversification of fish export markets; development of Lake Victoria Fisheries;
- Development of Lake Turkana Fisheries Management Plan;
- Strengthening of Aquaculture Association of Kenya and Wavuvi Cooperative Society;
- Monitoring and assessment of fish stock; and
- Regularization of fish landing sites.

4.1.4 Aquaculture Business Development Programme

This is aimed at improving production, productivity as well as food security and nutrition of smallholder farmers. It will support aquaculture value chain with a series of strategic Public Private Producer Partnerships within a robust modern public sector framework as well as deepen and broaden smallholder farmers groups' business plans. It will also involve stocking and restocking of lakes, rivers and dams as well as identification, mapping, delineation and protection of critical habitats.

4.1.5 Kenya Marine Fisheries and Socio-Economic Development (KEMFSED) Programme:

Under this programme:

- A functional Fishery Information System will be developed;
- Fisheries management plans for priority fisheries will be operationalized; and
- Shimoni Mariculture Research Centre will be established.

4.1.6 Aquaculture Technology and Development and Innovation Transfer Programme

This will involve the following:

- Development and transfer of aquaculture technology and innovations to stakeholders;
- Development of a training facility at Sagana;
- Enhancement of trout production technology in Kiganjo;
- Development of market outlets for farmed fish;
- Implementation of National fish breeding programme in Sagana, Kiganjo, Ngomeni and Kabonyo;
- Implementation of youth aquaculture programme;
- Development of International Nile Perch Research Centre at Kabonyo in Kisumu;
- Development of Aqua-parks; promotion and development of ornamental fisheries;
- Development and promotion of recreational fisheries; and
- Establishment of a Marine Aquaculture Research Centre and a Marine Aquaculture Hatchery

to facilitate diversification of aquaculture species.

4.1.7 Monitoring, Control and Surveillance Programme

The programme will enhance monitoring, control and surveillance in the EEZ and inland water bodies. It will also involve conducting frame surveys in Lake Victoria, Lake Turkana and marine waters. In addition, quarterly Catch Assessment Surveys will be undertaken in Tana River, Turkwell Dam, marine waters, Lakes Victoria, Turkana, Baringo, Naivasha, Jipe and Chala.

4.1.8 Development of Fish Quality Laboratories Programme

The programme will be implemented in two (2) phases. Under Phase I, it will entail: construction of sewerage line; installation of electricity and water supply; paving and landscaping; construction of concrete perimeter walls; and burglar proofing of the laboratories and provision of CCTVs; and provision of water harvesting gutters and water storage tanks for the three (3) laboratories already constructed in Nairobi, Mombasa and Kisumu. Phase II of the programme will involve accreditation and operationalization of the laboratories.

4.1.9 Rehabilitation of Fish Landing Sites in Lake Victoria Programme

The programme will entail rehabilitation of six (6) landing sites, namely: Sori in Migori, Nyandiwa in Homa Bay, Mulukhoba in Busia, Wichlum in Siaya, Lwanda K'Otieno in Siaya and Ogal in Kisumu County.

4.2 Other Programmes and Projects

4.2.1 Maritime Transport Services

i) Ship building and repairs

This programme will entail the development of a fixed facility with dry dock and fabrication equipment that will carry out ship construction, repair, conversion, alteration, production of prefabricated ship, barge sections and other specialized services. The industry will also include parts manufacturing and service provision for shipbuilding activities such as routine maintenance and repairs. The multiplier effect of ship building industries, arising from its labour-intensive nature, will create job opportunities. Further, the programme will also spur growth in other clusters of the Blue Economy that require vessels for operations. If well supported and established the industry has the potential of creating 1,000 jobs annually. The growth of the industry should be supported with favourable policies including tax incentives, enforcement of provisions under the merchant-shipping Act among others.

ii) Container manufacture and repair industry

This is a key component of maritime transport, as 30 per cent of containers that are received in Kenya require repair and cleaning services that are not provided in the empty container depots. In this regard, container repair facilities will be established and appropriate training programs mounted to address human resource requirement to re-establish the container repair industry that is capable of creating more than 1,000 jobs annually. Further, deliberate efforts will be made to support the container manufacture and repair industry through creation of a conducive/enabling environment.

4.2.2 Maritime cluster enterprises development

This will entail establishment of Seafarers Training Fund, Women in Maritime Fund, Cluster Development Fund, and Shipping and Maritime Training Fund to benefit organized clusters in the maritime and shipping affairs sub-sector including the youth and women. A framework for clusters enterprises will be developed to ensure that the clusters operate efficiently in order to steer development of the sub-sector and enhance competitiveness of goods and services.

4.2.3 Marine risk and disaster management

The marine risk and disaster management function is set out in the Merchant Shipping Act, 2009 as amended, and the Merchant Shipping (Casualty Investigations and Reporting) Regulations, 2014. Key interventions to be implemented will include promotion of safety and use of aids to navigation and marine pollution control. The mitigation measures include patrolling the water bodies to enforce pollution control regulations, enhancing disaster response capabilities and sensitizing stakeholders on marine disasters. The programme will also involve carrying out thorough investigations into marine disaster that take place in Kenyan waters or involve Kenyan registered vessels.

4.2.4 Research and development of the Blue Economy

The following research will be conducted during the period under review:

- i) Assessment of stock status of key fisheries species to enhance capture fisheries management;
- ii) Research on promotion of investments in the Blue Economy;
- iii) Diversification and commercialization of aquaculture species;
- iv) Establishment of a centre for bio-security and fish disease surveillance in aquaculture;
- v) Fish feed formulation and testing;
- vi) Biophysical assessment and mapping of major aquatic ecosystems and associated biodiversity;
- vii) Assessment of the vulnerability of aquatic ecosystems to climate change and related disasters;
- viii) Assessment of changes in the socio-cultural characteristics aquatic resource user communities
- ix) Economic valuation of marine and coastal resources;
- x) Development of innovative technologies for value-addition and reduction of post-harvest losses; and
- xi) Maritime and shipping affairs research.

4.2.5 Cooperation and implementation of regional/international frameworks and standards.

It is imperative to work closely with other countries in the region and beyond in building synergies, sharing best practices, expertise, knowledge and technologies as a strategic measure towards inclusive accelerated growth through sustainable exploitation of the Blue Economy. Persistent threats to safety and security in the maritime domain, including piracy, armed robbery, IUU fishing activities, dumping of toxic waste, drug and human trafficking, money laundering, smuggling of migrants and terrorism are also better addressed jointly with other countries and non-state stakeholders. Cooperation will be strengthened within regional and international frameworks including Regional Economic Communities (RECs) and Inter-Governmental Organizations (IGOs). Collaboration with Regional Fisheries Management Organization (RFMOs) will be critical in reduction of IUU fishing activities in Kenya's EEZ and also for generation and sharing of scientific research findings on marine and fisheries. Representation of the country in various regional and international forums on matters such as fish safety standards and trade will also be of national importance. Towards this end, priority will be given to the following:

- i) Participation in and implementation of the Indian Ocean Rim Association processes in order to contribute towards the Blue Economy Action Plan that the Association is developing for its Members;
- ii) Participation in and implementation of the work of the African Union Commission's Specialized Technical Committees (STC) of Trade, Industry and Economic Development in the finalization of the draft annexes of the Africa Union Charter on Maritime Security, Safety and Development (Lomé Charter);
- iii) Ratification and domestication of the Lomé Charter upon the completion and adoption of the draft Annexes;
- iv) Participation and implementation of international and regional fisheries, aquaculture and maritime treaties including: United Nations Conventions on the Law of the Sea (UNCLOS); United Nations Fish Stocks Agreement (UNFSA); Indian Ocean Tuna Commission (IOTC) South Western Indian Ocean Commission (SWIOC); International Whaling Commission (IWC); Code of Conduct for Responsible Fisheries (CCRF); the Port State Measures Agreement (PSMA); East Africa Community - Economic Partnership Agreement/ Fisheries Partnership Agreement (EAC EPA/ FPA); Committee of Inland Fisheries and Aquaculture in Africa (CIFAA); Convention on Biodiversity, and Committee on Fisheries (CBFI); International Maritime Organization (IMO); Food and Agriculture Organization (FAO); Djibouti Code of Conduct; and Abuja Memorandum of Understanding (MOU) among others.

5.0 POLICY, LEGAL AND INSTITUTIONAL REFORMS

Overview

The establishment and development of effective legal, regulatory and institutional frameworks for the Blue Economy are crucial steps toward structuring and guiding its growth. The following are the critical reforms required in the Blue Economy Sector:

5.1 Policy Reforms

- i. Development of Blue Economy Policy
- ii. Development of the Integrated National Maritime Policy;
- iii. Finalization of the Integrated Ocean Development Policy;
- iv. Development of Aquaculture Guidelines and Standards;
- v. Development of National Maritime Spatial Plan;
- vi. Development of Cabotage Policy;
- vii. Development of Blue Economy Master Plan;
- viii. Review of Aquaculture Policy 2011;
- ix. Review of National Aquaculture Strategy and Development Plan;
- x. Development of Aquaculture Master Plan;
- xi. Development of a Fish Marketing Strategy;
- xii. Development of Ornamental and Recreational Fisheries Guidelines;
- xiii. Development of a policy on incentives for materials used in ship building, ship and container repairs, bunkering services, aquaculture, boats and fishing gears, fish processing among others;
- xiv. Development of Cargo Reservation Policy for ships owned and/or registered in the country;
- xv. Development of a Disaster Management Framework for the ocean and inland waters; and
- xvi. Development of Integrated Maritime Transport Policy.

5.2 Legal Reforms

- i. Review of the Fisheries (Safety of Fish, Fishery Products and Fish Feed) Regulations 2007;
- ii. Development of Cage Culture Regulations;
- iii. Review of Fisheries Beach Management Units (BMUs) Regulations 2007;
- iv. Undertake miscellaneous amendment of the Fisheries Management and Development Act, 2016;
- v. Development of the Marine and Inland Fisheries Regulations;
- vi. Review of Sections 3 and 16 of the Merchant Shipping, Act 2009 as amended;
- vii. Enactment of the Coast Guard Bill, 2017;
- viii. Development of a Cabotage Bill; and
- ix. Development of a bill to establish Admiralty Courts and Maritime Arbitration Centre.

5.3 Institutional reforms

- i Implementation of the Fisheries Management and Development Act, 2016;
- ii Enforcement of the Insurance Act;
- iii Restructuring of Kenya National Shipping Line (KNSL); and
- iv Transformation of Bandari College to a centre of excellence.

6.0 CROSS CUTTING ISSUES

Overview

The Sector has identified the following cross cutting issues for mainstreaming during the MTP III period: gender, climate change, HIV/AIDS, and Sustainable Development Goals as indicated below.

Gender Mainstreaming

The international community recognizes the important contribution women are capable of making towards economic growth. The United Nations particularly puts emphasis on integration of women into all levels of political, economic and social development as one of its major objectives. The IMO has also played a very active role in promoting the participation and advancement of women in all areas of the wider maritime sector. In Africa, the African Maritime Transport Charter, promotes and enhances the role of women in the maritime transport sector and capacity building as well as the integration of women in all maritime transport sectors. Further, Kenya's commitment to Sustainable Development Goals (SDGs) and its alignment with the Kenya Vision 2030 provided an additional framework for a check on compliance with gender equality. In addition, The Constitution provides a strong legal foundation towards achieving equal rights and opportunities for women, men, girls and boys.

Currently, the Blue Economy sector is highly dominated by men with very low uptake of maritime professions by women. For this reason, there is need to develop and implement appropriate laws, policies and framework to increase women participation in the Blue Economy Sector.

In management and development of the Blue Economy Sector, the sector will ensure active participation of men, women and the youth (males and females) as well as Persons Living with Disabilities (PLWD) by having meaningful representation in decision-making processes. These will include: development/review and implementation of sector policies; legislations; guidelines; regulations; strategies/plans; projects and programmes; and introduction of gender based resource budgeting among others.

Climate Change

Climate change continues to impact negatively on the Blue Economy and thereby resulting into reduced economic growth indices. For example, climate change affects fisheries and aquaculture through acidification of the water bodies, changes in circulation patterns, sea-level rise and associated ecological changes.

Climate change impacts on oceans manifest systematic changes in plankton abundance and aquatic plants worldwide. Warming of water causes plankton reduction and decline in fish stocks. In addition, changes in ocean circulation are predicted to lead to loss of certain fish populations or establishment of new ones. Temperature changes will likely result in changes of up-welling patterns, which might affect fish spawning period and success of larvae, thereby altering the entire life cycle and size of fish populations. Heavy tropical storms and sea level rise that are projected with the changing climate will make fishing a dangerous activity, while the fluctuation of river volumes and to some extent lake levels alters breeding ecology not only of permanent populations but also of anadromous fishes. Such fluctuations have a deleterious consequence on the overall fish production in the country. Increased incidents of flooding and drought are predicted to impact on aquaculture. For example, during the prolonged drought of 2008 - 2011, the total value of the effect on fisheries was estimated at Kshs. 4.2 billion, comprising Kshs. 3.6

billion in losses and Kshs. 0.5 billion in damages (National Climate Change Action Plan 2013 - 2017). High temperatures also have led to loss of cold-water fish growing areas and rivers as well as increased incidents on some species of seaweed.

The economic costs of climate change impacts on fisheries and aquaculture are estimated to be 3 per cent of GDP per annum by 2030 and possibly 5 per cent by 2050. On the other hand effects of climate change negatively affect the maritime and shipping activities. For example, during droughts, the agriculture sector is affected and hence the demand for shipping (carriage of grains and agriculture products). It also affects ecosystems that impact on cruise tourism and the maritime component of fisheries consisting of fishing vessels and fish port infrastructure.

Conversely, while international maritime transport remains the backbone of the world globalized economy, it is worth noting that sea-borne vessels' engines are great contributors to global Carbon dioxide (CO₂) emissions. According to an IMO study of 2014, shipping activities accounted for approximately 2.7 per cent of annual global CO₂ emissions and it is projected to increase by 50-250 per cent in the period up to 2050 depending on future maritime economic and shipping energy developments. Under a business-as-usual scenario and if other sectors of the economy reduce emissions to keep global temperature increases below 2°C, shipping could represent a 10 per cent of global Green House Gases (GHG) emissions by 2050. As the world global trade continues to grow, emission of CO₂ is expected to increase and thus the need to come up with mitigating measures to reduce its effect. To address the negative impacts of climate change, the sector will develop and implement strategies, plans, programmes and projects towards mitigation and adaptation. This will be done in line with The Climate Change Act, No. 11 of 2016.

HIV and AIDS Mainstreaming

Over the years, the HIV and AIDS epidemic has negatively impacted on the country's economy by lowering per capita output. Kenya's Vision 2030 recognizes the importance of a healthy nation as crucial in transforming Kenya into a prosperous middle-income country. HIV and AIDS is a problem that the sector must address as improved maritime and fisheries services will have a pull factor to employment. There is strong evidence to show that increased labour mobility is linked to the spread of HIV and AIDS. The majority of people engaged in the sector activities are at risk of acquiring HIV and AIDS due to their lifestyles. For example, the prevalence of HIV in the fishing communities is higher than the national averages and this greatly affects productivity and may contribute to its spread if not well attended to.

It is recognized that HIV and AIDS affects not only the physical health of a number of Kenyans but also impacts on the social, economic, and political fabric of our society. It is for this reason that a multi-sectoral approach is required for effective HIV and AIDS response. The sector in collaboration with the National Aids Control Council (NACC) will cascade a multi-sectoral response into the sector with clearly identified interventions and measurable indicators. Interventions will include: sensitization and awareness on HIV and AIDS including violence protection and human rights; development of HIV and AIDS responsive policies, programmes and projects; and addressing gender and cultural practices that enhance vulnerability to HIV and AIDS.

Mainstreaming Sustainable Development Goals

The programmes and projects planned for implementation will strive to achieve SDGs as follows:

- i) Goal 1: End Poverty in all its Forms Everywhere: The focus will be to end poverty in the rural areas so as to increase access to means to produce and purchase food by investing in linkages to

markets and enhancing market access for the fishers.

- ii) Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable Agriculture: This will be achieved through tackling food and nutrition insecurity through promoting sustainable fisheries and production systems in aquaculture.
- iii) Goal 3: Ensure healthy lives and promote well - being for all at all ages: This will be achieved through promotion of healthy eating interventions and fortification of foods with fish.
- iv) Goal 5: Achieve gender equality and empower all women and girls. This will be attained through the inclusion of women and youth in the sector through policy direction and involvement at all levels of projects and programmes development and implementation.
- v) Goal 6: Ensure availability and sustainable management of water and sanitation for all: The focus will be on promoting water efficient production systems in aquaculture and reduction of pollution in water bodies.
- vi) Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all: The sector will aim at achieving low reliance on fossil energy and shift into cleaner and cheaper (green) energy.
- vii) Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all: This will be achieved through policy development targeting creation of jobs along the sector's value chains and creation of a conducive environment for investors.
- viii) Goal 12: Ensure sustainable consumption and production patterns: This will be achieved through targeted interventions on reducing waste, raising fish production, reduction of post-harvest losses and increased access to fish.
- ix) Goal 13: Take urgent action to combat climate change and its impacts: This will be addressed through climate-smart aquaculture and fishing technologies, green port initiatives, capacity building on greenhouse gas emissions from shipping and related energy efficiency programmes.
- x) Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development: The focus will be on: sustainable management of our oceans and coastal resources through ecosystem approach to fisheries management; strengthening of fisheries governance; institutional coordination, policies and regulations; effectively regulate harvesting and end overfishing, IUU in fishing activities, destructive fishing practices, and implement science-based management plans in order to restore fish stocks; provide access for small-scale artisanal fishers to marine resources and markets; increase scientific knowledge, develop research capacity and transfer marine technology; and enhance the conservation and sustainable use of oceans and their resources.
- xi) Goal 17: Strengthen means of implementation and revitalize the global partnership for Sustainable Development: This will be achieved through strengthening, promotion and collaboration of partnerships at regional and international levels for sustainable development.

7.0 MONITORING AND EVALUATION

Overview

(M&E) are important aspects in the implementation of this Sector Plan. The purpose for monitoring is to ensure that the plan is implemented, and if there are any deviations, appropriate and timely actions are taken. Monitoring will involve regular data collection and analysis on the progress of implementation of the Plan. The results from the analysis will then be used to inform decision-making.

The Sector Plan will be evaluated during and after implementation, to test its feasibility and likelihood of its ability to produce the desired results. This will be on account of relevance, cost effectiveness, efficiency, and sustainability. In this regard, efficiency will assess the extent to which the intended outputs are attained relative to annually generated targets. Sustainability will address whether there exists capacity at follow-up implementation of the plan. The sub-sectors will constitute M&E committees drawing membership from all relevant departments to spearhead the M&E activities in their respective state departments. The sub-sectors in the sector will prepare semi-annual and annual M & E reports and submit to the Monitoring and Evaluation Directorate and other relevant institutions to assess the implementation of the plan. A mid-term evaluation will be undertaken in 2020. Matrix 1 on Monitoring and Evaluation provides details on the programmes or projects name, objectives, expected outputs/ outcomes, performance indicators, implementing institutions, time frame and the yearly targets during the plan period. Matrix 2 on Budget Implementation provides additional information on the yearly indicative budget and the source of funding during the plan period.

ANNEX I: IMPLEMENTATION MATRIX

Programme/ Project	Objective	Expected Output/ Outcome	Performance Indicators	Implementing Agency (s)	Time frame	Source of Funds	Indicative Budget (Ksh. Million)					
							Total	2018/19	2019/20	2020/21	2021/22	2022/23
Flagship Programmes/Projects												
Development of Blue Economy Programme	To provide a blue print to guide the long - term holistic development of the Blue Economy	Blue Economy Master Plan developed	Master Plan	SDF&BE, SDM&SA, CGs	2018/19 – 2020/21	GoK, IMO	700	200	400	100		
	To create awareness and develop diverse skills and competencies	Diverse skills and competencies developed and awareness on Blue Economy created	Number of persons trained	SDF&BE, SDM&SA, MDAs, CGs, MoE	2018/19 – 2022/23	GoK, DP's	3,948	617	755	817	875	884
	To promote Kenya as a centre for agro -based Blue Economy	Awareness on Kenya as a Centre for Agra - based Blue Economy created	Number of promotion forums for Kenya as a Centre for Agra - based Blue Economy	SDF&BE, SDM&SA, MDAs, CGs	2018/19 – 2022/23	GoK,	138	23	25	25	30	35
	To collect, process, present and manage information in the sector	Blue economy database established and managed	Blue Economy database	SDF&BE, SDM&SA, KeFS, KM A, DoD, MDAs, KPA, KRA, KM, FRI, KIRDI, CGs	2018/19 – 2022/23	GoK & DPs	550	15	110	110	110	205
	To create awareness of the young population on the Blue Economy	Awareness created on the young population on the Blue Economy	Number of sensitization forums	SDF & BE, SDM&SA, MoE MPSY& GA, CGs, Media	2018/19 – 2022/23	GoK, DP's	1,130	80	150	200	300	400
	To facilitate BMlUs to operate as commercial entities	BMlUs organized and supported to operate as commercial entities	Number of BMlUs organized and supported	SDF & BE, KeFS, KeFMA, CGs	2018/19 – 2021/22	GoK	645	175	235	235	0	0
To improve operational efficiency and capacity of the Kenya National Shipping Line	Kenya National Shipping Line (KNSL) revived and operationalized	% level of completion of revival of KNSL	SDF&SA, TNT, AG, KNSL	2018/19 – 2022/23	GoK	10,200	3,200	1,750	1,750	1,750	1,750	

Programme/ Project	Objective	Expected Output/ Outcome	Performance Indicators	Implementing Agency (s)	Time frame	Source of Funds	Indicative Budget (Ksh. Million)					
							Total	2018/19	2019/20	2020/21	2021/22	2022/23
	To provide maritime security	Coast Guard Unit established	Coast Guard Unit	SDF&BE, SDM&SA, CGs & MDAs	2018/19 – 2022/23	GoK	3	1	1	1	0	0
	To transform Bandari College to a centre of excellence	Bandari College capacity enhanced	Number of people trained on maritime affairs	SDF&BE, SDM&SA, MoE CGs & MDAs	2018/19 – 2022/23	GoK	1,000	50	100	150	300	400
	To create a skilled workforce among the youth through Vijana Baharia Programme	Skilled youth workforce created	Number of Skilled youth trained	SDM&SA, Bandari College, Utalii College, SDPSY, SDT, NYS, SDF&BE, CGs	2018/19 – 2022/23	GoK	1,130	226	226	226	226	226
	To diversify the tourist package	Tourist package diversified	Number of Tourist packages diversified	SDF&BE, KeFS, SDM&SA, MoT	2018/19 – 2022/23	GoK	1,130	200	200	230	250	250
	Sustainable utilization of marine and aquatic resources	Fisheries Management and Development Act 2016 implemented	Level of establishment of the KeFS, KeFMA, FLTF, KFAC	SDF&BE, KeFS, KeFMA, TNT, TP, CGs	2018/19 – 2022/23	GoK	15,000	1,000	2,000	3,000	4,000	5,000
	To create an enabling environment for development of the blue economy	Policy, legal, regulatory and institutional framework developed/reviewed	No. of policies developed; No. of institutions reformed; No. of Acts reviewed	SDF&BE, SDM&SA, AG, Parliament, TNT SDT, CGs	2018/19 – 2022/23	GoK	760	20	200	180	180	180
	To define and guide the Maritime Sector	Integrated Maritime Policy developed	Level of development of Integrated National Maritime Policy	SDF&BE, SDM&SA, CGs & AG	2018 – 2022	GoK	200	50	140	10	0	0
	To facilitate investment in the Blue Economy Sector	National Maritime Spatial Plan developed	National Maritime Spatial Plan	SDF&BE, SDM&SA, MDAs, CGs	2018/19 – 2021/22	GoK	162	50	54	58	0	0
	To enforce the insurance act	Insurance act enforced	Level of compliance with the Insurance Act	SDM&SA, TNT, AG	2018/19 – 2022/23	GoK	1,600	320	320	320	320	320

Programme/ Project	Objective	Expected Output/ Outcome	Performance Indicators	Implementing Agency (s)	Time frame	Source of Funds	Indicative Budget (Ksh. Million)					
							Total	2018/19	2019/20	2020/21	2021/22	2022/23
Fisheries and Maritime Infrastructure Development Programme	To provide enabling infrastructure for the sector	Fish ports in Mombasa, Kilifi, Lamu and Shimoni constructed; Small commercial port in Takaungu constructed; Fish markets in Kisumu, Nairobi, Lamu, Kilifi, Malindi, Shimoni and Mombasa constructed; Inland water transport infrastructure and network developed ; jetties in Mombasa Kilifi, Malindi and for RV Mtafiti Constructed	No. of fish ports; No. of fish markets: % level of completion of commercial port	SDF&BE, SDM&SA, SDT, KPA, TNT, CGs, DPs (DPs), private sector	2018/19 – 2022/23	GoK, Private Sector, DPs	15,443	1,973	2,043	3,100	4,156	4,171
							3,500	300	800	800	800	800
							20,080	4,000	4,000	4,000	4,000	4,080
Exploitation of Living Resources under Blue Economy Programme	To increase socio - economic benefits to Kenyans through increased investment in coastal shipping	Specialized ports in Takaungu, Shimoni, Kilifi Bay, Malindi developed ; fish processing plants, cold storage facilities and ice plants installed	No. of ports developed; Fish processing plant	SDM&S A, SDF&BE, KPA, SDT, CGs	2018/19 - 2022/23	GoK, PPP	20,080	4,000	4,000	4,000	4,000	4,080
							5,000	20	1,245	1,245	1,245	1,245
							2,500	200	300	500	700	800
Exploitation of Living Resources under Blue Economy Programme	To increase socio - economic benefits from Kenya's EEZ and international trade	National fishing and merchant fleet developed.	No. of national fishing and merchant vessels	SDF & BE, KeFS, SDM&SA, KNSL, KM A, TNT, CGs, private sector	2018/19 – 2022/23	GoK, PPP	5,000	20	1,245	1,245	1,245	1,245
							2,500	200	300	500	700	800
							2,500	200	300	500	700	800
Exploitation of Living Resources under Blue Economy Programme	To increase socio - economic benefits from marine aquaculture	Seaweed farming up scaled; Farming of Fin fish, crustaceans, prawn and molluscs developed	Level of marine aquaculture development	SDF&BE, KeFS, KM FRI,CGs	2018 – 2022	GoK, PPP	2,500	200	300	500	700	800
							2,500	200	300	500	700	800
							2,500	200	300	500	700	800

Programme/ Project	Objective	Expected Output/ Outcome	Performance Indicators	Implementing Agency (s)	Time frame	Source of Funds	Indicative Budget (Ksh. Million)					
							Total	2018/19	2019/20	2020/21	2021/22	2022/23
	To increase fish production from inland water systems	Fish stocks in inland water systems increased ; Lakes Victoria and Turkana fisheries management plans developed	No. of fish fingerlings stocked	SDF&BE, KeFS, CGs	2018/19 – 2022/23	GoK	500	100	100	100	100	100
	To increase per capita fish consumption	Per capita fish consumption raised	No. of Kg of fish consumed per person per year	SDF&BE, KeFS, KeFMA, CGs	2018 – 2022	GoK	595	100	120	120	125	130
	To increase the diversity of export markets for Kenyan fish and fishery products	Fish export markets diversified	Level of diversification of fish export markets; Reports	SDF&BE, KeFS, KeFMA	2018/19 – 2022/23	GoK	300	5	60	70	75	90
	To increase fish production	Fish landings increased	Tonnage of fish landed	SDF&BE, KeFS, CGs	2018/19 – 2022/23	GoK	2,190	375	415	450	450	500
	To increase per capita fish consumption	Per capita fish consumption raised	Number of Kg of fish consumed per person per year	SDF&BE, KeFS, KeFMA, CGs	2018/19 – 2022/23	GoK	595	100	120	120	125	130
Aquaculture Business Development Program	To raise the efficiency and sustainability of on - going and new aquaculture activities	Aquaculture business enterprises developed; aquaculture value chain supported; lakes, dams and rivers restocked	No. of Aquaculture business enterprises supported ; No. of lakes, rivers and dams restocked	SDF&BE, KeFS, CGs	2018/19 – 2022/23	GoK & IFAD	15,860	3,255	3,765	3,494	2,933	2,413
Kenya Marine Fisheries and Socio -economic Development Project (KM FSED)	To increase the socio - economic benefits from Kenya's marine fisheries while safeguarding resource sustainability	Socio -economic benefits of the coastal communities improved; Fishery Information System established; Mariculture Research Centre established	Level of implementation of KM FSED; Fishery Information System; Mariculture Research Centre	SDF&BE, KeFS, TNT, World Bank and coastal County Governments	2018/19 – 2022/23	GoK, World Bank	10,000	120	1,750	2,750	2,750	2,630
Aquaculture Technology Development and Innovation	To increase uptake of aquaculture technologies and innovations	Aquaculture technologies developed and transferred ; Training facility in Sagana	No. of aquaculture technologies developed and transferred ; Training facility in Sagana	SDF&BE, KeFS, KM FRI, CGs	2018/19 – 2022/23	GoK , Private Sector	1,536	600	386	300	150	100

Programme/ Project	Objective	Expected Output/ Outcome	Performance Indicators	Implementing Agency (s)	Time frame	Source of Funds	Indicative Budget (Ksh. Million)				
							Total	2018/19	2019/20	2020/21	2021/22
Transfer Programme		established; Trout production technology in Kigalo enhanced; national fish breeding programme in Kabonyo, Sagana Kigajo and Ngomeni; youth aquaculture programme developed; international Nile perch research centre in Kabonyo established; aqua parks developed; ornamental fisheries developed and promoted; recreational fisheries developed; marine aquaculture research centre and a marine aquaculture hatchery established	trout production technology; No. of national fish breeding programmes; international Nile perch research centre; ornamental fisheries programme; No. of aqua parks; recreational fisheries programme; marine aquaculture research centre and a marine aquaculture hatchery								
	To improve farmed fish safety	Safety of farmed fish improved ; market facilities established	No. of fish firms under Residue Monitoring Plan inspected & Quarterly reports	SDF&BE, KeFS, CGs	2018/19 - 2022/23	GoK	206	33	40	46	53
Monitoring, Control and Surveillance Programme	To establish fishing effort and trend of catches for evidence based management	Fishing effort and trend of catches established ; frame and catch assessment surveys in Lakes Turkana, Victoria and marine waters; quarterly catch assessment surveys conducted in Tana River, Turkwel Dam,	No. of frame and catch assessment surveys	SDF&BE, KeFS, KM FRI, CGs	2018/19 - 2022/23	GoK	1,200	240	240	240	240

Programme/ Project	Objective	Expected Output/ Outcome	Performance Indicators	Implementing Agency (s)	Time frame	Source of Funds	Indicative Budget (Ksh. Million)						
							Total	2018/19	2019/20	2020/21	2021/22	2022/23	
		marine waters, Lakes Victoria, Turkana, Baringo, Naivasha, Jilpe and Chala											
	To improve safety of fish from natural water bodies	Safety of fish improved	Number of Certified fish processing establishments and landing beaches	SDF&BE, KeFS, KeFMA	2018 – 2022	GoK	723	140	140	140	140	163	
Development of Fish Quality Laboratories Programme	To ensure quality fish	Three (3) laboratories in Nairobi, Mombasa and Kisumu constructed ; equipped , accredited and operationalized	No. of laboratories constructed ; equipped , accredited and operationalized	SDF&BE, KeFS, KeFMA	2018/19 – 2022/23	GoK	208	68	72	68	0	0	
Rehabilitation of Fish Landing Sites in Lake Victoria Programme	To improve fish handling facilities	Six 1 landing sites rehabilitated (Sori, Nyadiwa, Mulukhoba, Wichlum, Lwanda Koteno and Ogal)	No. of landing sites rehabilitated	SDF&BE, KeFS, CGs	2018/19 – 2022/23	GoK	269.5	85	84.5	100	0	0	
Other Programmes and Projects													
Maritime Transport Services Programme	To increase job opportunities for youth and reduce cost of doing business with Kenya	Ship building and repairs facilities established; container repair industry developed	% level of completion	SDM & SA, Private Sector, KM A, SDI, CGs	2018/19 – 2022/23	GoK, Private Sector, PPP, KM A, SDI, CGs	7,070	4,000	3,040	10	10	10	
Maritime Cluster Enterprises Development Programme	To increase youth and women participation in maritime affairs through cluster enterprises development	Seafarer's Fund, Women in Maritime Fund, and Shipping and Training Maritime Fund established	Operationalized Funds (Seafarer's Fund, Women in Maritime Fund, and Shipping and Training Maritime Fund)	SDM & SA KM A, KPA, SDF & BE, CGs	2018/19 – 2022/23	GoK	3,000	600	600	600	600	600	
Research and Development	To provide information, technologies and innovations for development of the sector	Aquaculture species diversified and commercialized; valuated marine and coastal resources;	Researches/ surveys conducted; No. of innovations and technologies developed; No. of	SDF & BE, SDM& SA, KM FRI, & Universities, KM A,	2018/19 – 2022/23	GoK, NACOSTI & DPs	14,000	1,000	2,000	3,000	4,000	4,000	

Programme/ Project	Objective	Expected Output/ Outcome	Performance Indicators	Implementing Agency (s)	Time frame	Source of Funds	Indicative Budget (Ksh. Million)						
							Total	2018/19	2019/20	2020/21	2021/22	2022/23	
		value addition technologies developed; post - harvest losses reduced; maritime and shipping affairs research conducted	institutions benefiting from the research funding ; research reports	KeFS									
Marine Risk and Disaster Management	To mitigate marine pollution and marine disasters	Marine disaster investigation; safety and use of aids to navigation promoted; Marine pollution and marine disasters reduced	Level of compliance with maritime and shipping laws	SDM&SA, SDF&BE, KM A, SDT, KPA, Coastguard, CGs, SDSP,	2018/19 – 2022/23	GoK	169	72	72	72	72	72	
Cooperation and Implementation of Regional/ International Frameworks and Standards	To comply with Kenya's international obligations and commitment touching on the sector	Kenya's international obligations and commitments complied with and enforced ; international obligations and commitments domesticated	N o. of obligations complied with; No. of international obligations and commitments domesticated	SDF & BE, SDM&SA, KeFS, KM A, TNT, SDT, MoFA, MoD, GGs, AG, NEMA, MDAs	2018/19 – 2022/23	GoK	400	400	400	400	400	400	
GRAND TOTAL								145,528.5	24,110.0	28,452.5	29,131.0	31,458.0	32,377.0

ANNEX II: MONITORING AND EVALUATION MATRIX

Programme/ Project	Objective	Expected Output/ Outcome	Performance Indicators	Implementing Agency (s)	Time frame	Source of Funds	Indicative Budget (Ksh. Million)					
							Total	2018/19	2019/20	2020/21	2021/22	2022/23
		marine waters, Lakes Victoria, Turkana, Baringo, Naivasha, Jipe and Chala										
	To improve safety of fish from natural water bodies	Safety of fish improved	Number of Certified fish processing establishments and landing beaches	SDF&BE, KeFS, KeFMA	2018 – 2022	GoK	723	140	140	140	140	163
Development of Fish Quality Laboratories Programme	To ensure quality fish	Three (3) laboratories in Nairobi, Mombasa and Kisumu constructed ; equipped , accredited and operationalized	No. of laboratories constructed ; equipped , accredited and operationalized	SDF&BE, KeFS, KeFMA	2018/19 – 2022/23	GoK	208	68	72	68	0	0
Rehabilitation of Fish Landing Sites in Lake Victoria Programme	To improve fish handling facilities	Six (6) landing sites rehabilitated (Sori, Nyadiwa, Mulukhoba, Wichilum, Lwanda Kotieno and Ogal)	No. of landing sites rehabilitated	SDF&BE, KeFS, CGs	2018/19 – 2022/23	GoK	269.5	85	84.5	100	0	0
Other Programmes and Projects												
Maritime Transport Services Programme	To increase job opportunities for youth and reduce cost of doing business with Kenya	Ship building and repairs facilities established; container repair industry developed	% level of completion	SDM & SA, Private Sector, KM A, SDT, CGs	2018/19 – 2022/23	GoK, Private Sector, PPP, KM A, SDT, CGs	7,070	4,000	3,040	10	10	10
Maritime Cluster Enterprises Development Programme	To increase youth and women participation in maritime affairs through cluster enterprises development	Seafarer's Fund, Women in Maritime Fund, and Shipping and Training Maritime Fund established	Operationalized Funds (Seafarer's Fund, Women in Maritime Fund, and Shipping and Training Maritime Fund)	SDM & SA	2018/19 – 2022/23	GoK	3,000	600	600	600	600	600
Research and Development	To provide information, technologies and innovations for development of the sector	Aquaculture species diversified and commercialized; valuated marine and coastal resources;	Researches/ surveys conducted; No. of innovations and technologies developed; No. of	SDF & BE, SDM& SA, KM FRI, & Universities, KM A,	2018/19 – 2022/23	GoK, NACOSTI & DPs	14,000	1,000	2,000	3,000	4,000	4,000

Programme/ Project	Objective	Expected Output/ Outcome	Performance indicators	Implementing Agency (s)	Time frame	Yearly Targets				
						2018/19	2019/20	2020/21	2021/22	2022/23
FLAGSHIP PROGRAMMES/PROJECTS										
Development of Blue Economy Master Plan	To provide a blue print to guide the long - term holistic development of the Blue E. economy	Blue Economy Master Plan developed	Level of development of Blue Economy Master Plan	SDF&BE, SDM&SA, CGs	2018 - 2022	30%	50%	20%	-	-
Development of Human Resource to Manage the Blue Economy	To create awareness and develop diverse skills and competencies for development of the Blue Economy at national and county levels	Diverse skills and competencies developed and awareness on Blue Economy created	Number of skilled persons.	SDF&BE, SDM&SA, CGs	2018 - 2022	1,500	1,500	1,500	1,500	1,500
Develop Manpower for Export	To provide skilled Blue Economy labour to the international market	Skilled Blue Economy labour to the international market provided annually	Number of qualified persons.	SDF&BE, SDM&SA, CGs, MoE	2018 - 2022	400	700	1,000	1,000	1,000
Implementation of Fisheries Management and Development Act 2016 (KeFS, KeFMA, FLTF, KFAC)	Sustainable utilization of marine and aquatic resources	Fisheries Management and Development Act 2016 implemented	Level of establishment of the KeFS, KeFMA, FLTF, KFAC	SDF&DE, KeFMS, KeFMA, TNT &MP ,CGs	2018 - 2022	5%	10%	20%	30%	35%
Development / review of policy, legal, regulatory and institutional framework.	To create an enabling environment for development of the blue economy	Policy, legal, regulatory and institutional framework developed/reviewed	Level of policies & acts developed/reviewed and institutions reforms	SDF&BE, SDM&SA, Parliament, CGs	2018 - 2022	5%	30%	25%	25%	15%
Develop Integrated National Maritime Policy	To define and guide the Maritime Sector	Integrated National Maritime Policy developed	Level of development of Integrated National Maritime Policy	SDF&BE, SDM&SA, AG	2018 - 2022	20%	70%	10%	0	0

Programme/ Project	Objective	Expected Output/ Outcome	Performance indicators	Implementing Agency (s)	Time frame	Yearly Targets				
						2018/19	2019/20	2020/21	2021/22	2022/23
Development of a National Maritime Spatial Plan	To facilitate investment in the Blue Economy Sector	National Maritime Spatial Plan developed	Level of development of National Maritime Spatial Plan	SDF&BE, SDM&SA, MDAs, CGs	2018 - 2022	30%	40%	30%	0	0
Development of National Fleet	To increase socio-economic benefits from Kenya's EEZ and international trade	National fishing and merchant fleet developed.	Number of national fishing and merchant vessels	SDF & BE, KeFS, SDM&SA, KNSL, KMA, TNT &MP, CGs, private sector	2018 - 2022	9	18	18	18	19
Development of fisheries and maritime Infrastructure	To provide enabling infrastructure for the sector	Infrastructure of fisheries and maritime developed	Level of development of infrastructure	SDF&BE, SDM&SA, KPA, TNT &MP, CGs, Development Partners (DPs), private sector	2018 - 2022	5%	8%	10%	15%	20%
Aquaculture Technology Development	To increase uptake of aquaculture technologies and innovations	Aquaculture technologies developed and transferred	Number of aquaculture technologies developed and transferred	SDF&BE, KeFS, KMFRI, CGs	2018 - 2022	3	3	3	3	3
Revival of Kenya National Shipping Line (KNSL)	To improve operational efficiency and capacity of the Kenya National Shipping Line	Kenya National Shipping Line (KNSL) revived and operationalized	Level of revival of KNSL	SDM&SA, TNT &MP, AG, KNSL	2018 - 2022	30%	17.5%	17.5%	17.5%	17.5%
"Viana Baharia" Programme	To create a skilled workforce among the youth	Skilled youth workforce created	Number of skilled youth trained	SDM&SA, Bandari College, Utalii College, SDPSY, SD T, NYS, SDF&BE, CGs	2018 - 2022	1,250	1,250	1,250	1,250	1,250
Enforcement of the Insurance Act	To enforce the insurance act	Insurance act enforced	Level of enforcement of the Insurance Act	SDM&SA, TNT &MP, AG	2018 - 2022	100%	100%	100%	100%	100%
Raise Fish Production	To increase fish production	Fish landings increased	Tonnage of fish landed	SDF&BE, KeFS, CGs	2018 - 2022	150	200	240	280	304
Raise per capita consumption of fish	To increase per capita fish consumption	Per capita fish consumption raised	Number of Kg of fish consumed per person per year	SDF&BE, KeFS, KeFMA, CGs	2018 - 2022	4.6	5.8	7.2	8.5	10

Programme/ Project	Objective	Expected Output/ Outcome	Performance Indicators	Implementing Agency (s)	Time frame	Yearly Targets				
						2018/19	2019/20	2020/21	2021/22	2022/23
Organize and support BMUs	To facilitate BMUs to operate as commercial entities	BMUs organized and supported to operate as commercial entities	Number of BMUs organized and supported	SDF & BE, KeFS, KeFMA, CGs	2018 - 2020	98	281	46	0	0
Diversification of Tourist Packages	To diversify the tourist package	Tourist package diversified	Number of Tourist package diversified	SDF&BE, KeFS, SDM&SA, MoT W	2018 - 2022	1	1	1	1	2
Sensitization and awareness creation of the young population on the Blue Economy	To create awareness of the young population on the Blue Economy	Awareness created on the young population on the Blue Economy	Number of youth population institutions awareness created on the Blue Economy	SDF&BE, SDM&SA, MoE MP&SY& GA, CGs, Media	2018 - 2022	50	100	150	200	300
Implementation of Human resource Planning and Succession Management Strategy	To improve service delivery in the sector	Service delivery improved in the sector	Level of implementation of planning and succession management plan	SDF & BE, SDM&SA, KeFS, KeFMA, CGs, MP&SY& GA	2018 - 2022	10%	13%	22%	25%	30%
Development and management of blue economy database	To collect, process, present and manage information in the sector	Blue economy database established and managed	Level of development of Blue Economy data base	SDF&BE, SDM&SA, KeFS, KMA, DoD, MDAs, KPA, KRA, KMFRI, KIRDI, CGs	2018 - 2022	10%	20%	20%	20%	30%
Kenya Marine Fisheries and Socio-economic Development Project (KMFESED)	To increase the socio-economic benefits from Kenya's marine fisheries while safeguarding resource sustainability	Socio-economic benefits of the coastal communities improved	Level of implementation of KMFESED	SDF&BE, KeFS, TNT &MP, World Bank and coastal County Governments	2018 - 2022	100%	100%	100%	100%	100%
Fish stocks enhancement in inland water resources	To increase fish production from inland water systems	Fish stocks in inland water systems increased	Number of fish fingerlings stocked	SDF&BE, KeFS, CGs	2018 - 2022	100,000	100,000	100,000	100,000	100,000

Programme/ Project	Objective	Expected Output/ Outcome	Performance indicators	Implementing Agency (s)	Time frame	Yearly Targets				
						2018/19	2019/20	2020/21	2021/22	2022/23
Fish stocks monitoring in Lakes Victoria, Turkana and the Indian Ocean	To establish fishing effort and trend of catches for evidence-based management	Fishing effort and trend of catches established	Number of frame and catch assessment surveys	SDF&BE, KefS, KMFRI, CGs	2018 - 2022	12	12	12	12	12
Certification of fish processing establishments and landing beaches	To improve safety of fish from natural water bodies	Safety of fish improved	Number of certified fish processing establishments and landing beaches	SDF&BE, KefS, KeFMA	2018 - 2022	27	27	27	27	30
Implementation of Residue Monitoring Plan	To improve farmed fish safety	Safety of farmed fish improved	Number of fish and water samples collected and analysed	SDF&BE, KefS, CGs	2018 - 2022	20	20	20	20	20
Diversification of fish export markets	To increase the diversity of export markets for Kenyan fish and fishery products	Fish export markets diversified	Level of diversification of fish export markets	SDF&BE, KefS, KeFMA	2018 - 2022	5%	10%	20%	25%	40%
Marine aquaculture development	To increase socio-economic benefits from marine aquaculture	Seaweed farming up-scaled; Farming of Fin fish, crustaceans, prawn and molluscs developed	Level of marine aquaculture development	SDF&BE, KefS, KMFRI, CGs	2018 - 2022	8%	12%	20%	28%	32%
Aquaculture Business development	To raise the efficiency and sustainability of on-going and new aquaculture activities	Aquaculture business enterprises developed	Number of Aquaculture business enterprises developed	SDF&BE, KefS, CGs	2018 - 2022	500	500	500	500	500
Inland water maritime development (transport system, jetties, small ports)	To create efficiency of inland water transport	Inland water transport infrastructure and network developed	Level of development of inland water transport infrastructure	SDM&SA, KPA, SDT, KMA, MoT W, KWS, SDF&BE, CGs	2018 - 2022	10%	15%	20%	25%	30%

Programme/ Project	Objective	Expected Output/ Outcome	Performance indicators	Implementing Agency (s)	Time frame	Yearly Targets				
						2018/19	2019/20	2020/21	2021/22	2022/23
Coastal shipping development	To increase socio-economic benefits to Kenyans through increased investment in coastal shipping	Specialized ports in Takauungu, Shimoni, Kilifi Bay, Malindi developed	Level of development of specialized ports	SDM&SA, SDF&BE, KPA, SDT, CGs	2018 - 2022	5%	11%	15%	20%	25%
Construction and equipping of Fish Quality Laboratories	To ensure quality fish	Three (3) laboratories will be constructed and equipped in Nairobi, Mombasa and Kisumu	Level of completion of the fish labs	SDF&BE, KeFS, KeFMA	2018 - 2021	50	70	100	0	0
Rehabilitation of landing sites in Lake Victoria	To improve fish handling facilities	Landing sites rehabilitated	No. of landing sites rehabilitated	SDF&BE, KeFS, CGs	2018 - 2021	2	2	2	0	0
OTHER PROGRAMMES/ PROJECTS										
Maritime Transport Services (ship building and repairs, container manufacturing and repair industry)	To increase job opportunities for youth and reduce cost of doing business with Kenya	Ship building , repairs facilities and container repair industry developed	Level of development of ship building, repairs facilities and container repair industry	SDM & SA, Private Sector, KMA, SDT, CGs	2018 - 2022	40%	30%	10%	10%	10%
Marine Risk and Disaster Management	To mitigate marine pollution and marine disasters	Marine pollution and marine disasters reduced	Level of reduction of marine pollution and marine disasters	SDM&SA, SDF&BE, KMA, SDT, KPA, Coastguard, CGs, SDSP,	2018 - 2022	70%	80%	85%	90%	95%
Maritime cluster enterprise development	To increase youth and women participation in maritime affairs through cluster enterprises development	Seafarer's Fund, Women in Maritime Fund, and Shipping and Training Fund established	Level of development of maritime cluster enterprise	SDM & SA and parliament, KMA, KPA, SDF & BE, CGs	2018 - 2022	8%	12%	20%	28%	32%

Programme/ Project	Objective	Expected Output/ Outcome	Performance indicators	Implementing Agency (s)	Time frame	Yearly Targets				
						2018/19	2019/20	2020/21	2021/22	2022/23
Research and Development of the Blue Economy	To provide information, technologies and innovations for development of the sector	Knowledge base on the Blue Economy for informed decision making improved	Level of improved knowledge base on the Blue Economy for informed decision making	SDF & BE, SDM & SA, KMFRI, Universities, KMA, KeFS	2018 - 2022	5%	7%	10%	12%	16%
Cooperation and implementation of Regional/ International Frameworks and Standards	To comply with Kenya's international obligations and commitment touching on the sector	Kenya's international obligations and commitments complied with and enforced	Number of regional and international forums participated	SDF & BE, SDM & SA, KeFS, KMA, TNT & MP, SDT, MoFAIT, MoD, AG, AG, NEMA, MDAs	2018 - 2022	20	20	20	20	20