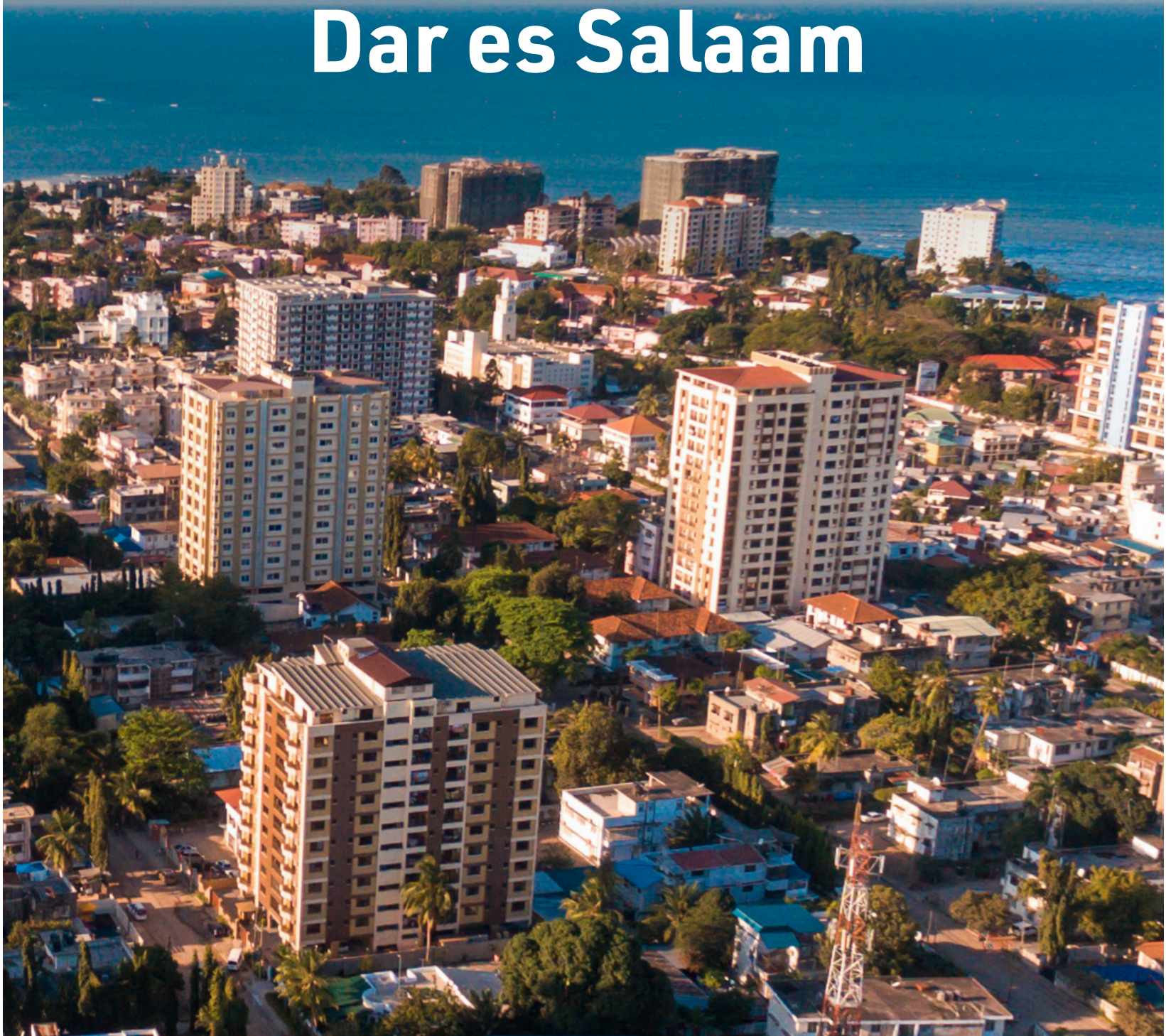


COASTAL CITIES OF THE WESTERN INDIAN
OCEAN REGION AND THE BLUE ECONOMY

City Case Study

Dar es Salaam



Published by WIOMSA

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► Image: Low Tide on Bongoyo Island, Dar es Salaam © Harber, Flickr

ACRONYMS

BE - Blue Economy	MPA - Marine Protected Area
BMU - Beach Management Unit	MPRU - Tanzanian Marine Parks and Reserves Unit
CBOs - Community-based organizations	MSP - Marine Spatial Planning
CCCS - Centre for Climate Change Studies	NBS - National Bureau of Statistics
COP - Conference of the Parties	NGOs - Non-Governmental Organisation
CSO - Civil Society Organization	OECD - The Organisation for Economic Co-operation and Development
DARCH - Dar es Salaam Centre for Architectural Heritage	PPP - Public Private Partnership
DAWASA - Regional water and sanitation authorities	SDG - Sustainable Development Goal
DMI - Dar es Salaam Maritime Institute	SEZ - Special Economic Zones
DMRS - Dar es Salaam Marine Reserves System	SIDS - Small Island Developing States
DRR - Disaster Risk Reduction	SMMEs - Small, Medium and Micro Enterprise
DUTA - Dar es Salaam Urban Transport Authority	SOEs - State Owned Enterprises
EEZ - Exclusive Economic Zone	SWOT - Strengths, Weaknesses, Opportunities, and Threats
EIA - Environmental Impact Assessment	TAFICO - Tanzanian Fishing Corporation
ESIA - Environmental Social Impact Assessment	TAFIRI - Tanzania Fisheries Research Institute
EU - European Union	TANESCO - Tanzania Electricity Supply Company
EWURA - Energy and Water Utilities Regulatory Authority	TANROADS - Tanzania National Roads Agency
FDI - Foreign Direct Investment	TARURA - Tanzania Rural and Urban Road Agency
FTZ - Free-trade zone	TVET - Technical & Vocational Education & Training
GDP - Gross Domestic Product	TEU - Twenty-foot Equivalent Unit
GFDRR - Global Facility for Disaster Reduction and Recovery	TPA - Tanzania Ports Authority
GIS - Geographic Information Systems	UNECA - United Nations Economic Commission for Africa
GMP - Gross Marine Product	UNEP - UN Environment Programme
ICT - Information and communications technology	UNICEF - United Nations Children's Emergency Fund
ICZM - Integrated Coastal Zone Management	USD - United States Dollars
IFRC - International Federation of Red Cross and Red Crescent	WIO - Western Indian Ocean
IFZ - Industrial Free Zone	WIOMSA - Western Indian Ocean Marine Science Association
LMMAs - Locally Managed Marine Area	WWF - The World Wildlife Fund
MICE - Meetings, Incentives, Conferences and Events	

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FOREWORD

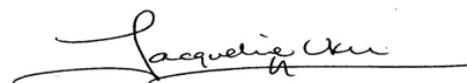
Although cities only represent 2 percent of the world's geographical area, the activities within their regional boundaries use over 75 percent of the planet's material resources, according to a study released by the International Resource Panel in 2018. This among other reason is why the UN in 2015 approved a stand-alone Goal, SDG 11, Sustainable Cities and Communities, which recognizes urbanization and city growth as a transformative force for development. This is the first-ever international agreement on urban-specific development and acknowledges that sustainable urban development is a fundamental precondition for sustainable development in general.

Coastal cities are the location for high levels of economic activity mainly because of their association with ports, waterfront development and well-endowed coastal and marine environment. In the Western Indian Ocean (WIO) region, some of the coastal cities are capitals of respective countries (e.g. Victoria, Seychelles; Port Louis, Mauritius and Maputo, Mozambique) while some are important hubs of trade, industry and commerce, such as Mombasa, Dar es Salaam, Beira and Durban. For the most part, some of these cities are experiencing comparatively rapid population and economic growth, which is known to have negative impacts on the natural environment through resource extraction and use, as natural resources come under increasing pressure. Climate change and the anticipated increase of extreme events exacerbates the problem, with the UN-Habitat's State of African Cities Report suggesting that sea-level rise threatens the very survival of some of these cities. Cities with large proportions of economically and socially vulnerable inhabitants, such as Port Louis, Maputo, Dar es Salaam, Victoria, and Mombasa, are particularly susceptible.

The Blue Economy is an emerging policy area that is subject to ongoing political discussions at the global and regional levels. In 2018, Kenya hosted the first high-level international Sustainable Blue Economy Conference. The Blue Economy seeks to promote economic growth, responsible production and consumption, social inclusion, preservation and improvement of livelihoods while at the same time ensuring environmental sustainability of ocean and

coastal systems, as well as other waterfront areas, through the circular economy. UN-Habitat published a report on "The Blue Economy and Cities", highlighting the need to recognize the role of urbanization and urban planning in shaping the Blue Economy. This underscores the urgency of including urban policymakers in the global discussions around the Blue Economy concept.

Since 2018, with the funding from the Government of Sweden, WIOMSA has been implementing a five-year project, Cities and Coasts project, whose goal is to build and strengthen human and institutional capacity in coastal and marine planning for sustainable coastal cities in the WIO region. Through this project, WIOMSA, in collaboration with UN Habitat commissioned a series of studies to explore the current relationship between coastal cities of the WIO region and the blue economy, challenges and opportunities and offer recommendations moving forwards.



Dr Jacqueline Uku, President of WIOMSA

PREFACE

The linkages between environment, society and economy in coastal cities are important in the countries of the WIO region, and there is a need to understand better their interdependencies and the associated constraints to sustainable development. If managed properly, cities can offer better socio-economic conditions and quality of life to residents and the wider context in which they are situated effectively facilitating sustainable cities and the communities. The integrated adaptive management and sustainable development of coastal cities and their marine environment are therefore essential.

At the Ninth Conference of Parties to the Nairobi Convention (COP 9) August in 2018 in Mombasa, countries of the region acknowledged for the first time the importance of collaborating with UN-Habitat to address the environmental challenges and opportunities posed by rapid urbanization, particularly in coastal cities in the WIO region, as articulated in the SDG 11 (“make cities and human settlements inclusive, safe, resilient and sustainable” (Sustainable Cities and Communities)) and the New Urban Agenda (NUA) on sustainable cities and communities. Further, COP 9 urged Contracting Parties to consider undertaking climate change vulnerability assessments of their urban coastal areas, including urban spatial planning processes, and integrating marine natural capital (Decision CP.9/9). The Nairobi Convention Secretariat was requested to collaborate with UN-Habitat and other partners to develop a regional action plan and roadmap to assist the Contracting Parties in integrating the NUA into coastal cities in the WIO region for the protection of the marine and coastal environment (Decision CP.9/13). Furthermore, countries agreed to advance Blue Economy approaches in SDG 14 as a pathway for sustained incomes and economic benefits from natural blue capital including fisheries, tourism, oil and gas development, offshore renewable energy, and other maritime activities.

As part of the implementation of these decisions and to provide a greater understanding of the local challenges and opportunities faced by coastal cities in the WIO region and to support the future development of an environmentally sustainable and socially inclusive roadmap for the Blue Economy, WIOMSA and UN-Habitat commissioned Arup to prepare a portfolio of six reports:

- Four blue city economy case studies;
- A ‘Status Report’ which outlines more broadly the current situation concerning the blue economy in coastal cities across the region; and
- A ‘Roadmap for the Development of the Blue Economy in Coastal Cities’, which provides recommendations for cities in current and future blue economy planning, activities and investment.

These reports offer knowledge resources for city and national government stakeholders, WIOMSA, UN-Habitat, private sector and civil society. Each case study provides specific blue economy recommendations for that city, focusing on strategic and operational opportunities for the city and its blue economy stakeholders, informed by primary and secondary research. Key points and recommendations from each case study have also been extracted and integrated into the main body of the Status Report, which has, in turn, informed the Roadmap. The Roadmap provides strategic and operational blue economy recommendations across case study cities, which stakeholders are encouraged to also read and consider with respect to their city or region.

The Dar es Salaam report is one the case study reports for coastal cities, others being Kilifi and Mombasa, Kenya and Port Louis, Mauritius. Key Informant Interviews and Focus Group Discussions were the primary means of field investigation for these reports and engaging key stakeholders across blue economy sectors and stakeholder types (government, academia, private and civil society). Stakeholders were identified through city-specific desktop research, undertaken in January/February 2020.



Oumar Sylla
(Director Regional Office for Africa - UN Habitat)



Arthur Tuda
(Executive Secretary - WIOMSA)

CHAPTER 1

INTRODUCTION

Dar es Salaam's status as the economic centre of Tanzania for large scale commercial operations as well as from the perspective of individual residents, is inherently tied to its thriving blue economy.

1.1. CITY OVERVIEW

The city of Dar es Salaam has a current estimated population of just under 7million residents. This figure is expected to rise to 8.5million by 2025 and could reach 13.4million by 2035.¹ It is ultimately projected to develop into a regional economic centre within eastern and central sub-Saharan Africa.

The blue economy forms an important part of Dar es Salaam's development. The city's historic growth has been associated with its status as the country's premier port, which handles 95% of Tanzania's international trade.² World Bank consider Dar es Salaam as "vital for the economies of Tanzania and neighbouring countries" as a regional hub for six landlocked countries.³ The artisanal fisheries sector directly employs several thousand people in the city, whilst supporting the livelihoods of many more. Dar es Salaam is a hub for the rapidly expanding MICE (Meetings, Incentives, Conferences and Events) and beach tourism circuit in the southern part of the country.

The comparative economic strength of Dar es Salaam is indicated by the higher purchasing power of its residents. Cell phone ownership is 95% in Dar es Salaam and 84% in urban centres, compared with 57% in rural areas whilst 48% of the city's residents own a refrigerator compared to 15% of other urban dwellers and 2% of rural Tanzanians.⁴ In addition, the city accounted for 89.8% of all tax collections in 2017.⁵ Still, a substantial proportion of the population is dependent on the informal sector and unemployment rates are high. The labour force participation rate of persons aged 15+ is just 76.2% in Dar es Salaam, compared to 84.4% in other urban centres in Tanzania, and 89.9% in rural areas.⁶

Dar es Salaam's rapid population increase, in part due to high migration rates from rural areas, towns and secondary cities, is having a notable effect on its urban systems. The spatial development is increasingly informal, and chronically underserved by basic services including solid waste management and water and sanitation. Approximately 70% of the city's population live in informal settlements⁷ and less than 10% of the city is covered by sewerage systems.⁸ A new sewage treatment facility is in the process of

being developed, expecting to raise coverage rates to 30%.⁹ A central challenge posed within the city is traffic congestion, which is exacerbated by the pattern of urban growth along the four main arterial roads radiating outwards from the city centre.¹⁰ There are major deficits in core urban infrastructure, including electricity, transport, waste collection, water and sanitation and housing. This extends to essential trade infrastructure, with limited air and port capacity. For example, it is estimated that inefficient transport connections between actors and firms in Dar es Salaam currently reduce profits by US\$2.5 million every day.¹¹

The city is the former capital of Tanzania, and many government offices have now relocated to the present capital of Dodoma as of late 2020.¹² It is unclear what impact this relocation will have on the dynamics of Dar es Salaam.¹³

The city is subdivided into five municipalities: Ilala, Kinondoni, Temeke, Ubungo and Kigamboni. Population density varies dramatically across municipalities. Temeke is home to 9,199 people per km², whilst Kigamboni is just 359 people per km².¹⁴

The successful development of Dar es Salaam, in the face of a plethora of challenges, is significantly tied to its ability to take advantage of the blue economy sectors in the region. As the city continues its rapid transition to mega city status, it will need to find a way to sustainably develop its blue economy sectors, for current and future generations.

1.2. RESEARCH APPROACH & REPORT STRUCTURE

Dar es Salaam field research took place in February 2020.

Selection of case study cities was agreed upon between Arup, WIOMSA and UN-Habitat in January 2020 based on learning from the desktop phase.

Specific factors which influenced case study selection are as follows:

- A desire to select at least one mainland and one island city;
- Selection of cities which allowed exploration of key blue economy themes that emerged in the desktop research phase (a port city, a tourism hotspot, a city with strong fishing sector connection and a rapidly growing smaller city);
- Logistics with respect to travel and availability of interviewees.

The selection process resulted in choosing of Dar es Salaam, Port Louis, Mombasa and Kilifi Town.

FIGURE 1 - CASE STUDY LOCATIONS



Key Informant Interviews and Focus Group Discussions were the primary means of field investigation, engaging key stakeholders across blue economy sectors and stakeholder types (government, academia, private and civil society). Stakeholders were identified through city specific desktop research, undertaken in January 2020, which also established initial lines of investigation.

Field research analysed the economic, social and environmental dimensions of major blue-economy industries using a SWOT method to gain an in depth,

balanced understanding of the city-blue economy relationship. Semi-structured questioning was used to ascertain stakeholder thoughts on overarching city blue economy strengths, weaknesses, opportunities and threats, before exploring specific blue economy sectors with which the stakeholder was involved (e.g. fishing, tourism and maritime transport and shipping).

In Dar es Salaam researchers consulted 21 stakeholders from 15 different organisations and/or institutions.

TABLE 1 - ORGANISATIONS AND INSTITUTIONS CONSULTED (DAR ES SALAAM)

Dar es Salaam City Council, Department of Urban Planning, Environment and Transport

Ilala Municipal Council, Department of Environment and Solid Waste Management

University of Dar es Salaam, Department of Sociology and Anthropology

University of Dar es Salaam, Dept of Aquatic Sciences and Fisheries Technology

Centre for Community Initiatives

Tanzania Fisheries Research Institute (TAFIRI)

Ardhi University

University of Dar es Salaam, Business School

National Environment Management Council

Dar es Salaam City Council, Tourism Department

Dar es Salaam Maritime Institute

Tanzania Meteorological Authority

WWF Tanzania

Marine Parks and Reserves Unit







CHAPTER 2

THE BLUE ECONOMY IN DAR ES SALAAM





The city's key blue economy industries are maritime trade, fishing and tourism, discussed hereafter. Waterfront development, also addressed in the next section, is considered closely related to the city's tourism sector, as well as wider urban and economic development. These sectors depend on the wider operational environment, which is also discussed in the following section.

TABLE 2 - MEASURING THE BLUE ECONOMY IN DAR ES SALAAM

SECTOR SPECIFIC BLUE ECONOMY CHALLENGES AND OPPORTUNITIES

	Port and Maritime Trade	<ul style="list-style-type: none"> 95% of Tanzania's international trade is handled through the Port of Dar es Salaam.¹⁵ In 2019, 58% of container cargo was for domestic consumption and 42% was for transit to several landlocked countries The port handles 600k TEUs per year¹⁶
	Tourism	<ul style="list-style-type: none"> Whilst 2.4 million passengers passed through Julius Nyerere International Airport in 2017, the major tourist attractions are largely beyond Dar es Salaam, including the Serengeti National Park, Lake Victoria, Zanzibar and Mount Kilimanjaro.^{17,18}
	Fishing and Aquaculture	<ul style="list-style-type: none"> Marine Fisheries produced 51,912 tonnes of fish in 2015¹⁹ There are about 35 small-scale seafood processors and exporters (based mainly in Dar es Salaam) A bill was passed in 2020 to officially revive the Tanzania Fisheries Corporation which will be implemented with financial support from the government of Japan
	Waterfront Development	<ul style="list-style-type: none"> Kawe 711 a mega project developed by the state-owned National Housing Corporation (NHC), which ran out of funds in 2018, was proposed for a stretch of prime oceanfront property but remains half-built.²⁰

OPERATIONAL ENVIRONMENT FOR THE BLUE ECONOMY

	Education and Training	<ul style="list-style-type: none"> The Dar es Salaam Maritime Institute trains approximately 700 full time students including technicians, 'Master Mariners' and engineers.
	Solid Waste	<ul style="list-style-type: none"> Coverage levels of households' solid waste collection varies across the city and only approximately 40% of waste ends up in the city's single dumpsite.²¹ One key issue in the downtown district of Ilala is the daily influx of non-residents for work, and the waste they generate.
	Water and Sanitation	<ul style="list-style-type: none"> Over 75% of the population living in Dar es Salaam's informal settlements depend on unsafe pit-emptying services for sanitation.²² Most of the untreated liquid waste ends up in the sea.
	Climate Change Adaptation	<ul style="list-style-type: none"> Dar es Salaam is highly vulnerable to flooding with about 70% of its inhabitants living in informal settlements, some of which are low-lying or in ecologically fragile areas. Research suggests that 40% and 31% of the mangroves at Kunduchi and Mbweni, respectively, are degraded due to encroachment.²³

A key issue encountered during fieldwork research was the inaccessibility of detailed and up to date quantitative data. The National Bureau of Statistics (NBS) is an autonomous public organisation mandated to operate across Tanzania to provide official statistics to the government, business community and the public. Although the NBS is striving to become a one-stop centre for official statistics, it lacks the capacity to engage in regular, in-depth, data collection on a sector-level within cities. Nevertheless, where possible, quantitative data have been gathered to support findings from interviews.

2.1. BLUE ECONOMY GOVERNANCE AND PLANNING

Overall, governance in Dar es Salaam City is highly fragmented, and there is a considerable level of overlap between the city council, municipal councils, and national agencies. Provision of municipal services, social and economic development, and the maintenance of law and order are all administered by the Dar es Salaam City Council, as established in the Local Government Act of 1982. The council has the power to levy taxes, fees and charges, but still receives the majority of funds nationally, through conditional grants and is therefore heavily reliant on national government.²⁴ Additionally, most of the large-scale infrastructure in Tanzania's urban areas is provided by State Owned Enterprises (SOEs), which plan, construct, operate, and maintain a wide range of public works. Key agencies include Tanzania National Roads Agency (TANROADS), Tanzania Rural and Urban Road Agency (TARURA), Tanzania Electricity Supply Company (TANESCO), Dar es Salaam Urban Transport Authority (DUTA), and the regional water and sanitation authorities (DAWASA). SOEs recover most of their operating costs from users of the service through tariffs - in the case of water, sanitation and electricity, - or from fuel levies and passenger fares in the case of TANESCO and Dar es Salaam Rapid Transport (DART).²⁵

Interviewed stakeholders described the role of national government ministries as 'policy making' and 'supervisory', while local government and parastatals are the 'implementors'. This structure can be problematic, as the organisations accountable for the practical application of strategies (and those with superior knowledge of the local context) are not those responsible for formulating the plans. Moreover, it has caused situations where detailed policies and legal frameworks are not in place at a local level. This is the case of the tourism sector in the city, which continues to be governed by The Tourism Act (2008), a generalist piece of national legislation which does not focus on the particularities of Dar es Salaam.

Currently, there appears to be limited mechanisms or structures in place at national or city level for coordinated blue economy planning and governance. While Zanzibar has taken initial steps to adopt coastal and marine spatial planning, there are no similar

initiatives being taken for more comprehensive marine spatial planning within Tanzania, generally, or in the Dar es Salaam area. Tanzania currently lacks a national blue economy strategy.²⁶

The concept of the blue economy needs more clarification, communication and publication

Respondent A*

The city does however have the benefit of a Marine Protected Area (MPA) of its coast, which serves as a valuable tourist asset and designation supporting sustainable fishing and conservation. This MPA is discussed further in section 2.2.

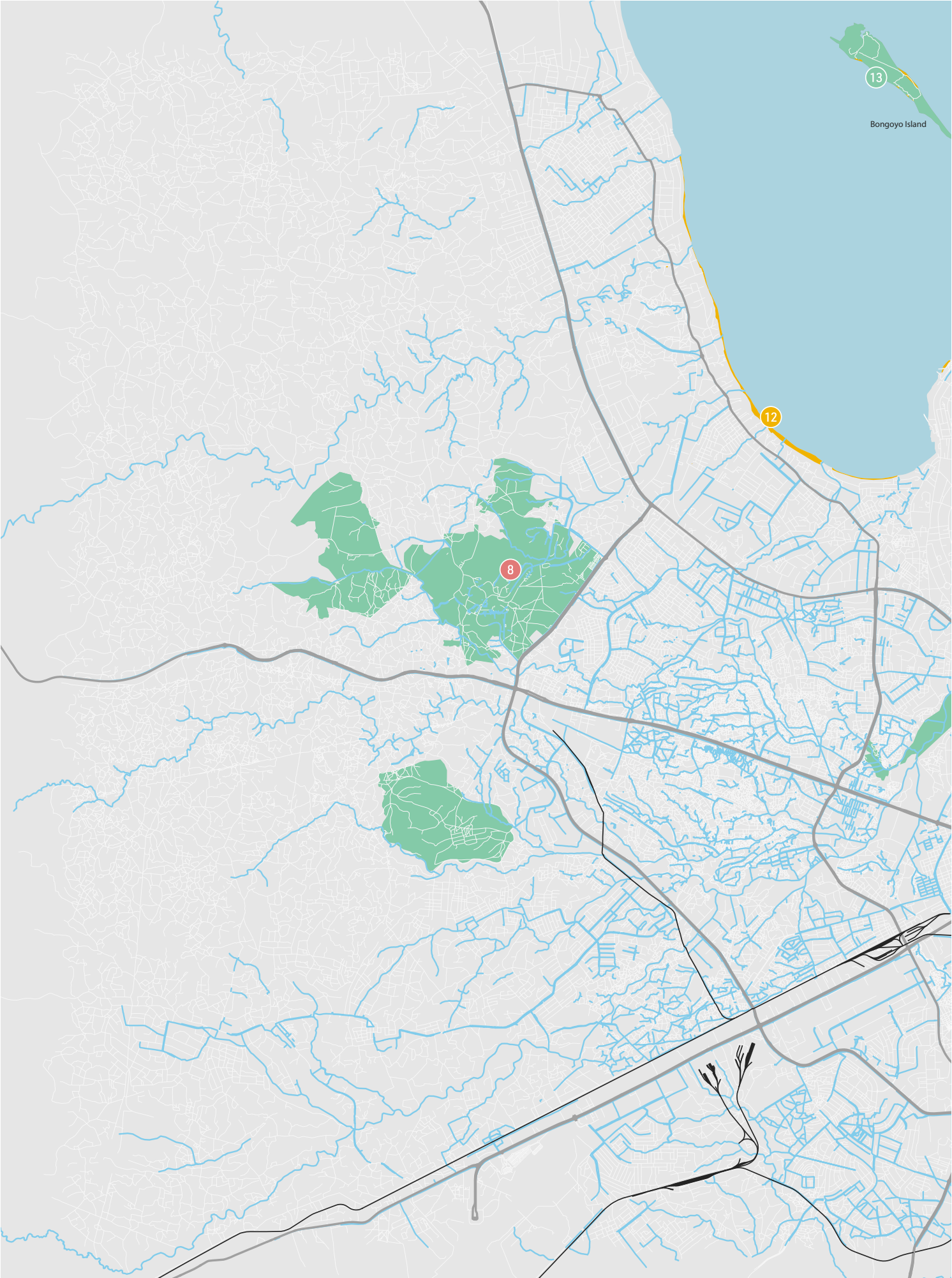
*Quote source lettering is in randomised order for purposes of respondent confidentiality

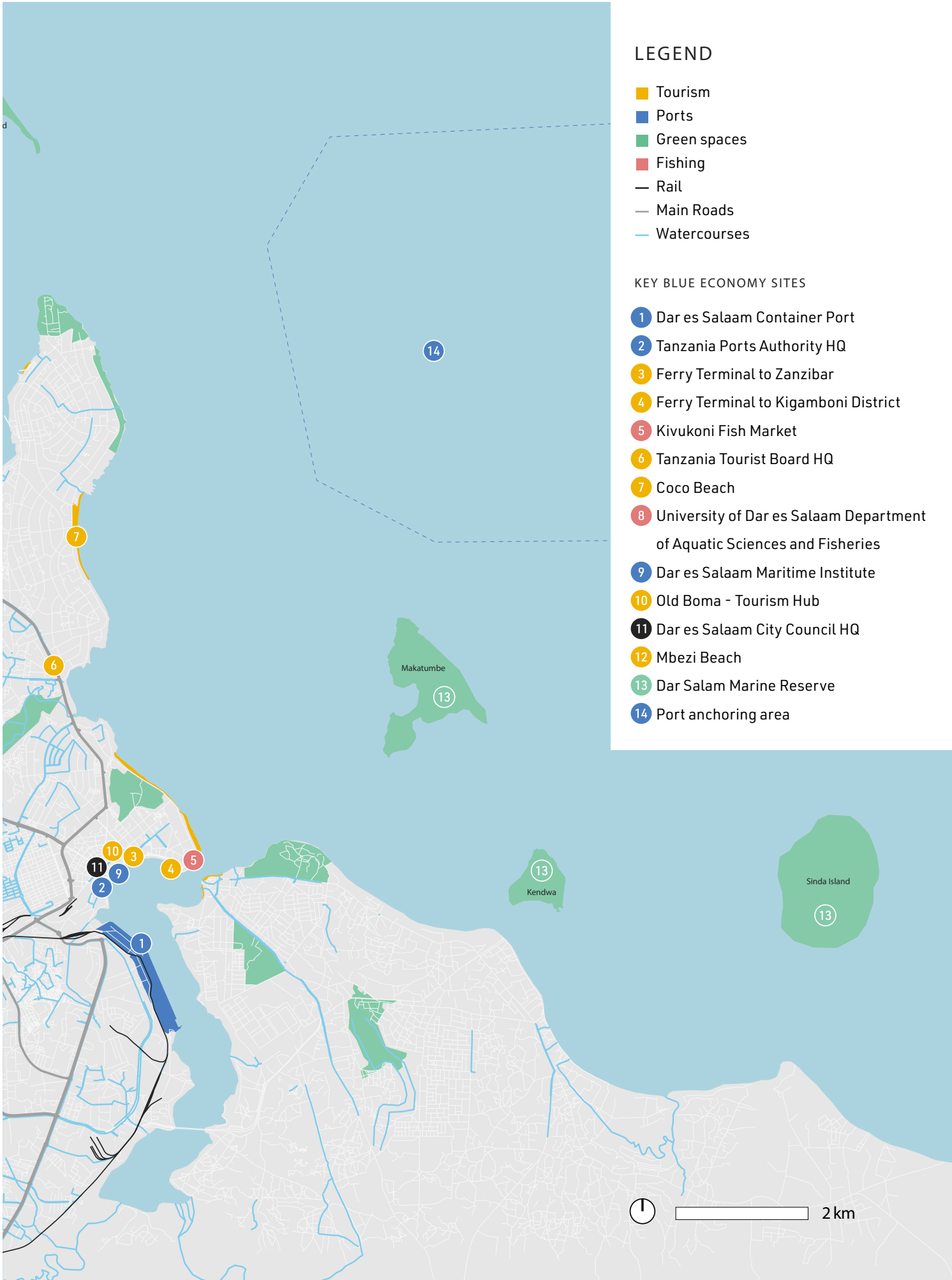
TABLE 3 - BLUE ECONOMY STAKEHOLDERS PER SECTOR

This matrix illustrates the complex network of blue economy stakeholders in Dar es Salaam. This list is not exhaustive but describes certain major stakeholders in some key blue economy sectors.

	National	Local Government	Private	Civil Society	Parastatal/State Owned Enterprise
Port and Maritime Trade	Ministry of Works, Transport and Communication	-	Tanzania International Container Terminal Services		Tanzania Port Authority
Fishing	Ministry of Agriculture, Livestock and Fisheries	Dar es Salaam City Council Fisheries Department, Municipal Council Fisheries Officers	AlphaKrusts Ltd, Star Fish	Registered and unregistered artisanal fishermen	TAFIRI, TAFICO
Tourism	Ministry of Natural Resources and Tourism	Dar es Salaam City Council Tourism Department	Private hotel companies, tour operators	Centre for Community Initiatives	Tanzania Tourist Board, Marine Parks and Reserves Unit, National College of Tourism
Water and Sanitation	Ministry of Water and Irrigation	Municipal Council Officers - Environment and Solid Waste Management Department		Centre for Community Initiatives	Dar es Salaam Water and Sanitation Authority, Dar es Salaam Water and Sewerage Corp
Solid Waste Mgmt	Ministry of Health, Ministry of Public Works	Municipal Council Officers - Environment and Solid Waste Management Department	The Recycler, More4Less, Tirima, Green Waste Pro ²⁷	Centre for Community Initiatives	National Environment Management Council
Education	Ministry of Education, Science and Technology	Municipal Council	Dar es Salaam Maritime Industry	UNICEF	University of Dar es Salaam, Ardhi University
Climate Change Adaptation	Department of Environment, Vice President's Office	Dar es Salaam City Council	All waterfront and floodplain businesses	University of Dar es Salaam Centre for Climate Change Studies (CCCS) Ramani Huria	Tanzania Meteorological Agency, Tanzania Disaster Management Agency

FIGURE 2 - BLUE ECONOMY MAP - DAR ES SALAAM





LEGEND

- Tourism
- Ports
- Green spaces
- Fishing
- Rail
- Main Roads
- Watercourses

KEY BLUE ECONOMY SITES

- 1 Dar es Salaam Container Port
- 2 Tanzania Ports Authority HQ
- 3 Ferry Terminal to Zanzibar
- 4 Ferry Terminal to Kigamboni District
- 5 Kivukoni Fish Market
- 6 Tanzania Tourist Board HQ
- 7 Coco Beach
- 8 University of Dar es Salaam Department of Aquatic Sciences and Fisheries
- 9 Dar es Salaam Maritime Institute
- 10 Old Boma - Tourism Hub
- 11 Dar es Salaam City Council HQ
- 12 Mbezi Beach
- 13 Dar Salam Marine Reserve
- 14 Port anchoring area



2.2. SECTOR SPECIFIC BLUE ECONOMY CHALLENGES AND OPPORTUNITIES

PORT AND MARITIME TRADE



► Image: Dar es Salaam port, © Sarvesh Lutchmun

Dar es Salaam is a regional centre of maritime trade in eastern sub-Saharan Africa. **The port of Dar es Salaam handles 95% of Tanzania's trade, and is 'the leading gateway' for goods entering landlocked Rwanda and Burundi.**²⁸ About 35% of the total throughput of Dar es Salaam port is intended for countries of the African interior.²⁹ The rapid construction over the next five years of the standard gauge railways from Dar es Salaam will further increase its dominant position in terms of hinterland connectivity.³⁰

The port itself is also in the process of infrastructural development, with the World Bank providing \$345 million credit to increase the capacity of the port to 25 million tonnes, and improve waiting time to berth from 80-30 hours between 2017-2024.³¹ This investment is crucial for the city to maximise its potential for the blue economy development.

A significant portion of the cargo which is unloaded at Dar es Salaam is currently transhipped through Durban due to the ports inability to accommodate the largest ships, an issue which should be resolved upon completion of the Dar es Salaam Marine Gateway Project (DSMGP). The Dar es Salaam Maritime Gateway Project is a new project financed by the World Bank through an International Development Association Scale-up Facility credit.³² The project will support the financing of crucial investments in the Port of Dar es Salaam to improve its effectiveness and efficiency for the benefit of public and private stakeholders. Specific aspects of the project include: Deepening and strengthening of existing Berths 1 to 7 to 14.5 m, and the construction of a new multipurpose berth at Gerezani Creek; deepening and widening the entrance channel and turning basin in the port to the end of

Berth 11 to 15.5 m; improving the rail linkages and platform in the port; deepening and strengthening of existing Berths 8-11, to 14.5 m. The World Bank will also provide capacity building training and technical assistance to the Tanzania Ports Authority (TPA) during the programmes seven-year cycle.³³

Stakeholders acknowledged that developing the city into a global maritime trading hub will require significant upskilling within the TPA. The World Bank and DfID's recognition of this is clear within the DMSGP project, which includes a central component focusing on capacity-building. In addition, although the TPA is already a significant employer in the city, it is crucial that the organisation's inevitable growth occurs while improving links with the city's young population, as well as other stakeholders across the region. **The World Bank has concluded that "there is limited systematic dialogue or integrated planning between the TPA and the urban authorities.** Equally surprisingly, there is no systematic dialogue on the development of the port and hinterland connectivity with representatives of shipping lines, trucking companies, rail operators, forwarders, and cargo owners."³⁴

"Young people are not aware of the potential livelihoods in the maritime industry"

Respondent B

Despite the significance of the port to the city of Dar es Salaam and a much wider region, there are limited employment opportunities for local people within the shipping industry, particularly as on-board crew. This is primarily due to the lack of commercial ships operated and managed by Tanzanians at sea.

Research has indicated that the port quay has the length and the depth to accommodate large ships and offers potential for landing of fish, and transhipment to refrigerated transport vessels (reefers). There is also the possibility of constructing cold storage and fish processing facilities at this location.³⁵

It is important to acknowledge the interconnected relationship between port cities of the Western Indian Ocean. For example, given their proximity, it is unlikely that both Dar es Salaam and Mombasa will both emerge as a 'hub ports'—defined in by PwC as ports which 'facilitate dominant volumes of global trade in and out of a region'.³⁶

As PwC highlight, "given Mombasa's better hinterland connections and larger throughput, it is more likely to fulfil the role of a hub, with Dar es Salaam being a significant regional port."³⁷ If Dar es Salaam takes full advantage of the investment programmes in the port's infrastructure and the country's transport network, there is an opportunity for the city to become a 'hub' port, yet this would come at a cost to other regional ports, especially Mombasa.

TOURISM



► Image: Kunjito Bae, South Beach, Dar es Salaam Tanzania (C) David Stanley

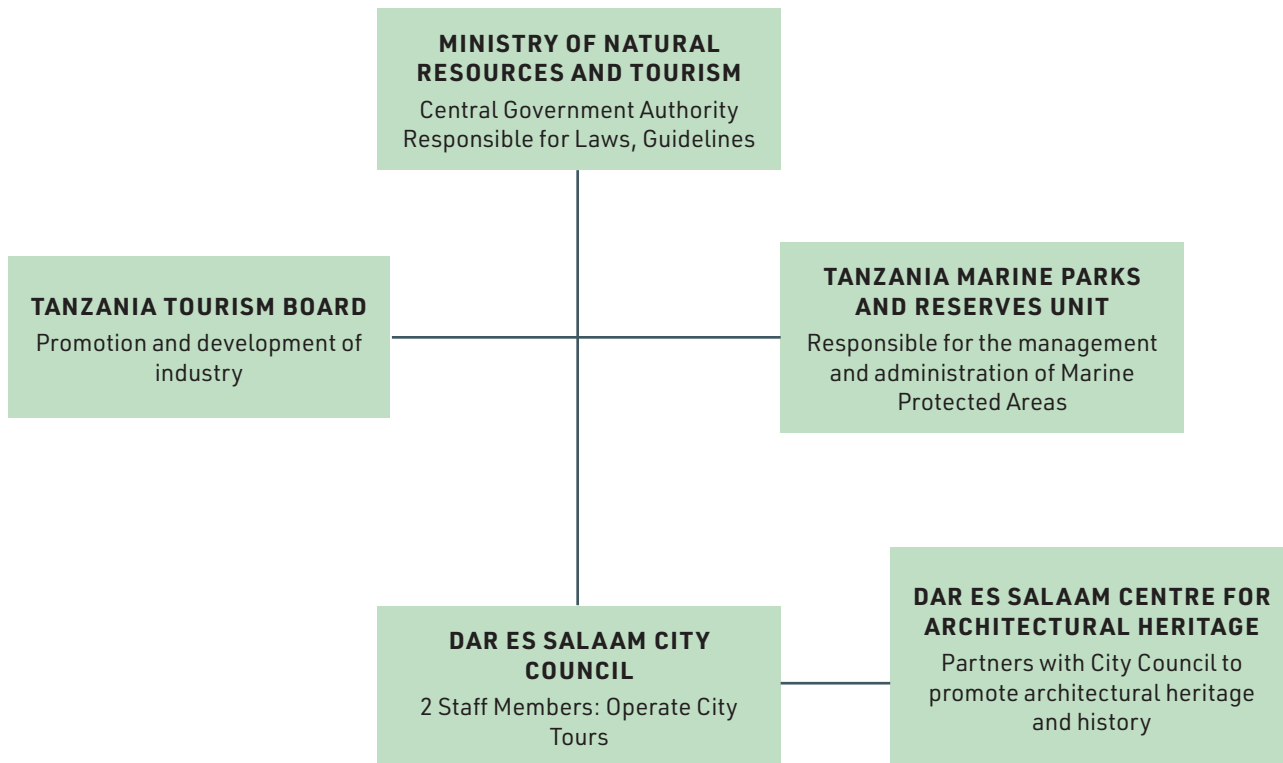
The tourism sector in Dar es Salaam has traditionally been dominated by MICE (Meetings, Incentives, Conferences and Events), and strongly linked to the city's long-standing status as Tanzania's business centre and a commercial hub in eastern Africa. Whilst 2.4 million passengers passed through the airport in 2017, tourism linked directly to the coastal environment of Dar es Salaam has not been prioritised by the Ministry of Natural Resources and Tourism and the parastatal Tanzania Tourism Board, who focuses on promoting well-established tourist regions within the 'northern circuit' such as the Serengeti National Park, Lake Victoria and Mount Kilimanjaro.^{38,39} This is indicated by the limited governance of the tourism sector at the city and coastal level, where specific legislation and independent authority is absent.

The coastline around Dar es Salaam is populated by several high-end hotel resorts, especially in the affluent northern areas of the city such as Oyster Bay and Masaki. According to some interviewees, some resort operators practice exclusionary policies towards residents, both in terms of economic opportunities and land use. Whilst all Tanzanians are legally permitted to access beaches up to 60 metres from high tide, some

hotel chains in Dar es Salaam claim beaches adjacent to their properties, reducing the ability of local people to access the areas for leisure, vending and mollusc collection. **Limited government regulation of coastal tourism has also led to private structures being built on sections of the Kinondoni district coastline which are susceptible to erosion, causing a further environmental challenge.**

Eco-tourism has not been well promoted, despite the city's proximity to the Dar es Salaam Marine Reserves System (DMRS). The DMRS consists of seven islands of Bongoyo, Pangavani, Fungu Yasin, Mbudya Sinda, Makatobe and Kendwa, which are protected from all extractive activities. Marine Protected Areas (MPAs) in Tanzania, including the DMRS, are promoted to mitigate over-fishing and damage to marine ecosystems. The first four of these date to the 1970s, with the remaining three setup in 2007. MPAs in Tanzania are protected by national legislation including the Marine Parks and Reserves Act of 1994, and generally considered to be effective at reducing illegal fishing and environmental degradation, including in the DMRS. A key component of the success of marine reserves has been the involvement of local communities and fishermen, as

FIGURE 4: RELEVANT TOURISM BODIES FOR DAR ES SALAAM



well as extending opportunities for income generation from tourism to residents from nearby communities.⁴⁰

The reserve islands are prime locations for bird watching, snorkelling and diving, and relaxing on pristine beaches. Tourists who visit the sites are often participating in day trips organised and serviced by the hotel resorts, who have far a greater capacity to attract customers through advertising and networking. Despite this, the organisation responsible for managing the DMRS, **the Tanzanian Marine Parks and Reserves Unit (MPRU), remains committed to working closely with local community members to support small and medium enterprises (SMEs) that lead tourist trips to the reserves.** Domestic tourists are currently charged a reduced rate of entry, yet this policy is being reviewed as the MPRU look to raise greater funds to support their vital conservation work.

Opportunities also exist for Dar es Salaam to develop into a vibrant centre for cultural tourism. The Dar es Salaam City Council is working in close partnership with the Dar es Salaam Centre for Architectural Heritage (DARCH) to promote understanding of the city's historical heritage as a coastal trading

centre. Successful refurbishment of the city's oldest building, The Old Boma, has provided the city's tourism industry with a 'one stop centre' which includes unique waterfront museum, rooftop restaurant and information point. Dar es Salaam City Council Tourism staff are also using this as a launchpad to establish city tours, yet staff shortages are limiting their progress. Overall, numerous opportunities exist for the city to develop an inclusive and prosperous tourism sector.

"We have the tourism attractions, we have the facilities, the promotion side is what we are lacking."

Respondent C

FISHING



► Image: Fish is auctioned to potential customers at Kivukoni Market, Tuesday 25th February 2020

The fishing industry of coastal mainland Tanzania is centred in Dar es Salaam. The fishing industry in the city encompasses a variety of roles, including the fishermen themselves, individuals responsible for fish processing, owners of fishing boats and equipment, fish auctioneers and fish vendors. **Despite the abundance of pelagic species in the marine waters off Tanzania, the sector remains artisanal,** with most boats operating with small crews (1-20 fishermen). Some medium size boats have a crew-capacity of forty, although very few boats operate on a commercial scale.⁴¹

The importance of the fishing sector to supporting the livelihoods of Dar es Salaam's urban poor may not be fully reflected in official data. In particular, fishing provides subsistence benefits to thousands of families. An unregulated mollusc and seaweed gathering sector exists on the beaches of Dar es Salaam, providing supplementary support to the livelihoods of many women. Women dominate the re-

selling industry within the city's fishing sector, further underlining its importance to supporting the livelihoods of vulnerable groups. Ultimately, working in the sector does not require the technical qualifications or skills that are prerequisites to employment in other blue economy industries, and therefore provides the most immediately feasible opportunity for the urban poor to benefit.

A key factor hindering the development of a commercial fishing sector is the lack of leadership following the dismantling of the Tanzanian Fishing Corporation (TAFICO) in 1999 due to mismanagement and financial losses.⁴² Nevertheless, a bill was passed in 2020 to officially revive the Corporation, which will be implemented with financial support from the government of Japan.⁴³ This is a positive decision, yet stakeholders should ensure that the re-incarnated TAFICO agency is committed to developing a strong marine fishing industry, centred on Dar es Salaam. Currently, day-to-day regulation of the fishing sector is

undertaken by municipal council officers, yet resources are increasingly stretched as the sector expands in the city. Whilst fish have traditionally been sold by private operators, a scheme was established at the Kunduchi landing site and market in December 2019 whereby auctioneers became direct employees of the government, who ensure regular salaries in exchange for taxation rates of 5% on all fish sold. Revenue from this scheme will be used to directly invest in landing site infrastructure.

Despite the potential for Tanzania to expand its fishing sector and take advantage of some of the world's richest fishing grounds, **there is an urgent need for action to combat environmentally degrading forms of illegal fishing.** Government steps in recent years to tackle dynamite fishing in the waters off coastal Dar es Salaam, including the establishment of regular patrols, was widely praised by stakeholders consulted during fieldwork. Nevertheless, drag net fishing remains a problem, which is causing accidental entanglement of endangered species. Although regulations exist detailing what equipment is allowed at different depths, enforcement remains difficult due to resource shortages within municipal council fisheries departments and the Marine Parks and Reserves Unit. Moreover, poaching is also prevalent especially with sea turtles and their eggs which are regarded as delicacies by local communities.

Migrant fishermen from the islands off the coast of Tanzania (including Pemba, Mafia and Zanzibar) sell their catch in Dar es Salaam's large fish markets, including the largest on mainland Tanzania at Kivukoni. Fieldwork highlighted the complex social relations between migrant fishermen and fishermen native to Dar es Salaam. Whilst many migrant fishermen do not fully socially integrate into Dar es Salaam society, this is not always the case. The migrant workers who fish off the waters of Dar es Salaam are often considered to be more technically skilled and better organised than local fishermen, which results in greater profits and higher levels of boat ownership. Nevertheless, certain interviews suggested that fishermen local to Dar es Salaam are regularly employed by islanders.

Including Kivukoni, there are six official landing sites for fishermen within the Dar es Salaam metropolitan area, although smaller boats frequently dock at several other points along the coastline to avoid

charges. This issue is characteristic of an artisanal fishing sector where stretched resources hinder the authorities' ability to enforce regulations. For example, interviewees underlined the limited implementation of health and safety legislation in many aspects of the fishing sector. One informant stated that fishermen regularly disregard instructions to wear lifejackets whilst at sea, and roadside vending of unpreserved and unprocessed fish is common. Moreover, whilst the number of registered fishermen in the city is around three thousand, the open access and transient nature of the industry makes it difficult for the authorities to comprehensively register and license all fishing operations.

The fish processing sector of Dar es Salaam is dominated by the private sector, which has taken advantage of the limited fish processing facilities available adjacent to the landing sites and adjoined markets. Large companies such as AlphaKrust Ltd buy fish in bulk at the market for processing at their industrial plants and eventual transportation to consumers from as far afield as Kenya.

Overall, the convening of decision-makers, practitioners, private sector representatives, fishing communities and scientists across the sector to develop a Fisheries Masterplan, due for completion 2021, is an ideal opportunity for the industry to address the issues highlighted above, and ultimately take advantage of the potential growth of fishing in coastal Tanzania

WATERFRONT DEVELOPMENT



► Image: Hotel and recreational area near Coco Beach, Dar es Salaam, © Marcel Oosterwijk

Dar es Salaam's recent growth is largely visible as informal housing development along the city's four trunk roads, which run outwards from the city centre. Much of Dar es Salaam's formal real estate market however, including many of its luxury and business hotels and high-end residential neighbourhoods, are located along the waterfront, from Gerezani in the south, to Mbezi Beach in the north, between Bagamoyo Road and the ocean. Residential properties are located in Oyster Bay and Masaki neighbourhoods, are among the most expensive in the country, as are beachside neighbourhoods like Mikocheni and Bahari Beach.⁴⁴ Many of the city's prime hotels are located near the coast, on the Msasani Peninsula and near the city centre in Kisutu, within 1 km of the water.

However, recent development plans for the city have largely focused on projects outside the city centre, and many of these have attempted to draw development away from the waterfront, in part to alleviate the strain on city infrastructure. These have met varying levels of

success. For instance, new BRT routes—a success story for the city, partially realised with support from the World Bank Dar es Salaam Metropolitan Development Project (DMPD)—has encouraged development along new transit corridors and refocused development away from the city centre.

On the other hand, the 2012-2032 Dar es Salaam master plan, which proposes satellite cities outside the centre city, has still not been approved.⁴⁵ Similarly, the Kigamboni City Master Plan, first proposed in 2008, developed an ambitious vision for the area, located on a peninsula east of the city centre. The plan, which would have included mixed residential, recreational, commercial and industrial areas, ultimately stalled in part due to poor planning and limited finance.⁴⁶ **Kawe 711 a mega project developed by the state-owned National Housing Corporation (NHC), which ran out of funds in 2018, was proposed for a stretch of prime oceanfront property but remains half-built.**⁴⁷

Other high-profile developments planned for outside the city centre include Dege Eco Village, and Morocco Square, launched in October 2015 and including 25,000 square meters of residences, hotel and offices.⁴⁸ Another World Bank-supported scheme, for flood protection and development along the Msimbazi River would bring new residential and commercial development along the river basin, but is still in early planning phases.

Recent trends for real estate development in Dar es Salaam suggest that future plans will focus on underdeveloped parts of the city interior, but that coastal properties will remain the most valuable assets for some time to come. Still, few large-scale development projects are currently planned for the waterfront area. For example, in 2009 the TPA proposed a waterfront development project and commissioned feasibility study for a 100,000 m² development, but that plan has not progressed any further.

Whilst new developments largely focus on private sector projects, opportunities exist to build upon existing public assets and amenities, developing these for private and public uses. The city's many

beaches, which are visited by residents of the city and the surrounding region. Vendors and food stalls serve the city's many beaches, including Coco Beach and along Msasani Bay and Kigamboni. These are largely used by Tanzanians and receive few international tourists. As the city grows, and its beachfront properties are bought by individuals, hotels and restaurants, public access may be restricted. Efforts should be made to keep the city's coast accessible for diverse uses and users, balancing efforts to grow the number of international visitors with a need to ensure wide accessibility by residents, including the city's urban poor, working and middle classes.

Finally, climate change poses a particular challenge to waterfront development. USAID estimates over \$5 billion in assets are at risk from flooding and sea-level rise in the city. An ongoing programme to build sea walls to defend the city, combined with mangrove restoration projects in protected areas seeks to mitigate this risk. Coastal erosion presents a separate challenge to waterfront properties. Still the threat from climate change presents a key challenge to future growth, and will require additional investment for upgrades, maintenance and new coastal defences.



► Image: Coco Beach, Dar es Salaam, © Cécile Furet

2.3. OPERATIONAL ENVIRONMENT FOR THE BLUE ECONOMY

Rapid urban growth has outpaced infrastructure development in Dar es Salaam. Deficiencies in key urban systems threaten future ocean health locally and the performance of some key blue economy sectors.

URBAN PLANNING AND GROWTH



► Image: Dar es Salaam City and Industrial Area. © Shutterstock, MOIZ HUSEIN

As highlighted in previous sections, Dar es Salaam has experienced remarkable urban growth within the last several decades. Unfortunately, sustainable growth has not been prioritised within previous master plans, which focused on large scale projects which would attract immediate investment.⁴⁹ No approved comprehensive masterplan exists within the city from 1979 until today, compounding the issue further. Ultimately, unplanned urbanisation has resulted in a city dominated⁵⁰ by informal sprawl, posing severe service challenges to authorities.

A proposal for a masterplan has been developed by the City Council in order to tackle the urban challenges faced by Dar es Salaam covering the period 2016 – 2036, yet this still awaits approval from the national government Ministry of Lands, in order for wholesale implementation to begin. The masterplan includes a range of policies. A key aspect of the plan is the **emphasis on the development of satellite towns to reduce congestion and improve services corresponding to the increasing population**. A recently completed programme which has played a part in

easing these issues to some extent, is the 'Bus Rapid Transit'. The BRT, launched in 2016, is a "pioneering mass transit line, an "enabler" for many city residents to access leisure and community facilities, more jobs, better amenities improving local quality of life in Dar es Salaam."⁵¹ The President's Office Regional Administration and Local Government (PO-RALG) and the World Bank, alongside private sectors, have since developed a Corridor Development Strategy. This Strategy is a spatialised plan proposing a range of initiatives to authorities (developers and communities) for sustainably utilising the corridor of land around the BRT.⁵² **There are ongoing efforts to prepare detailed plans and update redevelopment plans along coastal streets such as the Oysterbay-Masaki Redevelopment Plan (2012-2032). However, most of these plans, developed with the goal of improving real estate potential in the area, do not coordinate with comprehensive BE strategies.**

Authorities in Dar es Salaam are utilising technology to support effective urban planning and cope with the environmental challenges faced by the city. Since 2013, the Dar es Salaam City Council has worked with the World Bank and a range of NGOs to plot roads, streams and flood plains using drones. The Ramani Huria project aims to help slum communities create accurate local maps, to reduce flood risks and improve disaster risk management. In addition, the City Council has partnered with the World Bank to maximise the opportunities provided by the open space of the Msimbazi Valley, whilst mitigating against the risks of flooding the area also presents.⁵³

Municipal councils are investing in a range of nature-based coastal management projects. In particular, authorities focus on protecting existing mangroves through enforcing laws, whilst in Kinondoni and Temeke, mangrove afforestation has taken place to protect the coastline from erosion.

SOLID WASTE MANAGEMENT

Effective management of solid waste is critical to ensuring the health and future growth of Dar es Salaam's blue economy. Despite a well enforced ban on plastic bags in Tanzania, **plastic pollution remains a huge issue in the city.** During heavy rain, plastic waste travels into the Western Indian Ocean via the Msimbazi River and four other creeks in the city and washes up along the city's coastline and on the beaches of the island reserves. This is a multi-faceted issue which has negative consequences for the tourism and fishing sectors and degrades the natural environment. Solid waste management (SWM) is a core responsibility of Dar es Salaam's five district councils, yet the interviews with Ilala Council highlighted that in some cases **the entire SWM process (from collection through to disposal) is outsourced to private companies, with limited coordination or public oversight.**

"The concentration of activity in Dar es Salaam has contributed to a high level of pollution in the area. Waste is not processed or disposed of correctly"

Respondent D

WATER AND WASTEWATER MANAGEMENT



► Image: The landing site at Kivukoni, Dar es Salaam

Like solid waste, liquid waste poses significant challenges to the city and the growth of its blue economy. **According to the Energy and Water Utilities Regulatory Authority (EWURA), less than 15% of the population are connected to sewerage services.⁵⁴ Similarly, just 7% of the city's households are reached by piped sewerage, and the network is old and poorly maintained.** Large quantities of untreated wastewater vehicles empty into rivers and streams that ultimately flow into coastal waters, and sewage pipes discharge effluent directly into the ocean—sometimes from outfalls adjacent to fish markets and other important coastal sites.⁵⁵

Approximately 85% of the city's population lives in an area with a water network.⁵⁶ Water supply is intermittent throughout much of the city, averaging approximately 22 hours per day, but this number varies by city neighbourhood: In coastal areas along the

Msasani Bay—home to a large and increasing number of beach hotels—water allocation ranges between 1 and 4 days a week, forcing residents to rely on independent water supply sources, and placing an extra burden on business. As a result, boreholes, wells, water kiosks and water tanks, form the backbone of the city's water supply infrastructure.

CLIMATE CHANGE ADAPTATION AND RESILIENCE

Climate change has the potential to severely disrupt the blue economy of Dar es Salaam, including key fishing, tourism, maritime trade and real estate industries.

Increased frequency of severe pluvial flooding in Dar es Salaam is partially attributed to climate change, exacerbated by shortcomings in the city's drainage infrastructure and poor land use planning and regulation.⁵⁷ Dar es Salaam recorded severe flooding during eight of the years between 2009 and 2019, often with multiple events documented for each year. The World Bank estimates that approximately 40% of the city's population have been impacted directly or indirectly by floods, with poor households more likely to be harmed by flood events.⁵⁸ Flooding poses significant costs to the city on the whole, including coastal communities and businesses whose workforce and physical assets may be harmed by flooding.

Coastal flooding presents a separate challenge. Approximately 8% of Dar es Salaam lies within the low-elevation coastal zone (less than 10 metres above sea level).⁵⁹ Exposed land is the site of much of the city's most valuable real estate, including residences as well as critical tourist infrastructure such as hotels, beaches, ferries and notable cultural resources such as museums. The port, which occupies over 50 hectares near the city centre and operates over 14 million metric tons of cargo, is also exposed.⁶⁰

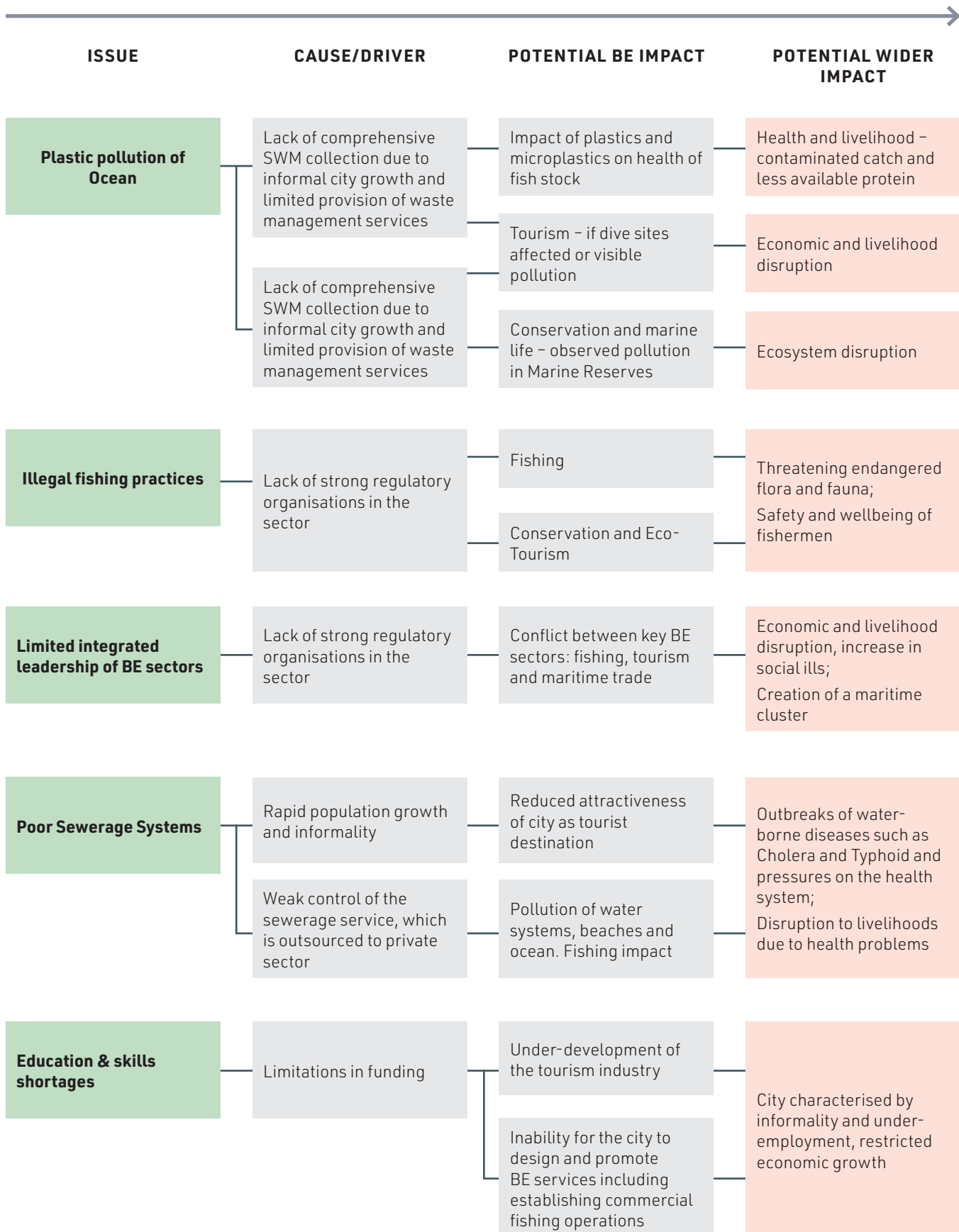
Whilst pluvial and coastal flooding might be mitigated through new investment in infrastructure and urban planning, other impacts from global warming are more difficult to tackle. **Severe coral bleaching, which several interviewees identified as a topic of concern,** was documented along the Tanzanian coast as a result of El Niño events in 1997-1998 event and again in 2016. A general trend towards increased coral bleaching is expected along the Tanzanian coast with adverse effects on these important marine ecosystems, and with knock-on effects on Dar es Salaam's small but promising tourism industry.⁶¹ Reef degradation is also partially responsible for decline in fish populations, which rely on the reefs as an important breeding ground. Rises in ocean temperatures, acidification and changes in fish reproduction and migration will all impact fish populations, though the exact impact on local fisheries is not known. Still, the combined impacts from climate change pose severe risks to the fishing

industry in Dar es Salaam, including both artisanal and commercial fishing.

Climate change adaptation efforts are led by partnerships of national government led through the Vice President's office, working with local government, academia and international funders.

For instance, the World Bank is collaborating with the City Council and national government agencies to support flood mitigation schemes for the Msimbazi River. Similarly, the Adapting to Climate Change in Coastal Dar es Salaam project—a three-year projected funded by the European Commission, in support of the Tanzanian National Adaptation Programme of Action (NAPA) —builds the capacity of local government to drive local adaptation planning.⁶² Local organisations focusing on climate change issues include the University of Dar es Salaam Centre for Climate Change Studies (CCCS), and Ramani Huria, a non-profit that works with university students and local communities to develop flood maps, and which is supported by local universities, the World Bank and the Global Facility for Disaster Reduction and Recovery (GFDRR). Despite growing awareness of climate change as a critical risk to Dar es Salaam, additional resources are needed to ensure effective action is taken. **The Grantham Institute on Climate Change and the Environment notes that "climate change policy has taken a back seat in Tanzania's political agenda" and governance challenges will frustrate efforts to address issue at the national level.**⁶³

2.4. SUMMARY OF INTERDEPENDENCIES



This table presents some of the inter-related issues within the blue economy of Dar es Salaam, illustrating how challenges in one sector can impact other blue economy sectors, as well as how the shortcomings within some of the wider urban systems, are directly impacting specific blue economy sectors. Whilst this table primarily focuses on challenges, it is also important to highlight that improvements in one sector can bring positive effects to other sectors of the blue economy. For example, expansion of the port facilities may support a commercial fishing industry for the city, or enable the establishment of Dar es Salaam as a cruise destination.

A key issue within the blue economy in Dar es Salaam is the continued separation between blue economy sectors and the structures which govern them, despite the potential benefits a closer relationship could bring. For example, governmental stakeholders stated that interaction between themselves and the parastatal TPA was limited, and that they were not in regular communication. Moreover, the fragmented organisational structure of the artisanal fishing sector is not conducive to engagement with stakeholders outside of its immediate purview, whilst the continued dominance of private stakeholders in the tourism industry has limited the formalisation of the official relationship between key-decision makers in the sector with Dar es Salaam's other blue economy elements.

CHAPTER 3

DAR ES SALAAM BLUE ECONOMY RECOMMENDATIONS

Strengthening the blue economy in Dar es Salaam will entail a mix of cross-cutting strategies and sector-specific policies that focus on growing local capacity in the areas of tourism, maritime trade and fishing/fish processing.

3.1. GOVERNANCE AND PLANNING

As a key first step, for Dar es Salaam to take advantage of the myriad of opportunities provided by the blue economy and highlighted above, it is crucial that key stakeholders take steps to build a shared understanding of the concept. Several stakeholders interviewed, including within government, underlined that they were unclear on the definition of the blue economy. Decision-makers should make efforts to highlight the centrality of sustainability within the blue economy, as well as to release the potential economic growth and benefits it could provide.

Nationally, Tanzania can learn from nearby efforts in South Africa and Kenya with respect to strategic blue economy development and establishment of marine spatial planning instruments. Tanzania and Dar es Salaam can take advantage of being at an early stage in these processes, learn from countries further down the line and strive for effective coordination of blue economy stakeholders, and interests at national, city and local scale.

Strengthened co-ordination between the tourism, fishing and maritime trade industries is necessary to strengthen the blue economy. Improved coordination could be a crucial step towards balancing economic growth with environmental protection whilst promoting social cohesion. For example, greater co-ordination between the tourism sector and the port could explore the opportunity of establishing Dar es Salaam as a cruise terminal destination upon completion of the DSMGP. Engagement between fishing authorities and the TPA could discuss the potential of a fishing port in the Dar es Salaam region, a precursor to developing a commercial fishing industry in the city. Closer relations between the coastal tourism stakeholders and the artisanal fishing sector could resolve the social divides whilst initiating a co-operative approach to the range of environmental challenges which are faced off the coasts of the city.

3.2. SECTOR-SPECIFIC RECOMMENDATIONS

PORT AND MARITIME TRADE

- Formalise the relationship between the TPA and the Dar es Salaam Maritime Institute (DMI) and begin the process of creating a 'maritime cluster' in the city that links private and public sector organisations with research and development institutions. As a starting point, the TPA should take advantage of having the DMI within the city and develop an extensive formalised pathway for graduates to enter employment within the authority.
- Additional opportunities should be made available for women to enter the sector, which continues to be dominated by men. For example, at the DMI, just 91 of the 1156 'long course' and 'certificate of completion' students are women.
- There is an opportunity for the TPA and the DMI to improve engagement with the major private shipping companies that regularly dock at Dar es Salaam, with the ultimate goal of providing livelihood opportunities for residents of the city. A potential pathway towards achieving this is opening up Tanzania's restricted ship registration system to international boats, with requirements in place that local Tanzanians are provided with training and employment on-board. Establishing open registration would also enable the industry to raise funds through charging registration-fees.
- Under certain circumstances, it may be appropriate to relax restrictions on internationally operated boats registering under the Tanzanian flag, but under the proviso that ships take on Tanzanian trained staff in some capacity



► Image: Port activities in Dar Es Salaam, Tanzania, © Rob Beechey / World Bank

TOURISM

- Integrate the tourism sector with public authorities at the national and municipal level, and in close coordination with the private sector, by creating new opportunities for collaboration and dialogue between groups.
- Additional guidance in the form of government by-laws, regulations and agencies—such as a beach tourism authority, currently being implemented by the national government—can support the industry in Dar es Salaam.
- Additional funding could support the Dar es Salaam Tourism Office to improve its marketing strategy.
- Support for city tours could provide local employment opportunities (including for those trained at the National Tourism College) as tour guides and drivers. The viability of these tours could be tested with time-limited funding.
- Designate areas within coastal beaches for small-scale vending to support local livelihoods. These areas can be regulated by expanding the Beach Management Units across the city.
- The public sector should begin to take a greater role in promoting and protecting the DMRS, through empowering the MPRU with greater resources and enforcement powers. Stable funding to support the MPRU could be partially generated through additional taxes on coastal hotel resorts who take advantage of natural reserves.



► Image: Beach, Dar Es Salaam, Tanzania, © Scott Edmunds

FISHING

- Increase public investment and coordination for private sector investment in small-scale and large-scale fishing and fish processing capacity. Additional investment in fishing infrastructure—including public landing sites, and loans to small and medium-sized fishermen, could lead to increased catches, improved industry efficiency and greater safety.
- Similar investments in small-scale fish processing could improve basic facilities for artisanal fishing at landing sites or markets, to preserve or store fish for redistribution at local markets or retailers. Efforts to improve investment in large-scale processing facilities would target sorting, storing, filleting, canning and other processing activities before redistribution within or Tanzania or export.
- Establish TAFICO with a dedicated department based in Dar es Salaam and tasked with developing marine fishing industry and improving the regulation of the sector in the city.
- Encourage female involvement in sector and support schemes such as the network for Women in Marine Science (WiMS), launched by WIOMSA with the aim of improving gender equality within research in the sector.
- Enhance the capacity of local community-based groups and Beach Management Units (BMUs) to raise awareness about the need to protect coastal wildlife and enforce local regulations where appropriate.
- Integrate these recommendations within the Fisheries Masterplan due to be completed by the end of 2020 to harmonise policies across city and national level.



► Image: Dar Es Salaam, Tanzania, © hecke61 / Shutterstock.com

WATERFRONT DEVELOPMENT

While public spaces like Coco Beach provide important sites for social interaction and recreation, the wider city coastline appears to have limited, attractive public waterfront space and holds further potential for ecologically sensitive, sustainable development balancing economic, social and environmental considerations.

- Map potential brownfield sites for rehabilitation. Explore mixed use development opportunities which promote community cohesion, economic opportunity and biodiversity protection and enhancement.
- Allow greater authority for planning officers to enforce open-access to waterfront as mandated by law. Those who are given land on coastline should be required to guarantee access.



► Image: Dar Es Salaam Waterfront, Tanzania, © David Stanley, Flickr

3.3. OPERATIONAL ENVIRONMENT

- National government should confirm the Dar es Salaam City Masterplan as soon as possible and begin the establishment of satellite towns in feasible locations. New towns should be established alongside effective urban systems (sewage, water, energy) and residency attained through Granted Rights of Occupancy.
- Expand the Rumani Huria scheme across the city and into new satellite towns where possible (using an approach grounded in technology and community participation).
- Develop inclusive guidelines for beach/coastal management across the city.
- Although local NGOs such as the Centre for Community Initiatives (CCI) undertake vital work in raising awareness, and campaigning and co-designing for improved sewage and recycling facilities, appropriate funding needs to be provided for municipal councils in the city to deal effectively with water and sanitation challenges.
- Continue to support ongoing and planned efforts to improve climate change adaptation in Dar es Salaam undertaken by the World Bank, UNEP, etc. whilst connecting these projects explicitly to the city's blue economy and incorporating a livelihoods focus into all future adaptation planning initiatives. Encourage engagement between local experts at the University of Dar es Salaam Centre for Climate Change Studies (CCCS) and relevant national agencies such as the Division of Environment and Development Partners Group on Environment, Natural Resources and Climate Change (DPG-E) as potential coordinating organisations.
- Support efforts to curtail unplanned growth in high-risk industries through improved land use planning and regulation, to reduce exposure to flooding from coastal and pluvial flooding.
- Establish mechanisms to increase municipal council revenue collection when appropriate, to reflect daily population influxes caused by commuters to central districts.
- Establish incentives to encourage SMEs to recycle plastic waste, such as tax incentives, provision of supporting infrastructure and services and promotion of specific community livelihood opportunities linked to material recovery.
- Peer learning exchanges with cities of similar characteristics and pressure who have successfully tackled solid waste management through realistic interventions.
- Enhance regulation of private sector waste management companies.

3.4. MOVING FORWARDS

This case study has provided an overview of key blue economy challenges and opportunities in Dar es Salaam across governance, across specific blue economy sectors and across the wider operational urban environment. In doing so, and by providing related recommendations, the report has aimed to provide a starting point for the development of a future city blue economy strategy for Dar es Salaam, coordinated with national, regional and local plans and objectives. It is also the intention that this report will provide inspiration for other coastal cities with shared characteristics.

The Roadmap for WIO Coastal Cities and the Blue Economy which exists as another report in this research portfolio describes wider actions for cities across the region. Stakeholders are encouraged to also consider wider recommendations made within that document and specifically assess their appropriateness for the city of Dar es Salaam.

When prioritising recommendations for the Roadmap, those involved in the shortlisting process considered the merits of each recommendation (as a future action for WIO cities) against six criteria:

1. How well does the recommendation support economic development of WIO cities?
2. How well does the recommendation support social development in WIO cities?
3. How well does the recommendation support environmental sustainability of the marine and/or coastal environment?
4. Financial viability – how does the investment required align to existing or potential sources of finance and funding?
5. Technical viability – how does the technical complexity of the recommendation align to existing technical maturity in the sector?
6. Acceptance - Would there be general support across BE stakeholders necessary to realise this action/ambition?

We now encourage national, city and local blue economy stakeholders to come together and further consider the best actions moving forwards for a sustainable blue economy in Dar es Salaam.



► Sunset Msasani Bay Dar Es Salaam, Tanzania, © Kris NM

ANNEX

STAKEHOLDERS CONSULTED (DAR ES SALAAM)

Grace Mbena	Dar es Salaam City Council, Senior Town Planning Officer, Department of Urban Planning, Environment and Transport
Aldon Mapunda	Ilala Municipal Council, Head of Department of Environment and Solid Waste Management
Dr Rose Mwaipopo	University of Dar es Salaam, Lecturer, Department of Sociology and Anthropology
Dr Blandina Lugendo	University of Dar es Salaam, Lecturer and Marine Ecologist, Dept of Aquatic Sciences and Fisheries Technology
Dr Tim Ndezi	Centre for Community Initiatives, Director
	School of Spatial Planning and Social Sciences, Ardhi University
	School of Spatial Planning and Social Sciences, Ardhi University
Dr Petro Sauti Magai	University of Dar es Salaam, Lecturer in International Trade, Business School
Ritha Said	National Environment Management Council, Co-acting Director
Denis Kobelo	Dar es Salaam City Council, Tourism Officer
Dr Tumaini Gurumo	Dar es Salaam Maritime Institute, Deputy Principal, Planning
Habiba Mtongori	
Hashim Ngongolo	
Chuki Fangalugembe	Tanzania Meteorological Authority,
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