

Seychelles Blue Economy: Strategic Policy Framework and Roadmap

Charting the future (2018-2030)



Republic of Seychelles





The Commonwealth

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List of Acronyms

ADZ Aquaculture Development Zone	MCS Monitoring, Control and Surveillance
BERI James Michel Blue Economy Research Institute	MEAL Monitoring and Evaluation and Learning Principles
CBD Convention on Biodiversity	MMP Mariculture Master Plan
CCCS Central Common Cold Store	MSC Marine Stewardship Council
CFTA Continental Free Trade Agreement	MSP Marine Spatial Plan
CITES Convention on International Trade in Endangered Species of Wild Fauna and Flora	NISTI National Institute for Science Technology and Innovation
COMESA Common Market with Eastern and Southern Africa	SADC Southern African Development Community
EAC East African Community	SCR Seychelles Rupees
EEZ Exclusive Economic Zone	SDG Sustainable Development Goal
EITI Extractive Industries Transparency Initiative	SeyCCAT Seychelles Conservation and Climate Adaptation Trust
FAD Fish Aggregating Device	SFA Seychelles Fishing Authority
FAO Food and Agriculture Organization of the United Nations	SIB : Seychelles Investment Board
FiTI Fisheries Transparency Initiative	SIDS Small Island Developing State(s)
GCF Green Climate Fund	SIOTI Sustainable Indian Ocean Tuna Initiative
GEF Global Environment Facility	SME small and medium-sized enterprises
GoS Government of Seychelles	SNAP DRAFT Seychelles National Aquaculture Policy
iEPA interim Economic Partnership Agreement	SNPA Seychelles National Parks Authority
INDC Seychelles Intended Nationally Determined Contribution	SoE State Owned Enterprises
IORA Indian Ocean Rim Association	SPA Seychelles Ports Authority
IOT Indian Ocean Tuna Ltd	SSI Société Seychelloise d'investissement
IOTC Indian Ocean Tuna Commission	SSTL Seychelles Sustainable Tourism Label
IPHS Ile du Port Handling Services	STI Policy for Science, Technology and Innovation
IUU Illegal, Unreported and Unregulated Fishing	SWIOFish3 World Bank Third South West Indian Ocean Fisheries Governance and Shared Growth Project
JMA Joint Management Area	SYAH SIDS Youth Aims Hub

TNC The Nature Conservancy

TRIPS WTO Trade Related Aspects of Intellectual Property Rights Agreement

UNCLOS Third United Nations Convention on the Law of the Sea

UNESCO United Nations Educational, Scientific and Cultural Organization

UNFCCC UN Framework Convention on Climate Change

UNFSA The United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks

WTO World Trade Organization

WWF World Wide Fund for Nature

Foreword

The ocean has and will always be fundamental to our existence. Blue Economy is not entirely new to us. With our vast Exclusive Economic Zone (EEZ) of 1.37 million km², our development and the livelihoods of our people are inextricably linked to our marine and coastal resources. Today fisheries and tourism are the main pillars of our economy.

As a Small Island Developing State, Seychelles has been at the forefront of Blue Economy, ocean and climate conversations in international fora since the Rio+20 Conference on Sustainable Development in 2012. The ocean brings untapped development opportunities for our people as well as responsibility for protection of our marine and coastal assets and resources, and the fundamental principles of sustainability and climate resilience, consistent with the 2030 Sustainable Development Agenda and the Paris Agreement on Climate Change we signed in 2015. For us the Blue Economy is about ocean-based sustainable development.

On 31 January 2018, our Cabinet of Ministers approved the *Seychelles Blue Economy Strategic Policy Framework and Roadmap (The Roadmap)*. It is a significant milestone for our country. The Roadmap articulates our “Blue Economy Brand”, our unique comparative advantage based on our geography, our sustainability credentials and our strengths as a nation. It proposes an integrated and prioritised agenda for action, casting a blue lens on our sustainable development, defining blue strategic priorities for investment in line with the International Development Agenda 2030 and proposing actions to inform our national development.

I am proud of this achievement. To date, much has been said about the Blue Economy, but few countries have to date put it into practice. It could not have been possible without the hard work of many of our people and of our partners who placed their trust in our resolve. The Commonwealth Secretariat deserves a special mention as they provided us with an Ocean Governance Expert for two years to work with us and our partners to turn our Blue Economy vision into action.

Through our flagship activities on innovative finance, marine spatial planning, and sustainable fisheries, we have already made a very good start. Much more will be needed to realise our vision, and the continuing support of our partners such as the World Bank, The Nature Conservancy and others will be very much needed. As a high-income country since 2015, we have to do our part too. It is not the end of the road, rather it is the beginning and a challenge for a small nation like us. We are a small country with big ambitions and the world has been watching our efforts. It is up to us as a nation to take on board the transformation needed across government, private sector and civil society.



A handwritten signature in black ink, appearing to be "Hon. Vincent Meriton".

The Hon. Vincent Meriton, Vice President, Republic of Seychelles

Executive Summary

The Republic of Seychelles' current and future prosperity is intrinsically linked to its marine and coastal assets, with fisheries and tourism being the two main pillars of its economy, gross domestic product (GDP) and source of employment.

With an Exclusive Economic Zone (EEZ) of 1.37 million km², a land area of 455 km², and a population of 94,000 mainly concentrated on 3 islands: Mahé, Praslin and La Digue, Seychelles' can be considered as a large ocean state with current and future prosperity uniquely linked to its ocean and coastal resources.

Seychelles has played a key role in promoting the Blue Economy concept¹ as a central theme for sustainable development since the Third Conference on Small Island Developing States, held in Samoa in September 2014, and has consistently promoted Blue Economy principles in international and regional fora.² In order to implement the Blue Economy concept domestically, the Government of Seychelles is developing its *Blue Economy Strategic Policy Framework and Roadmap*, which sets strategic directions for future investment and development of a sustainable ocean-based economy in Seychelles. In furtherance of this, during 2016 - 2018, the Commonwealth Secretariat assigned Ocean Governance Expert Dominique Benzaken to provide strategic advice and assist the government on Blue Economy implementation at the national and international levels.

The *Seychelles Blue Economy Strategic Policy Framework and Roadmap*, ('the Roadmap') was approved by the Government of Seychelles on 31st January 2018. It comprises an integrated approach to ocean-based sustainable development which brings together economy, environment and society, consistent with the Sustainable Development Agenda (2030)³, Aichi Target 11 of the Convention on Biological Diversity (CBD)⁴ and the Paris Agreement on Climate Change (2015).⁵ It has also been informed by the World Bank Seychelles Systematic Country Diagnostic (2017).⁶

The Roadmap is intended to facilitate the articulation of more detailed proposals for activities in key focus areas, casting a blue lens on Seychelles' national development, and building on its laws and policies. It showcases flagship initiatives and projects such as marine

¹ M Agrippine, A Anganuzzi, G Burridge, T Marie, P Michaud and J Robinson (eds), *The Blue Economy, Seychelles vision for a blue horizon*. (Seychelles: Ministry of Foreign Affairs, 2014).

²In collaboration with the United Arab Emirates, Seychelles hosted 2 summits in the margins of the Abu Dhabi Sustainability Week (Jan 2014 and 2016). The 2016 Summit theme introduced the need to synergize the SDGs and Climate Change Adaptation and discussed the practicalities of the BE in the follow up of the SDG's (14) and Paris Climate Agreement in partnership with UNESCO-IOC, The International Renewable Energy Agency, Green Growth Initiative, and the Commonwealth.

³ United Nations, General Assembly, *Transforming our world: the 2030 Agenda for Sustainable Development*, A/RES/70/1 (21 October 2015).

⁴ *Convention on Biological Diversity*, (adopted 5 June 1992, entered into force 29 December 1993) 1760 UNTS 79

⁵ The Paris Agreement was adopted on 12 December 2015 at the twenty-first session of the Conference of the Parties to the United Nations Framework Convention on Climate Change held in Paris from 30 November to 13 December 2015.

⁶ The World Bank Group, *The Republic of Seychelles –Systematic Country Diagnostic*, 2017, Report no 114289-SC (P155250)<<http://documents.worldbank.org/curated/en/191181499447495374/pdf/Seychelles-SCD-FINAL-23Jun17-06282017.pdf>>.

spatial planning and innovative financing, demonstrating Blue Economy in action. It articulates Seychelles “Blue Economy Brand” as a unique comparative advantage based on its sustainability credentials, as part of a longer term vision for the Blue Economy in Seychelles.

Part One of the Roadmap explores the strategic framework comprised of a Blue Economy Vision, and four strategic priorities, underpinned by blue economy principles. **Part Two** maintains a sustainable trajectory in existing focus areas, while encouraging investment and opportunities in emerging sectors identified in the strategic framework.

The Roadmap is informed by international reviews and best practice. It utilises on-going government planning processes, consultations with government officials, experts and non-government organisations, and analysis of national statistics, policies and legislation. It has benefited from early national consultations, expert studies and a priority setting exercise facilitated by the Commonwealth Secretariat, as well as regional workshops in partnership with the United Arab Emirates, as part of the biannual Abu Dhabi Sustainability Weeks in 2014 and 2016, respectively, which informed its early conceptualisation.

The Blue Economy vision is ‘[To develop a Blue Economy as a means of realising the nation’s development potential through innovation and knowledge-led approaches, being mindful of the need to conserve the integrity of the Seychelles marine environment and heritage for present and future generations](#)’. The Vision encapsulates 7 overarching Blue Economy principles: economic efficiency, sustainability, social equity, resilience, innovation, transparency and accountability and partnerships. It is articulated through 4 Strategic Priorities or Pillars: Strategic Priority 1: Creating sustainable wealth; Strategic Priority 2: Sharing prosperity; Strategic Priority 3: Securing healthy, resilient and productive oceans and implemented through Strategic Priority 4: Strengthening the enabling environment.

Domestic implementation of blue economy principles is already underway in Seychelles, particularly as the concept itself is not new. As its implementation proceeds, it is intended to be a living document, from which more intensive activities and policy direction can be derived. What will be required is a cohesive, joined-up approach to established and current ocean-based sectors, embracing new economic activities through a blue lens in a sustainable manner which protects Seychelles’ vital marine and coastal assets. This will require commitment by government, private sector and civil society, in alignment with national development strategies and regional and international commitments.



1. Introduction

1.1 Blue Economy genesis

There is no accepted definition of Blue Economy, however there is a global consensus that it concerns “increasing human well-being through the sustainable development of ocean resources, while significantly reducing environmental risks and ecological scarcities”.⁷

Since 2012 and the Rio+ 20 Conference on Sustainable Development,⁸ the concept of an ocean-based, or ‘blue’ economy with its origins in the ‘green economy’,⁹ has emerged as a key component of a new global dialogue about the role of coastal and ocean waters in sustainable development with oceans viewed as the next frontier of future development.¹⁰

Blue Economy policymaking brings new perspectives on long-standing development issues learning from the rich sustainable development field, as well as addressing some unique features of the marine space that will require innovative ‘blue solutions’.

Whist Blue Economy focused policies abound, implementation remains limited. There is no ‘one size fits all’ template and implementation is very much about national or regional visions for the Blue Economy in specific socio-economic and environmental circumstances.

The Sustainable Development Agenda 2030 and its interlinked 17 Sustainable Development Goals (SDGs), adopted by the UN General Assembly in September 2015, underpin various international, regional and national ocean governance frameworks¹¹. Through SDG 14, the role of oceans and an ocean-based economy as important drivers for sustainable development is recognised, by placing oceans more centrally on the development agenda and creating new opportunities to focus the efforts of the development and donor community on this essential aspect of sustainable development.¹² SDG 13¹³ and SDG 14 provide a development framework of targets, indicators and time frame (2030) for measuring economic social and environmental improvements. The 2015 Paris Agreement on

⁷ Commonwealth Secretariat, *The Blue Economy and Small States. Commonwealth Blue Economy Series, No. 1*, (London: Commonwealth Secretariat 2016), referencing UN Conference on Trade and Development [UNCTAD] 2014.

⁸ United Nations, “United Nations Conference on Sustainable Development, Rio+20”, accessed Sept. 01, 2018, <https://sustainabledevelopment.un.org/rio20.html>.

⁹ United Nations Environment Programme, *Green economy in a Blue World: Synthesis Report* (United Nations, 2012).

¹⁰ Organisation for Economic Co-operation and Development, *The Ocean Economy in 2030*, (Paris: OECD Publishing, 2016), 13, notes that the value of the global ocean economy may be in the order of US\$1.5 trillion per annum, contributing approximately 2–3 per cent to the world’s gross domestic product (GDP). Marine services, such as tourism and shipping, provide the largest proportion (US\$880 billion [bn]), followed by sectors categorised under marine resources (US\$377 bn) and marine manufacturing (US\$107 bn) (Government of Ireland, *Harnessing Our Ocean Wealth: An Integrated Marine Plan for Ireland*, 2012).

¹¹ United Nations Department of Economic and Social Affairs, “Sustainable Development Knowledge Platform: Sustainable Development Goals”, accessed Jul. 18, 2018, <https://sustainabledevelopment.un.org/sdgs>.

¹² United Nations, UN Conference on Oceans (5-9 June 2017) “Our Ocean Our Future Call for Action”, accessed Jul. 18, 2018, <https://oceancconference.un.org/callforaction>.

¹³ United Nations Department of Economic and Social Affairs, “Sustainable Development Knowledge Platform: Sustainable Development Goal 13”, accessed Jul. 18, 2018, <https://sustainabledevelopment.un.org/SDG13>.

Climate Change also recognises the critical role oceans play in mitigating the impacts of climate change, its detrimental impacts on marine and coastal ecosystems and resulting disproportionate bearings on small islands and their economies.

Increasing awareness of the benefits of oceans to national economies and societies, coupled with realisation of multiple threats including over-exploitation of marine resources, marine pollution, climate change and ocean acidification, is triggering increased momentum towards a better system of protection and sustainable use of oceans. Small Island Developing States (SIDS) in particular, recognise that the Blue Economy offers an alternative model for sustainably regulated ocean exploitation and socially inclusive economic development in the extensive marine areas and largely untapped global resources with which many are endowed.

The Blue Economy concept acknowledges small islands' unique dependencies on oceans and their vulnerability to environmental and economic risks. It proposes options for mitigating some of the inherent structural challenges of small, undiversified economies, including small populations, high dependency on imports, limited space, skills, capacity and high unit costs of providing public services. Small domestic markets, limited natural resources and vulnerability to economic shocks, extreme weather patterns and climate change impacts are circumstances to which many island countries are prone.

Implementing a Blue Economy approach offers twin advantages of realizing economic and social benefits while at the same time improving environmental sustainability and climate resilience. It also promotes equity in access to, development of, and sharing of benefits from marine resources including the ability to mobilize capacity and manage resources.

As the Commonwealth Blue Economy study notes, individual countries will face significant challenges and constraints in this development path. This notwithstanding, the prospects for developing a blue economy and transforming nascent conceptual frameworks over time are real and capable of achievement. This requires addressing significant gaps and barriers, and addressing thematic and sectoral enablers.¹⁴ This Roadmap endorses the consensus of the study that countries likely to succeed in this challenge, are those willing to pursue a dual strategy of investing in improving the management of existing sectors, as well as the development of new sectors for which limited experience or capacity may currently exist.

¹⁴ The Commonwealth Secretariat, *Blue Economy and Small States*.

1.2 International and regional legal and policy context

The 1982 United Nations Convention on the Law of the Sea (UNCLOS)¹⁵ is the overarching international law instrument for the oceans, as it defines rights and obligations of states within their maritime space, and includes provisions for marine environment protection and the management of its resources. Biodiversity related treaties such as the CBD, the Convention on Trade in Endangered Species (CITES)¹⁶, the Convention on Migratory Species¹⁷, the UN Straddling Fish Stocks Agreement¹⁸ and the UN Framework Convention on Climate Change (UNFCCC)¹⁹ provide the international context within which the ocean is used. Seychelles is signatory to these instruments and is committed to their implementation.

This notwithstanding, whilst UNCLOS provides an overarching international legal framework, management of coastal states' maritime activities remains mostly sectoral. Inadequate coordination across regional and national institutions and limited harmonization of legal instruments can cause duplication, inefficiencies and governance gaps in decision making. Sector-based approaches do not correspond to the interconnectivity of the oceans and with increased ocean use, potential conflicts are more likely between fisheries, marine protection, mineral exploration or shipping activities.

African Regional policy instruments such as Africa's Integrated Maritime Strategy 2050 (AIMS),²⁰ the Decade of African Seas and Oceans (2015-2025),²¹ the recent Africa Blue Economy: A Policy Handbook,²² and the African Charter on Maritime Security and Safety and Development (the Lomé Charter),²³ demonstrate growing interest in Blue Economy as a pathway for sustainable development in Africa. They highlight the need for regional coordination and cooperation including addressing trans-boundary blue economy issues such as maritime security or trade, as well as the value of pooling resources to achieve common objectives, for example, in disaster risk reduction and research and development.

¹⁵ *Convention on the Law of the Sea*, (adopted 10 December 1982, entered into force 1 November 1994) 1833 UNTS 397.

¹⁶ *The Convention on International Trade in Endangered Species of Wild Fauna and Flora*, (adopted 3 March 1973, entered into force 1 July 1975) 993 UNTS 243.

¹⁷ *Convention on the Conservation of Migratory Species of Wild Animals* (adopted 23 June 1979, entered into force 1 November 1983) 1651 UNTS 333.

¹⁸ *United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks* (adopted 4 August 1995, entered into force 11 December 2001) 2167 UNTS 88.

¹⁹ UN General Assembly, *United Nations Framework Convention on Climate Change: resolution / adopted by the General Assembly*, A/RES/48/189 (20 January 1994).

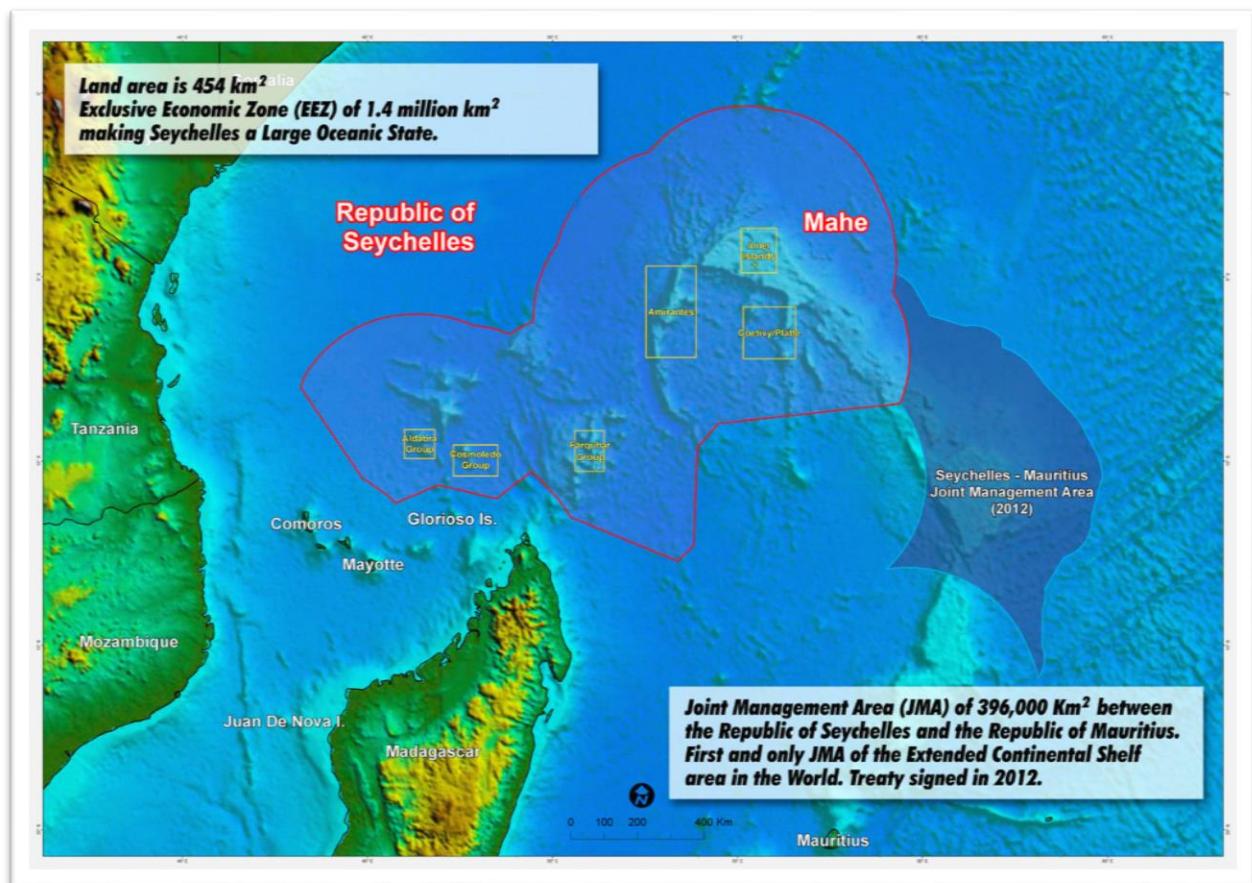
²⁰ African Union, *2050 Africa's Integrated Maritime Strategy* (2012).

²¹ Discussed at African Union, "Key Note Address Her Excellency Dr. Nkosazana Dlamini Zuma, Chairperson of the African Union Commission, for the Launch of the 2015-2025 Decade of African Seas and Oceans and the Celebration of the African Day of the Seas and Oceans on 25 July 2015 AU Headquarters, Addis Ababa, Ethiopia.", accessed Jul.18, 2018, https://au.int/sites/default/files/news/events/workingdocuments/27474-wd-chairpersons_keynote_address_for_25_july_2015.pdf.

²² United Nations Economic Commission for Africa, *Africa's Blue Economy: A policy handbook* (Addis Ababa: Economic Commission for Africa, 2016).

²³ *African Charter on Maritime Security and Safety and Development in Africa (Lomé Charter)* (2016).

1.3 Seychelles Blue Economy at a Glance



As an Indian Ocean SIDS with a population of 94,000, Seychelles has for more than 200 years, relied on the ocean for fisheries, international and domestic shipping to support trade, and more recently for tourism.²⁴ Comprised of an archipelago of 115 islands (41 inner and 74 outer islands) the 3 main inner islands of Mahé, Praslin and La Digue are home to approximately 99% of the country's population and are expected to be the main growth areas over the next 25 years.²⁵

Seychelles' historical development is characterised by a steady income growth over time, and an economy with a predominant and long-standing service sector. The two main pillars of Seychelles' economy are tourism and fisheries. A 2017 World Bank Report cites tourism's direct 2014 contribution to GDP as 23%, with an indirect contribution of 57%.²⁶ The contribution of fisheries in 2013 to GDP is reported at 8%.²⁷ Seychelles has one of the highest fish consumption per capita (circa 65 kg per annum),²⁸ and with limited agricultural land and

²⁴ The World Bank and the Commonwealth Secretariat (Hampton, MP and J Jeyacheya), *Tourism and Inclusive Growth in Small Island Developing States*, (London: Commonwealth Secretariat, 2013), cited in Commonwealth Secretariat, *The Blue Economy and Small States* estimate that the economic value of coral reef-related tourism and recreation in Indian Ocean small island developing states (SIDS) was in the order of US\$1.4 billion, a value that is only surpassed by the coastal protection value of coral reefs (US\$1.58 billion).

²⁵ The outer islands are mainly accessed by volunteers, scientists and exclusive island resort visitors (Seychelles Planning Authority, *Seychelles Strategic and Land Use Plan 2040*, (2015)).

²⁶ World Bank Group, *Country Diagnostic Report 112*.

²⁷ *Ibid.*

²⁸ Government of Republic of Seychelles, *National Food and Nutrition Security Policy* (2013) 14.

an underdeveloped agriculture sector, relies heavily on food imports.²⁹ Offshore exploration is conducted but Seychelles does not currently commercially exploit oil and gas or minerals and is therefore dependent on imported fuel.

Seychelles consistently ranks highest in Africa on global sustainable development indicators. Human Development Indicators are broadly in line with national income, with low levels of extreme poverty but substantial income inequality. Seychellois however enjoy comprehensive social services, including free health and education, subsidised housing, utilities, water and waste management services.

Seychelles achieved high-income country status in 2015, thanks to the rapid development of its tourism sector and sound macroeconomic reform following the global 2008 economic crisis. Nonetheless, graduating as a high-income country poses challenges as well as opportunities. The 2017 World Bank Country Diagnostic Report commended Seychelles' outstanding economic performance and its remarkable recovery following the economic crisis, mainly as a result of tourism, real estate and ICT. However, as the Report indicates, various systemic challenges still exist.

Specific policy priorities to drive the blue economy and ensure Seychelles remains on a prosperous pathway include:³⁰ strengthening the evidence base for policy reform and implementation; streamlining regulatory requirements and enforcement; creating an inclusive blue economy which safeguards skills and capacity building for the local labour force to enable their access to 'higher-earning opportunities' and addressing barriers to small business development.³¹

Prospects for developing the blue economy exist through ongoing port development and strengthening infrastructure necessary to support shipping. Port Victoria is a key multi-use port capable of supporting various blue economy activities, and ambitious plans are underway for expanding and modernising ports infrastructure, and improving safety and the availability and quality of services. Diversification of ports revenue is coming on stream through the provision of quality ship maintenance and other services in addition to fish storage and processing. This potential employment generator can address overfishing by incentivising post-harvest activities, ensuring benefits to Seychellois, safeguarding environmental sustainability and facilitating transition to sustainable fishing.

Emerging sectors also play a role in Seychelles Blue Economy, with marine biotechnology having potential for greater economic value. Marine renewable energy is another emerging sector which if effectively developed can reduce energy dependence and support Seychelles' commitments under the Paris Agreement. To ensure the success of both existing and emerging sectors to the blue economy, development of research and development infrastructure and capacity is vital, particularly at the national level together with international partners.

²⁹ Seychelles Bureau of Statistics 2017.

³⁰ World Bank Group, *Country Diagnostic Report*, xiii and xiv.

³¹ World Bank Group, *Country Diagnostic Report*, 116.

As a large ocean state, successful development of Seychelles' blue economy relies upon secure seas. Seychelles' blue economy vision requires effective cross-sectoral coordination, application of protective measures and greater use of surveillance and enforcement tools to ensure the adequate protection and sustainable use of ocean resources.

Maritime security requires cohesion among agencies at the national level and engagement and cooperation at the regional and international level. Regional cooperation can promote a successful blue economy through improved education services, research and development capacity, resource mobilisation; the identification of new markets in sectors such as tourism; defining a competitive advantage (e.g. Seychelles as a major tuna port), or through meeting shared challenges.

In general, Seychelles environment is in reasonable condition, mainly due to its remoteness³²; however it remains vulnerable due its geography, small economy and long term climate change risks.³³ Seychelles' unique island and marine environments are of global importance and include two United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Sites: Vallée de Mai on Praslin, and the Aldabra Atoll, famous for its endemic population of giant tortoises and rich marine life. Account must be taken of coastal and urban development which present opportunities as well as risks to Blue Economy development. Accordingly, resilience planning plays an important role in Seychelles' Blue Economy policy planning and implementation. Seychelles is developing a comprehensive marine spatial plan to ensure the long-term ecosystem health and sustainable use of its oceans, improving marine protection and supporting the Blue Economy.



³² Government of Republic of Seychelles, *Seychelles State of Environment Report*, 2014, accessed May. 24, 2018, <http://www.pcusey.sc/index.php/component/rempository/CB2-Project/Project-Technical-Reports--and--Others/seo-1/?Itemid>. The Report finds that whilst the state of the environment is good overall, there are however threats and trends needing attention, such as the impacts of invasive species, climate change, issues of water quality and coastal erosion.

³³ World Bank Group, *Country Diagnostic Report*, 74.

1.4 Marine Spatial Planning

Seychelles has an extensive network of land-based protected areas, and in February 2018, the First Phase of its marine protected areas increased offshore coverage to 15% of its EEZ, which will be increased to 30% with the approval of Phase Two of the Seychelles Marine Spatial Plan.³⁴ Marine spatial planning, or a structured process for allocating ocean space to competing uses, is essential for effective coordination across Blue Economy sectors, ensuring benefits to local communities and to safeguard the integrity of the coastal and marine environment consistent with the three dimensions of sustainable development.

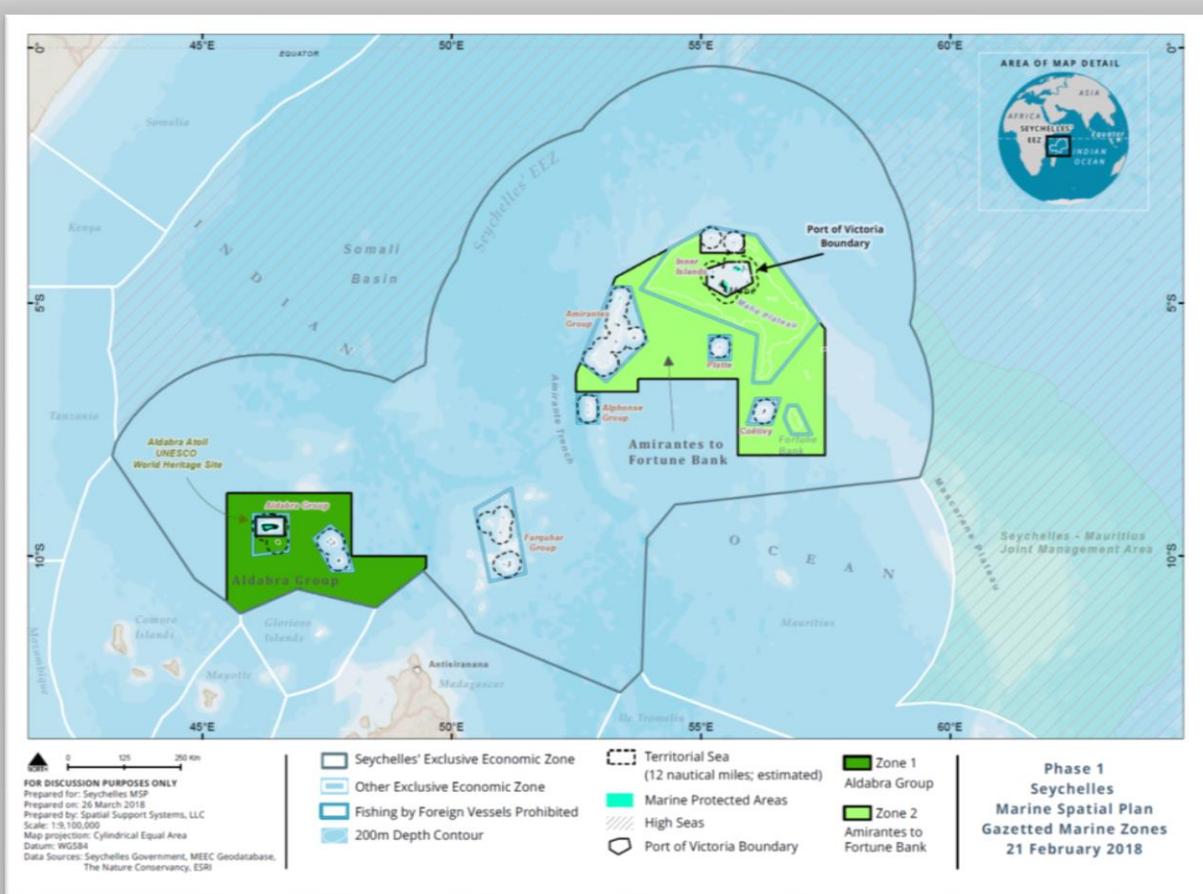


Photo Credit: <https://seymsp.com/the-initiative/>

1.5 Seychelles Blue Bond

In October 2018, The Government of Seychelles launched a sovereign blue bond worth US \$ 15 million with guarantees from the World Bank and the Global Environment Facility and the technical support of Princes' Charities International Sustainability Unit (ISU) to attract private investment, in order to finance a transition to sustainable fisheries and in particular the implementation of the Mahé Plateau Demersal Fisheries Management plan. This 10-year blue bond to finance fisheries projects, makes it the world's first country to utilise capital

³⁴ For more information, see "Seychelles Marine Spatial Plan Initiative", accessed Aug.18, 2018, <https://seymsp.com>.

markets for funding the sustainable use of marine resources.³⁵ (see further under Blue Financing and financing for sustainable fisheries including the SWIOFish3 Project).

Box 1: Seychelles Marine Spatial Plan Initiative (MSP)

In February 2015, the Government of Seychelles completed a US\$21.6 million debt restructuring with the Paris Club of creditors, with technical support from The Nature Conservancy, (TNC) which committed to the Government of Seychelles to place 15% of its Exclusive Economic Zone under marine protection by the early 2018, and a total of 30% (around 400,000 km) by the end of 2020 (up from less than 1% today). As part of its commitment, the Government of Seychelles is developing a Marine Spatial Plan (MSP) Initiative for its entire EEZ, with the technical support of The Nature Conservancy (TNC).

TNC facilitates the process, leading on the development of the MSP with support from the GoS-UNDP-GEF Programme Coordinating Unit. Funding comes from Seychelles, TNC and the GoS-UNDP-GEF Programme Coordinating Unit. The MSP is a necessary output for the Seychelles debt swap, with the Seychelles Conservation and Climate Adaptation Trust (SeyCCAT), an independent trust formed from the debt swap for conservation and climate change projects, partially supporting implementation.

The MSP will expand marine protection to 30%, address climate change adaptation, and support the Blue Economy and other national strategies for the 1.37 million square kilometre EEZ and Territorial Sea. It is a participatory evidence-based process which brings all stakeholders to the table, ensuring the effective protection of biodiversity and the sustainable use of marine resources. The MSP is led by the Ministry of Environment, Energy and Climate Change (MEEC) and uses an integrated approach with more than 10 government agencies and 11 marine sectors including the Blue Economy department, finance, fisheries, tourism, biodiversity conservation, renewable energy, ports, maritime safety, non-renewable resources, and recreation. Its zoning design identifies 3 zones based on the MSP objectives, which define allowable activities and condition of use. On completion, the MSP will be statutory and contribute alongside existing sector based legislation to ocean management. The MSP takes account of sector based planning processes for fisheries, tourism and emerging sectors such as oil and gas, renewable energy and climate change. Given the land and sea connection, it will be important to ensure the Seychelles MSP and Strategic Land Use Plan and Development Plan (2040) are synchronised.

For better participation and transparency, the MSP occurs in two phases and encompasses more than 100 stakeholders. Phase 1 (2014-2017), was completed in February 2018 and builds a decision-making framework, spatial data catalogue, atlas, and zoning design for deep water outside 12 nautical miles to meet half the 30% goal (approximately 200,000 square kilometres). Phase 2 (2018-2020) which was launched in February 2018, will complete the marine protection goal as well as management and implementation plans. The best available ecological and socio-economic data and information are being used, and the MSP will be regulatory on completion. The marine spatial plan is a living document and will be revised at regular intervals with new information and as the Blue Economy develops. This MSP represents the first comprehensive marine plan in the Western Indian Ocean. It is significant for improving ocean management and demonstrating best practices in MSP. Once approved, the Seychelles MSP will be the second largest in the world.

For further details visit: www.seymsp.com; and <http://www.spa.gov.sc/planning-system/plans-policies/seychelles-strategic-and-land-use-plan-2040>

³⁵ <http://www.ipsnews.net/2018/10/seychelles-issues-worlds-first-blue-bond-fund-fisheries-projects/>

1.6 Seychelles Blue Economy Brand

Blue Economy is not a new sector but rather a pathway to climate-smart, sustainable development. It requires a paradigm shift in the mind-set of users of ocean and coastal resources, how benefits from wealth creation may be shared and ocean health maintained. It is therefore inappropriate to continue with ‘business as usual’ and simply relabel the current uses of marine and coastal resources as ‘blue’.

Blue Economy implementation requires a shift from a commodity-based economy to a value adding, diverse, service-based and increasingly knowledge-based economy. By conceptualizing the ocean as a development space which brings together economy, environment and society consistent with the Sustainable Development Agenda (2030) and the Paris Agreement on Climate Change, a Blue Economy casts a strategic, long-term '*blue policy lens*' on national development to guide and prioritise actions and investment across sectors, based on principles of good governance, economic efficiency, sustainability, resilience, innovation and social equity.

Seychelles ‘Blue Economy brand’ is a thread which runs through the Roadmap, setting a good practice standard for implementation. The ‘brand’ aims to create a competitive niche, building on Seychelles’ unique geography, socio-economic and natural assets and international profile. By focusing on high quality experiences and services, its sustainability credentials can continue to attract visitors and investors interested in its value.

A well-oriented blue economy should focus on core economic sectors as drivers for future development, recognising the financial value of marine environment goods and services, transforming investment patterns that act as barriers to sustainability and determining how best to realise this potential through the promotion of blue value chains.

Empowering the growth of micro, small and medium enterprises is a blue economy priority as innovation needs to be nurtured and supported to become a key driver of national development and well-being. The capability of government, business and Seychellois as a whole to bring innovative solutions to market will be a crucial driver in developing Seychelles’ blue economy vision.

2.Vision and guiding principles

"To develop an ocean-based (blue) economy as a means of realising the nation's economic, social and cultural potential in a globalised world through an innovation, knowledge-led approach, being mindful of the need to conserve the integrity of the Seychelles marine environment and heritage for present and future generations."

Seychelles' Blue Economy Vision is articulated within the context of the Seychelles National Development Strategy (NDS), a National Vision and other relevant national strategies. The National Development Strategy will be rolled out over 3 rolling 5 year periods, whilst the National Vision will be for 15 years.³⁶

The blue economy vision is guided by over-arching Blue Economy principles of economic efficiency, sustainability, social equity, resilience, innovation, transparency, accountability and partnerships. Considered holistically, they inform national and sector based policies, plans, regulations, decisions and actions affecting access to and use of ocean and coastal resources.

The Roadmap has been incorporated into the first NDS, under the Economic Transformation Pillar, which promotes sustainable economic activities to ensure the development and growth of the Blue Economy as a driver for wealth creation and equitable distribution/participation.³⁷ The principles under the NDS and the Roadmap are complementary.

Principle One: Economic efficiency

Seychelles has a large state-owned enterprises sector across all aspects of the economy, ranging from the provision of public services to commercial activities, and these have had mixed performance.³⁸ This principle covers the respective roles of government and the private sector and promotes use of ocean and coastal resources in economically efficient ways on the basis that the private sector can better deliver efficiency where there is regulatory clarity and certainty.

Principle Two: Healthy oceans and sustainable use

A vibrant blue economy depends on healthy oceans. This encompasses protection and enhancement of critical biodiversity habitats, ecosystem processes and services, and sustainable management of ocean and coastal resources. It is premised on the basis that protection of essential ecosystem services which underpin human wellbeing (e.g. coastal

³⁶ The first NDS will run from 2019-2023 and is being administered through the Department of Economic Planning.

³⁷ Other pillars are: Governance, People at the Centre of Development, Social Cohesion, Science, Technology and Innovation for Development, and Sustainability/Resilience. Key strategies are: 1. Incentivize the private sector and the public at large to engage in Research and Development; 2. Create an enabling environment for the blue economy (reviewing the legal framework, strengthening institutional set up, encouraging private sector engagement and training a competent pool of workers to improve the productivity of the Blue Economy; 3. Build partnerships to grow and develop the Blue Economy to benefit from high-level knowledge, expertise and technology, and partnerships to help in building capacity, training, research and development.

³⁸ World Bank Group, *Country Diagnostic Report*, 23.

protection, water filtration, food security, recreation opportunities or carbon sequestration) should be priorities for transitioning to sustainable resource use.

Important components of this principle include ecosystem-based management, multiple use planning, marine research, appropriate valuation of ecosystem services in economic activity and national accounting, phasing out of undesirable subsidies and setting resource access rights commensurate with resource values to ensure correct price signals. It is necessary that those who benefit from or affect assets, contribute accordingly to their maintenance.

Principle Three: Social equity, food security, and healthy lifestyles

This principle supports food security, shared prosperity and full participation in national development through quality education, skills development and access to job and local investment opportunities. Seychelles as a high-income country has eliminated extreme poverty (below 1.9 US\$ per day) and ranks well on Human Development Indicators. The latest GINI index (World Bank estimates) suggests a value after taxes and transfer of 46.8% (2013),³⁹ placing it among the more unequal countries in terms of wealth distribution. This places a heavy burden on social policy and public expenditure.

Seychelles consumption of fish per capita is one of the highest in the world.⁴⁰ Food affordability may become an issue in the future, as most foods are imported and some local fish stocks are declining.

Principle Four: Transparency, inclusiveness and accountability

A critical aspect of blue economy implementation is good governance and transparent decisions about resource use, investments and benefit sharing. Good governance provides certainty for public and private sector investment and builds trust in institutions. Key elements of a transparent and accountable governance system are a clear vision and well defined objectives, inclusive evidence-based multi-sector decision making processes, standardised criteria for accessing and allocating public resources (resource access rights and conditions, technical or financial resources, as well as codified appeal provisions) to ensure justifiable investment decisions.

Principle Five: Resilience

Resilience concerns the ability to anticipate, prevent and adapt to changing circumstances in ways that allow for recovery and generate new and innovative practices, which will reduce vulnerability over time. Small islands are particularly vulnerable to environmental and economic shocks, mainly due to their physical vulnerability, small economic base, export-dependent economies, small populations and limited access to finance.

Resilience principles are well established in aspects of climate change adaptation measures, disaster risk management and emergency planning, as well as risk transfer mechanisms such as insurance. Strategic forecasting and intelligence, good governance, diversification

³⁹ The World Bank, "GINI index (World Bank estimate)", accessed Sept.1, 2018, <https://data.worldbank.org/indicator/SI.POV.GINI?locations=SC>.

⁴⁰ Government of Republic of Seychelles, *Seychelles Sustainable Development Strategy (2012-2020)*, Volume 2, 76.

of economic activity and reduced dependency on imports such as energy and food are critical elements of reducing vulnerability and building economic resilience. Similarly, the ability to develop and implement effective macro-economic reforms that increase stability, reduce volatility and increase certainty for investment are of importance.

Principle Six: Innovation

Innovation facilitates creative solutions and opportunities to achieve transformative outcomes, and generates discovery and new knowledge, practices or approaches that open up opportunities. Innovation is at the core of Seychelles' Blue Economy and Blue Brand, and is essential to moving from a commodity-based to a service and knowledge-based economy. Technological innovation in digital connectivity will benefit e-government and provide applications such as remote global monitoring, control and surveillance tools and environmental monitoring for marine resource management. It has the potential to reduce costs of doing business, and open up areas in new maritime activities such as biotechnology or oil and gas and enhance local capacity for MSMEs.

Principle Seven: National, regional and international cooperation

Realising the benefits of a blue economy is the business of government, private sector, civil society and the public, whether through public-private partnerships in infrastructure development, co-management of resources, or in devolved service delivery such as environmental protection or health services. Effective engagement of the private sector, civil society and the public is essential to generate support for and participation in the blue economy.

Regional cooperation is necessary to address common issues including maritime security, IUU fishing, climate change and marine pollution. Pooling resources for compliance and enforcement, research and development and disaster risk reduction can be facilitated through partnerships with international organisations and donors to attract technical and financial resources and tools. Seychelles has been actively pursuing strategic alliances and demonstrating leadership in recent years by encouraging carbon dioxide emission reduction and lessening ocean acidification, which directly impacts islands like Seychelles which rely on healthy oceans for economic development and food security.

3. Strategic priorities for action and investment

The Roadmap's four Strategic Priorities are customised to suit Seychelles' current socio-political, economic and environmental circumstances, its aspirations and future prospects as identified in the Vision. In that sense they are not new, but build on Seychelles' strengths and focus on systemic issues that constrain national development. They represent a 'blue strategic perspective' based on ongoing consultations and a review of available evidence.

3.1 Strategic Priority One: Creating sustainable wealth

Economic diversification and value addition

Blue economy development can offer new opportunities for job creation, contribute to higher rates of economic growth, and ensure the protection and sustainable utilisation of ocean resources. This will require strategies for augmenting existing sectors, promoting investment and innovation towards development of new sectors, and enhancing backward and forward linkages in the value chains of existing sectors. As a high number of economic activities take place in associated sectors, in order to create sustainable wealth, there is need to:

- Enhance efficiencies, sustainability, resilience and profitability within existing ocean dependent economic activities: mainly fisheries, marine and coastal tourism and associated services and infrastructure, through sector diversification and value chains;
- Explore the potential of emerging maritime activities such as: mariculture, oil and gas and mineral exploration, marine renewable energy, and biotechnology, and establish the necessary regulatory and policy environment for future sustainable development.

As Seychelles moves towards efficient and sustainable coastal and marine tourism, it needs to address regulatory and policy reform, set viable use limits, implement adaptive monitoring, specify access and incentives for behaviour change and enforce compliance. Sector and product diversification throughout value chains needs to focus on high value rather than volume.

Market access and competitive advantage are reasons to pursue accreditation through Seychelles "blue brand". This in turn will require capacity building to transition to a sustainable, high-value economy, and investment in research and development (R&D), innovation and upskilling of the workforce.

Current and emerging focus areas are discussed in more detail in Section 4.

3.2 Strategic Priority Two: Sharing prosperity

Food security and well-being

Seychelles' vulnerability to economic shocks, and its reliance on imported food (72% of food is imported), mean that food insecurity and adequate nutrition are of concern for 14% of the population.⁴¹ Fish remains that major contributor to protein content in the Seychellois diet, accounting for some 35-40% of total protein consumed.⁴² However, land scarcity, low productivity farming techniques, seasonality of rainfall, high costs of water, and limited access to technical and financial resources and training, ultimately impact on the nutritional status and health of the population. The increasing cost of living contributes to food insecurity and a declining health status, with more cheap processed food imports being consumed at the expense of local fruits, vegetables and fish.

Improving local food production using new and sustainable agricultural innovations form part of Seychelles National Agricultural Investment Plan (SNAIP 2015-2020). The University of Seychelles and partners are also piloting the use of aquaponics.

Box 2: Seychelles Aquaponics

The aquaponics pilot project is a joint initiative of the University of Seychelles and the Wildlife Clubs Seychelles aimed at bringing science and agricultural innovation to Seychelles. The project contributes to the Seychelles Blue Economy strategic objectives of food security, employment and local entrepreneurship, while reducing water use and protecting Seychelles coastal and marine ecosystems from the use of fertilisers and pesticides.

Aquaponics, a hybrid between aquaculture and hydroponics, uses organic fish waste to fertilise vegetables growth. Aquaponics works on a circular system where water from fish tanks is filtered by the growing medium and the plants as they grow. The water is then returned to the fish tank cleaner than when it left. As a result, aquaponics uses only a small amount of water compared to traditional soil based farming and zero artificial fertilisers or pesticides.

To ensure the long-term adoption of the project outcomes, James Michel Blue Economy Research Institute (BERI) Aquaponics project will be incorporated into the science curriculum of UniSey's Environmental Science Programme. Students will use this technology to study a range of practical and theoretical skills, such as food production, botany, fish biology, water chemistry, ecology, ecological modelling, engineering, mathematics and economics.

This start-up project has benefitted from funding from the Canada Fund for Local Initiatives which is enabling the first stage of research into agricultural technologies to improve food security, social resilience to climate change and the health of coral reefs.

Dr Ashton Berry The University of Seychelles (UniSey), James Michel Blue Economy Research Institute (BERI)

⁴¹ Seychelles Food Insecurity Experience Survey 2016. See IFAD, *Competitive local innovations for Small Scale agriculture (CLISSA)* (Aide memoire 2017).

⁴² Government of Republic of Seychelles, *Seychelles National Food and Nutrition Security Policy*, (2013), 4.

Improving food security requires:

Supporting competitive, sustainable and diversified local food production systems such as an efficient small scale agricultural sector (see *Seychelles National Agricultural Investment Plan 2015-2020*);⁴³

- Addressing the issue of open access and overcapacity of small scale fisheries;
- Realising the potential of the tourism sector which provides a captive market for fresh and local produce;
- On-going monitoring of consumer preferences and consumption patterns regarding local and imported foods and local food production trends.
- Encouraging healthy living and creating a demand for healthy foods by targeting schools, youth and women as main agents of change.
- Promoting competitive, sustainable, diversified local food production systems (small scale agriculture and fisheries), focusing on quality and affordability and reducing dependency on food imports, through innovation and professionalization of the sector.

The Seychelles National Food and Nutrition Security Policy (2013) identifies mechanisms to strengthen and align collaboration across Government Departments, agencies and the private sector. This is particularly important given the numerous private sector enterprises engaged in agricultural and fisheries processing, services (food importation, bulk food storage, abattoir, animal feed manufacture, poultry hatchery and cold storage) and which contribute significantly towards the national food and nutrition security agenda.⁴⁴ This Strategic priority underscores the vital role to be played by the private sector in the development of Blue Economy principles.

Education, Skills Development and Employment

Implementation of the Blue Economy will require identifying future skills needs and labour demands, and improving access to and the quality of education, vocational and professional training programmes.

Seychelles has achieved good standards of basic education thanks to strong social policies of free education for all and dedicated resources, with approximately 1,400 teachers for a student population of about 20,500. However, with increased economic transformation, the education system will need to be more responsive to emerging labour market demands and in particular the requirement for higher skills.

Seychelles tertiary educational institutions are overall too small to attract enough students and quality teaching. Some opportunities for vocational and technical training are available through professional centres (e.g. the Seychelles Maritime Academy and Seychelles Tourism Academy at post-secondary level), and scholarships for graduate and post-graduate studies abroad are also available for high achieving students. The University of Seychelles,

⁴³ Government of Republic of Seychelles, Ministry of Fisheries and Agriculture, *Seychelles National Agricultural Investment Plan (SNAIP) 2015-2020* (January 2015).

⁴⁴ Government of Republic of Seychelles, *National Food and Nutrition Security Policy*, para 22.

established in 2009, has tertiary level capability, offering a limited number of programmes in business administration IT, law, languages fields, and more recently sustainable tourism and environmental and social studies.

The lack of adequate research and training in Seychelles has led to chronic gaps in technical capacity for marine research, planning and decision-making. This limits access to skills development, and the stronger academic performance required for improved technical competence in Blue Economy research, strategic planning and adaptive management. Students will continue to study overseas particularly at tertiary level to address the shortfall in learning opportunities.

As a consequence of limited high-skilled employment opportunities, emigration, particularly for those trained overseas, will continue, with consequential skills depletion unless bond conditions are properly enforced. On the other hand, this has resulted in an extensive, mostly highly-educated diaspora. This diaspora could be encouraged to contribute to Seychelles' national development to address shortages in areas such as teaching, engineering, management, marine science, technology and innovation, education and health. Attractive salary packages, merit based recruitment and formalised career path opportunities should be developed.

It is necessary to refocus national efforts to achieve improved results in the vocational areas, including providing bridging courses for tertiary education. At the same time, it may be desirable to investigate options for pooling educational services at the regional level, to generate a critical mass of quality teachers, students and facilities, particularly at the tertiary level, to produce sufficiently skilled cohorts of graduates. Countries with a competitive advantage in one teaching area could provide specialist expertise for the region. This could be linked to regional Research and Development initiatives, including existing programmes in the Indian Ocean Commission. Such an approach would build regional cohesion and improve regional cooperation over time, which is necessary for the Blue Economy to flourish.

How does the education profile of Seychelles' population translate into its labour force?

A 2017 study of labour force participation in 2011 and 2014 showed an overall small increase in total numbers, with approximately 40% at the secondary, post-secondary levels, and less than 10% degree/post graduate degree levels. Interesting trends show that women are entering the labour market as well as older workers following changes to Seychelles Pension Fund, and that skills at post-secondary level are on the rise.⁴⁵

Seychelles' domestic labour market participation is high and unemployment is low (4% in 2016). Visible unemployment rates disguise obstacles to broader participation in the economy and in accessing high quality jobs, with significant youth unemployment, growing concerns about youth issues and crime, and a high incarceration rate (2% of the population).

⁴⁵ Haroon Bhorat, Arabo Ewinyu, and Derek Yu, "The Seychelles Labor Market", July 2017, (Development Policy Research Unit working paper 201706, University of Cape Town 2017).

Additionally, the Government's large home care program which employs over 2,500 people (about 6% of the local workforce), is not counted in unemployment figures. The limited supply of local expertise across the development spectrum has led to a reliance on foreign labour for specialised skills, and unskilled or semi-skilled labour primarily in response to the construction boom and the tourism industry growth in recent years.

Increasingly, Blue Economy service and technology based jobs will be available in the semi-to highly skilled areas in wealth creating sectors, as well as in environmental and social sectors. It is therefore important to invest in upskilling Seychelles youth to meet future labour force needs. Given Seychelles small population and predicted demography (low growth rate and aging population), there will mostly likely be an on-going need for a migrant workforce to meet some of the labour shortages, which in itself should not be an issue.

There is need to develop Seychelles' maritime education to ensure the future availability of skilled and qualified resource management professionals; promote marine based careers widely in schools and in the wider community and raise awareness of the importance of the marine and coastal resources in Seychelles development. Teaching standards and performance of students and institutions must be strengthened if Blue Economy skilled job opportunities are to be met by a Seychellois labour force. Encouraging a culture of excellence, achievement, initiative and creativity are critical for entrepreneurship and to access high skilled job opportunities. Importantly, incorporating marine education in school curricula will be critical to developing the interest of young Seychellois in maritime careers.

Accordingly, an approach to building the Seychelles' labour force needs to be 6-pronged:

- Assessing future labour needs in key Blue Economy related sectors to guide investment in improved quality and range of educational opportunities;
- Developing quality marine education in primary and secondary school's curriculum as well as after-school social activities (learning to swim, marine discovery activities, work experience) to generate interest in maritime professions;
- Equipping schools and post-secondary institutes with technology and resources to inspire Science Technology and Innovation (STI) related teaching;
- Upgrading the standards of teaching and student performance especially at secondary and post-secondary vocational levels and encourage access to tertiary education;
- Assessing options to build Seychelles as a specialised niche market in the tertiary education/research and development market;
- Providing career paths, mentoring and on-going professional development, and attracting diaspora graduates; Developing policies and strategies to retain in-country skills through better paying jobs, flexible labour market and work conditions.

Creating the business environment for private sector engagement

The Blue Economy offers new opportunities for private sector engagement and through job creation can contribute to higher rates of growth, and ensure protection and sustainable utilisation of the ocean and its resources. Realisation of these opportunities requires strategies to support goods and services diversification and value chains in existing sectors, investment in research and innovation and legislation and policy to support the development of new sectors.

It is paramount to recognize the importance of MSMEs in value chains as innovators and job creators. MSMEs can bring innovative niche products to market and play an important role in value chains as they touch many crosscutting areas in society. Support for the growth of local MSMEs improves opportunities for taking advantage of blue economy opportunities in fisheries, tourism, blue biotechnology, mariculture sectors and associated activities. Accordingly, there is need to empower local entrepreneurs through capacity building and other assistance to raise their performance.

Employment statistics for 2015 from the National Bureau of Statistics (NBS) show that the private sector employed 4 times more people than the public sector during 2011-2015. The tourism sector employed the greatest number (18.6%) followed by construction (12%), with low levels of direct employment in fisheries and agriculture (1.14%).⁴⁶

The tourism sector employed mostly unskilled (approximately 30%) or semi-skilled level (approximately 60%) labour with 17% - 23% at the skilled levels. Government and parastatal organisations employ up to 40 % of the skilled and semi-skilled. Job retention in the public sector (10 years or more) was much higher than in the private sector, where semi-skilled workers with shorter job tenure are employed.⁴⁷

A recent report by the International Organization for Migration shows that foreign labour makes up 24% of Seychelles' labour force.⁴⁸ With an increasing migration to Seychelles from the region, there is a perception that Seychellois workers may be outcompeted. Currently, most of the migrant workforce is employed in low to semi-skilled jobs, primarily on short contracts in the construction sector for which there is a labour shortage. Highly skilled temporary immigration is also taking place in specialised fields, managerial positions and businesses to fill skills shortages.

Challenges

Seychelles business environment has mixed success regarding private sector and MSMEs entry in the economy, and its overall business environment is less internationally competitive than would be expected for a high-income country. Opening and operating a business can be difficult (for example in the vertically integrated tourism sector), with the state having limited capacity to regulate, monitor and evaluate strategically where

⁴⁶ National Bureau of Statistics (2015).

⁴⁷ *ibid.*

⁴⁸ International Organisation for Migration, *Migration in Seychelles: A Country Profile 2013*, (Geneva, 2014), 48-9.

productive resources are allocated.⁴⁹ Historical predominance of state owned enterprises has reinforced a high concentration of resources. Barriers to private sector engagement include administrative requirements and competition from State owned enterprises as well as high costs of credit, electricity and fuel (in part due to reliance on fuel imports and cross subsidisation to keep prices down for households), land management and allocation.⁵⁰

Strategic opportunities

The government has initiated a process to improve Seychelles' ease of doing business ranking, and is providing seed funding for new enterprises to allow for MSME participation in the Blue Economy. A High-Level Ease of Doing Business Committee under the Chairmanship of the Vice President and involving the Principal Secretaries of Investment and Entrepreneurship, respectively, is taking steps to address this. There are at least 4 agencies engaged in supporting MSME development:

- The Department of Industry and Entrepreneurship Development (DOIED) - policy Formulation targeting growth and sustainability of MSMEs;
- The Enterprise Seychelles Agency (ESA) – implements policies and provides support to MSMEs on aspects such as Business Development Services and training;
- Industrial Estates Authority (IEA) – provides access to industrial land and facilitates infrastructure development;
- Seychelles Bureau of Standards (SBS) – development, maintenance and promotion of standardization in industry and commerce.

In addition to the Blue Grants Fund and the Blue Investment Fund discussed in relation to the SWIofish3 / SeycAAT scheme,⁵¹ other initiatives include:

- The Seed Capital Grant Scheme - Businesses with annual turnover below SCR 2million and not older than 3 years old from date of registration;
- The Small Business Start-Up Loan Scheme – for businesses with 10 employees or less;
- Fisheries Development Fund – for fishers' / fisheries businesses;
- SME Scheme – for SMEs with turnover less than SR6million (excludes retail or wholesale business);
- The European Investment Bank (EIB) Scheme.

Affordable loans for MSMEs are also available through the Seychelles Blue Bond to transition to sustainable fisheries and to encourage activities ancillary to fishing such as processing and services to address the issue of overcapacity and overfishing (see Fisheries Section).

⁴⁹ World Bank Group, *Country Diagnostic Report* viii; 55. Seychelles ranked 95th on the World Bank ease of doing business index, compared to Mauritius (25th) See The World Bank, "Ease of doing business in Seychelles", accessed Aug. 19, 2018, <http://www.doingbusiness.org/data/exploreeconomies/seychelles>.

⁵⁰ World Bank Group, *Country Diagnostic Report*, xviii. World Bank Enterprise Surveys datasets which measure the biggest obstacles for firms of all sizes from a list of 15 potential obstacles identify electricity and access to finance are the two most-cited by businesses in developing countries (Khrystyna Kushnir, Melina Laura Mirmulstein, and Rita Ramalho, "Micro, Small, and Medium Enterprises Around the World: How Many Are There, and What Affects the Count?" (World Bank / IFC MSME Country Indicators, 2010), 5).

⁵¹ Discussed at page 32.

Seychelles' micro, small and medium enterprises (MSME) Development Project also aims to address access to finance and develop a culture of entrepreneurship as a complement to legal and regulatory reforms. Seychelles' SME Development Policy and Strategy (February 2016) is intended to upgrade entrepreneur capabilities, simplify procedures, improve fiscal regimes and access to finance and promote a culture of entrepreneurship. It is supported by the newly established SME Financing Agency which aims to improve SMEs access to opportunities the blue economy offers including in sectors such as tourism and fisheries, encouraging innovation in emerging sectors such as mariculture and biotechnology.⁵²

Seychelles has also worked with the African Development Bank through the Seychelles Inclusive Private Sector Development and Competitiveness Programme to 'strengthen competitiveness to promote inclusive, sustainable and resilient economic growth' with two policy objectives: addressing existing constraints to private sector development and strengthening public finance mechanisms in order to maximize public sector efficiency in a context of fiscal consolidation thus enabling the Government to invest in economic infrastructure and enhance the quality of public services.⁵³

The Blue Economy can provide a pathway for inclusive development if it creates more jobs with higher incomes, and improves access to blue economy opportunities by:

- Reducing inequality through social and employment policies; more efficient use of social expenditure (e.g. pro youth);
- Reducing the skills gap by improving educational standards, training opportunities and more flexible employment policies, opening up the labour market to youth and women to meet the future needs of the economy;
- Improving the business environment by creating a level playing field; removing cross subsidies; streamlining procedures and accountability for large investment and designing performance based incentives for access to business infrastructure;
- Fostering a culture of entrepreneurship by rewarding initiative and innovation (MSMEs incubators); and building business skills capacity and e-tools.

An approach to developing the necessary business environment should focus on:

- Development of core economic sectors;
- Transforming investment patterns that act as barriers to sustainability;
- Empowering the growth of micro- and small business enterprises;
- Continuing progress towards improving the ease of doing business ranking of Seychelles;
- Furthering the provision of seed funding for new enterprises;
- Making available affordable loans for MSMEs available through the Seychelles Blue Bond to support the transition to sustainable fisheries;

⁵² The Small Business Financing Agency was established through *Small Business Financing Agency Act 2013* (Act 20/2013 entered into force 01 March 2014).

⁵³ African Development Bank, OSGE Department, *Inclusive Private Sector Development and Competitiveness Programme (IPSDCP) Appraisal Report* (African Development Bank, 2013) para 1.4.

- Encouraging activities ancillary to fishing such as processing and services to address the issue of overcapacity and overfishing.



3.3 Strategic Priority Three: Securing healthy, resilient and productive oceans

Broader implementation of the Blue Economy requires maintaining its resource base.⁵⁴ Accordingly, Strategic Priority Three aims to preserve the long-term integrity of the marine and coastal environment.

Valuation of coastal and marine ecosystems

Coastal and marine ecosystems generate a variety of ecosystem goods and services, some of which are commercially important (e.g., commercial fish stocks, tourism and recreational opportunities, local food supply and recreation), whilst some support ecological functions essential to human life (e.g., oxygen production, water quality and waste disposal, carbon capture and storage and climate regulation).

The economic contribution of oceans and ecosystem services as natural capital has not been successfully incorporated into conventional measures of wealth such as gross domestic product (GDP), thus distorting the real cost of economic activity. Numerous global and local

⁵⁴ Isolated for 75 million years, the Seychelles hosts a unique assemblage of flora and fauna, many of them extremely primitive. Such ancient species include endemic palm trees such as the coco-de-mer and seven species of caecilians.

studies of the value of oceans have been conducted; yet few have translated into integrated marine decision-making.⁵⁵

Two hundred years of human settlement has exerted a serious influence on the native biota of the islands. Habitat loss and fragmentation, as well as invasive species, have caused several extinctions and reduced populations of many species to extremely low levels. Human use continues to be a serious threat to Seychelles' native flora and fauna.⁵⁶ As a sustained supply of goods and services from the ocean is central to the future wellbeing and prosperity of the Seychelles islands, much depends on maintaining the health and valuing the contribution of coastal and ocean ecosystems and the biodiversity they support. Protection of Seychelles' unique marine environment is critical to the transition to a blue economy, and needs to be addressed effectively by state and non-state actors, supported by an environmentally educated and aware population.

Despite good environmental legislation and policies, Seychelles has limited capacity for management and enforcement, and research and monitoring. There are gaps in knowledge on marine biodiversity, ocean ecosystem functions and services and impacts of human use, which are critical to marine conservation and the Blue Economy. A significant amount of work is undertaken by non-government organisations, which operate either independently or under devolved grant arrangements with the Government. International partnerships have been the main avenue to acquire marine research information but results are not always made available to Seychelles. A comprehensive marine research plan would help identify priorities and allocate scarce resources, and marshal limited Blue Economy national research priorities, and data/knowledge management systems, which would in turn facilitate knowledge generation, data sharing and access to information. Building capacity in management and research skills is also critical.

Seychelles is implementing two Global Environment Facility (GEF)/UN Development Programme (UNDP) projects for sustainable financing for biodiversity: the multi-country BIOFIN project, and the Protected Areas financing project, which aim to identify financial mechanisms to finance sustainability and the protection of biodiversity.

⁵⁵ See Robert Constanza, *TEEB for Oceans and Coasts*, (UNEP Regional Seas Programme, GRID-Arendal and UNEP TEEB Office 1998); the TEEB Oceans and Coasts Knowledge Portal, accessed Jul. 18 2018, www.teeboceans.org, and recently the Global Ocean Commission, *From Decline to Recovery – A Rescue Package for the Global Ocean*, (Oxford: Global Ocean Commission, 2014) plus numerous locally-based evaluations all aimed at ensuring ecosystem services are incorporated into ocean decision making.

See also: the Nature Conservancy Atlas of Ocean Wealth which provides a spatial valuation of ecosystem services to maritime sectors, which can be integrated into marine spatial planning; “Mapping of Ocean Wealth”, accessed Sept.1, 2018, <http://oceanwealth.org>; The World Bank, “Wealth Accounting and Valuation of Ecosystem Services Global Partnership Programme (WAVES)”, accessed Sept.1, 2018, <https://www.wavespartnership.org/>, which aims to promote sustainable development by ensuring that natural resources are mainstreamed in national accounts; and a review of alternative blue economy/sustainability scenarios prepared by the Commonwealth Secretariat for Seychelles in 2016: Commonwealth Secretariat, *Alternative Future Visions for the Seychelles Blue Economy*, (London: Commonwealth Secretariat, 2016).

⁵⁶ World Wildlife Fund, “Indian Ocean, northeast of Madagascar”, accessed Oct.17, 2018, <https://www.worldwildlife.org/ecoregions/at0113>.

Box 3: GOS-UNDP-GEF Programme Coordination Unit Protected Area Finance project

The Government of Seychelles – United Nations Development Programme – Global Environment Facility (GOS-UNDP-GEF) Protected Area Finance project aims to strengthen the financial sustainability and strategic cohesion of the Seychelles protected area (PA) system. Since its inception, the project has supported a national-level Sustainable Financing Plan for Protected Areas (Pas) in Seychelles, calculating the current financing available for PA management, the financing gap and the financing mechanisms to address this challenge. At present, the existing PA system requires an additional USD 3.7 million annually to meet their basic management needs or USD 6.8 million annually to enable optimal management. However, as Seychelles aims to expand the PA system to cover up to 30% of its EEZ, financing for effective management becomes an even more important task.

The Seychelles National Parks Authority (SNPA), responsible for managing eight PAs, currently has the largest financing gap of all PA organisations. To address this, the project has supported the development of the SNPA Strategic Plan (2017-2021), adopted by Cabinet, which enables SNPA to retain its revenue and adjust user fees in line with demand. To implement the plan, SNPA, with support from the project, is developing management plans for all of its PAs, creating a new online payment system to improve the efficiency of fee collection, systematically upgrading tourism facility infrastructure and trail signage, whilst strengthening the linkages with the tourism sector and utilizing their PAs. Proposed financing changes in the Strategic Plan should, if all are implemented, reduce their financing gap and substantially improve the management effectiveness.

The project also supports organisations managing existing and prospective PAs to reduce their financing gaps. Financial support is provided for organisations such as Seychelles Island Foundation, Nature Seychelles, Green Island Foundations, Marine Conservation Society Seychelles through the Department of Environment to implement initiatives that either strengthen visitor-based attractions or management effectiveness.

Improving management effectiveness: Ensuring that any additional financial resources generated are effectively used is critical to the success of PAs, and in justifying their relevance to the Blue Economy and the livelihoods of Seychellois. The project has collaborated with the Outer Islands project to deliver management plan training for all existing and prospective PAs. Management planning is now underway at a number of sites and business plan training has also been provided to ensure that PAs mobilize sufficient resources for effective implementation.

Looking to the future: In the preliminary stages, the project has addressed the optimality of existing financing mechanisms. It aims to support the development of new financing options that consider wider Blue Economy and marine spatial planning processes. With this in mind, the project will continue its collaboration with other conservation and Blue Economy projects to contribute towards a common vision for conservation in Seychelles.

Andrew Rylance, UNDP-GEF Technical Advisor - Protected Area Finance Seychelles



Oceans play a critical role in climate regulation and have absorbed 93% of the heat from anthropogenic CO₂ since 1970, and captured some 28% of CO₂ since 1750, thereby leading to ocean warming, ocean acidification, sea level rise and oxygen depletion.⁵⁷ Consequences for oceans and the blue economy are already being realised, including increased incidence of coral bleaching⁵⁸, extreme weather events, storm surges and changing rainfall patterns, which affect food production, coastal tourism, onshore and offshore infrastructure and fisheries, including changes in the distribution of migratory fish stock.

Climate change impacts on coastal and marine ecosystems add to existing pressures. Understanding these interactions and the increasing risks associated with climate change is important to developing sustainable management responses. At the policy level, *Seychelles National Climate Change Strategy (2009)* references vulnerabilities in relation to fisheries, coral reefs, waste, energy, coastal tourism, agriculture infrastructure, health and coastal zones. The Strategy posits that sector-level strategies to adapt to climate change and other challenges are not mutually exclusive, and include fishery and market diversification, improved services, development of mariculture and sustainable fisheries management.⁵⁹

⁵⁷ JP Gattuso et al, "Contrasting futures for ocean and society from different anthropogenic CO₂ emissions scenarios" *Science* 349, no. 6243 (2015).

⁵⁸ See Global Coral Reef Monitoring Network, *Coral Reef Status for the Western Indian Ocean*, (Indian Ocean Commission, 2017), 115. The 2016 coral-bleaching event impacted most of the corals in Seychelles. Coral reef ecosystems are one of the major attractions bringing tourists to Seychelles, yet the loss of coral cover is not reported in the Government marketing strategy.

⁵⁹ Republic of Seychelles, *Intended Nationally Determined Contribution (INDC) Under The United Nations Framework Convention On Climate Change (UNFCCC)* (September 2015), accessed Jul.18, 2018, <http://www4.unfccc.int/submissions/INDC/Published%20Documents/Seychelles/1/INDC%20of%20Seychelles.pdf>.

Seychelles' INDC (2015) identifies the main climate change threats facing Seychelles as: changes in rainfall patterns leading to flooding and landslides, extended periods of drought, increases in sea temperature, changes in acidity and damage to marine ecosystems, increases in storms and storm surges, and sea level rise during the longer term. Climate change will have significant impacts on Seychelles in the short, medium and longer term on infrastructure, agriculture, fisheries, tourism, energy and water security, biodiversity, waste management and on human health and well-being

The INDC posits that research is needed to better understand changes in cyclone patterns, ocean and air currents, and the interplay between climate change and other climate phenomena such as El Niño. Nimble, adaptive responses will be required in the key tourism sector, particularly where success is predicated on proximity to coastal or island areas. As the tourism product tends naturally to adapt to market forces, the suitability of the tourism offering for the future will need not only to recognise market pressures but also those driven by climate change.⁶⁰

Appropriate adaptation and resilience strategies could include incorporation of measures (soft and hard infrastructure around high density population areas) in land use planning and environmental management. Marine and coastal ecosystems such as mangroves and sea grasses which can store large amounts of carbon in their sediments over long periods of time act as carbon sinks (blue carbon) and can mitigate some of the impacts of climate change. Protecting and restoring such habitats may generate local income through voluntary carbon credits as well as by providing other important ecosystem services for fisheries and coastal protection.

Mainstreaming climate vulnerability assessment and climate responses into development planning, land use and infrastructure development, fisheries, tourism and other Blue Economy sectors is highly relevant. Upgrading of climate policies and legislation is underway, taking into account a range of adaptation and mitigation measures including ecosystem-based solutions. The European Commission Global Climate Change Alliance (GCCA+) will facilitate this process across a range of sectors and actors. Consideration has also been given to preparing a proposal to the GEF to explore the possibility of a Seychelles based climate finance advisor under the Commonwealth Climate Finance Access Hub based in Mauritius. This could be an opportunity to develop proposals to the Green Climate Fund and other sources of funding for addressing climate change mitigation and adaptation and Blue Economy principles in a comprehensive way.

The Paris Agreement on Climate Change incorporates oceans and sustainable development, as does the special report of the IPCC released in October 2018, which specifically addresses the interaction between oceans and climate. These, combined with targets for renewable energy (including marine renewable energy) in Seychelles Energy Policy (2010-2030), will need to be reflected in Seychelles next round of UNFCCC reporting in 2020.

⁶⁰ *ibid.*

International advocacy for emission reduction by large emitters and sustainable financing for climate adaption for small islands are critical elements of the implementation of the Paris Agreement on Climate Change (2015). Accordingly, the Blue Economy Strategic Framework and Roadmap can provide necessary policy guidance to update Seychelles NDC regarding the blue economy, ocean and climate nexus.

As a result, securing healthy, resilient and productive oceans will require:

- Incorporating the value of natural capital and ecosystem services in national wealth accounting;
- Protection of areas of high biodiversity value and of critical importance for ecosystem services through the marine spatial planning process;
- Ensuring compliance and enforcement of existing environmental legislation to reduce impacts of unsustainable practices;
- Encouraging good environmental performance, improving transparency and accountability and monitoring capacity;
- Improving knowledge of the marine environment and its resources to inform development and environmental protection decisions including long term planning in response to climate change;
- Bringing coherence to sustainable finance initiatives for protection and sustainability;
- Building in climate resilience and adaptation measures in marine and land use decisions and Seychelles' international commitments;
- Assessing environmental and socioeconomic impacts of climate change and ocean acidification on marine and coastal resources and developing adaptation measures.

3.4 Strategic Priority Four: Implementation through strengthening the enabling environment

Implementing a sustainable long term blue economy and taking advantage of its strategic opportunities, will require addressing several strategic priority areas in the first 5 years. These include:

- Integrated land use and marine spatial planning;
- Research, innovation and development;
- Financing the blue economy;
- Maritime safety and security, regional and international cooperation;
- Regional cooperation and international advocacy.

Integrated land use and marine spatial planning

Habitat loss and environmental degradation in coastal areas as a result of urban/coastal infrastructure development can have significant impacts resulting in loss of mangroves, freshwater swamps and dune habitats which traditionally provide services such as maintaining water quality, fisheries nurseries and shoreline protection.

Untreated wastewater is a health hazard with major impacts on groundwater and inshore marine water quality as a result of excessive nutrient discharge. Recycling has been encouraged through the introduction of an environmental levy on PET plastic bottles and aluminium cans. Despite these efforts, there is limited capacity for environmental monitoring and financing of waste treatment technologies and at this stage no proper hazardous waste management and handling facility exists. Limited capacity and variable investment in facilities and monitoring of water quality poses risks to public health through contaminated rivers and beaches, which threaten the tourism industry. Targeted and comprehensive health risk assessments should be undertaken.

Seychelles Strategic and Land Use Plan (2040) is the main legal instrument for the siting of coastal infrastructure development and therefore critical to control of land based sources of marine pollution from coastal development.⁶¹ Information on the marine environment and coastal and ocean uses is collected and analysed on a sector basis, some on a spatial, some otherwise. Most available integrated spatial information is found in Seychelles' Land Use Planning Authority GIS database.

Addressing plastic pollution of oceans requires a combination of national and regional solutions, to build the capacity, knowledge and solutions to reduce litter and plastic collecting in the Indian Ocean through ocean currents. Tackling land-based sources of marine pollution will require more than just increasing funding or capacity. Encouraging responsible behaviour requires a combination of incentives and enforcement of strict measures including fines commensurate with offences.

Research, innovation and development

Research and development and other knowledge-generating activities inform Blue Economy guidance for sector based planning and activities, and support sustainable economic diversification and job creation through the development of new products and services by identifying future opportunities for resource development (for example biotechnology). Knowledge platforms facilitate strategic management and protection of coastal marine ecosystems by understanding the impacts of human activities and threats such as climate change, ocean acidification and marine pollution. They inform policy and governance of coastal and maritime activities, empowering decision makers to plan and manage strategically and allow for better targeting of social resources and sharing of Blue Economy benefits. Identifying and defining strategic research and development needs with appropriate funding mechanisms and resources will be essential.

⁶¹ Seychelles has also comprehensive environmental legislation including the *Environment Protection Act* (Act No. 9 of 1994) and *Environment Protection Act* (Act No. 18 of 2016) and regulations, the Government of Seychelles, Ministry of Environment & Energy, *Seychelles Protected Area Policy* (2013) and a *National Parks and Nature Conservancy Act* (1969 c. 141) as well as national policies. The 2014 Government of Seychelles, *National Biodiversity Strategy and Action Plan 2015-2020* implements Seychelles obligations under the UN Convention on Biological Diversity. Others include Government of Seychelles, *Seychelles Sustainable Development Strategy*, and issue based policy such as the Republic of Seychelles, Ministry of Energy, Environment and Climate Change, *Waste Management Policy 2014-2018* (currently under review).

Challenges

Currently, responsibility for research, innovation and development rests with several government institutions. Coastal and marine research is conducted by government, private sector and civil society, and by regional and international institutions. Fragmentation of responsibility, poor coordination between information providers and users, combined with capacity deficits and a lack of an overarching national research and innovation agenda has contributed to suboptimal information availability.

Research and data collection by external consultants does not necessarily take account of local information management systems or accrue for the creation of a national information and skill base. Better datasets are available for sectors of high socio –economic importance such as fisheries or tourism, however, significant knowledge gaps and limited analytical capability, constrain availability of good science for decision-making and monitoring of management measures.

Strategic opportunities

Critical Blue Economy information needs include regular state of the ocean reports, systematic data collection and methodologies to build long-term time series and monitoring trends to inform decision-making. Integrating and coordinating research across providers in marine science and socioeconomic intelligence is highly desirable, although to date there has been no agreed mechanism to do so. Seychelles should focus on areas of highest need and competitive advantage, for example fisheries, environmental studies and tourism studies.

The University of Seychelles (UniSey) established the James Michel Blue Economy Research Institute (BERI) in 2015 as an active, autonomous, regional knowledge and research facility to support the implementation of Seychelles' Blue Economy. BERI's ambitious agenda to facilitate development of partnerships and research, advance sustainability initiatives, and identify and coordinate synergies between local and international research partners has been constrained by a lack of dedicated resources. However, efforts to develop a research strategy and identify areas where it can make a valuable contribution are underway.

The Blue Economy Department and BERI conducted a Blue Economy Research Priority Needs Assessment across government and non-government organisations in 2016. Although preliminary, it provided a good overview of the state of knowledge, highlighted marine research gaps and the lack of a comprehensive knowledge management platform.⁶²

Many international universities, research institutes and environment non-governmental organisations undertake marine research in Seychelles and results should be made available for informed decision making. Developing partnerships with international organisations should assist in developing a research strategy. Similarly, the preparation of the regular state

⁶² This exercise was part of collaboration with the UK Project Neptune (2016) and engaged a number of UK research institutions, which lead to a few pilot projects with BERI and SFA. Prior to this, the Commonwealth completed a study of status of knowledge of the marine environment with the aim of identifying data gaps and the development of a marine research strategy.

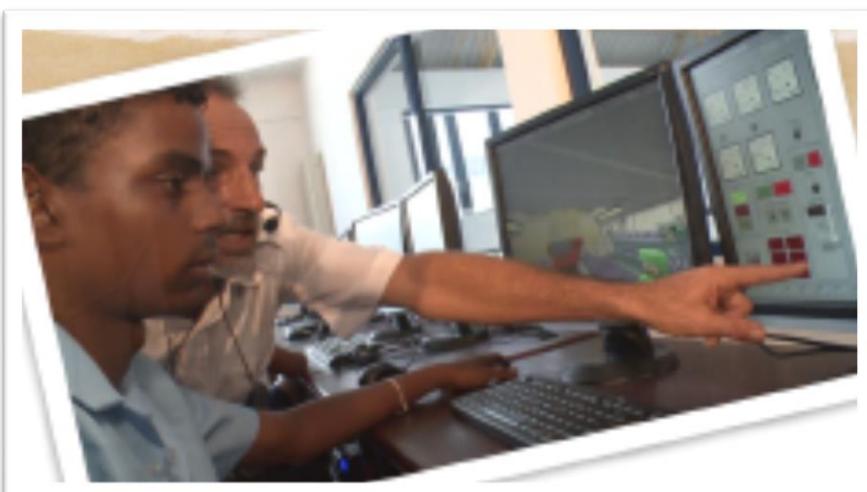
of the ocean report and the on-going marine spatial planning process are opportunities to foster such processes. A regional university (as is the case in the Pacific) would build critical research capacity, attract funding and ensure there is no duplication of efforts.

In 2017, the Government of Seychelles released a Policy for Science, Technology and Innovation (STI) (2016-2025) to provide guidance and structure, and support a transition to a knowledge based economy, critical to the success of the Blue Economy. The Policy articulates 5 areas for action including:

- Mainstreaming STI in development plans, programmes and practices;
- Securing 1% of GDP allocation to research and development by 2020, and 2% by 2020 towards the establishment of a Research Foundation;
- Strengthening research and development capacity, skills knowledge and entrepreneurship to match future development needs with strong linkages to government and private sector;
- Establishing a knowledge, information and data infrastructure in collaboration with Seychelles research and information institutions and taking advantage of Information and Communications Technology (ICT) opportunities;
- Developing regional research and development partnerships to maximise benefits to Seychelles.

There is an important role for National Institute for Science Technology and Innovation (NISTI) to facilitate the building of a knowledge infrastructure/platform to network various knowledge providers (national and international) and provide a user friendly interface, maintaining custodianship of data, protecting intellectual property, and facilitating access, reporting and sharing of knowledge. Such a platform combined with standardised data collection and methodologies would identify knowledge gaps for future research and investment.⁶³ Seychelles Department of Statistics has in place a number of data collection instruments, which could be improved with on-going support for regular reporting.

A national research fund able to attract local investment from Blue Economy sectors as well as national and international funds



could be considered. NISTI could facilitate the development of a national research and development investment strategy in collaboration with knowledge providers and users,

⁶³ A good example is the lack of reliable data on contribution of sectors to Gross National Product (GDP) including direct and indirect contributions.

which could guide future national and international investment. NISTI is actively pursuing the centralization of data between laboratories and research facilities dispersed throughout different ministries, educational institutions, authorities and agencies. Attention is also being paid to the identification of national and overseas partners to strengthen and establish working relationships and collaborations to facilitate training, scholarships, equipment and to keep abreast of emerging technologies.



Photo Credits: Seychelles Maritime Academy

Blue financing

With public investment declining globally, Seychelles has been proactive in rethinking how it funds its national development and blue economy and in particular how to increase domestic revenue through greater fiscal discipline, productivity gains, better management of public expenditure.⁶⁴ Focus has included attracting a new breed of investors,⁶⁵ and using new financial instruments such as bonds, debt swaps, trust funds, blended public/ private

⁶⁴ For example, guidance issued by Ministry of Finance, Trade and Economic Planning, 'Expenditure and Payment Policy' discussed at Ministry of Finance, Trade and Economic Planning, Government of Seychelles, "News: Policy to guide Ministries, Departments and Agencies expenditures and payments in place to ensure transparency and accountability in the government" February 21, 2018, accessed Aug.18, 2018, <http://www.finance.gov.sc/news/105/Policy-to-guide-Ministries-Departments-and-Agencies-expenditures-and-payments-in-place-to-ensure-transparency-and-accountability>.

⁶⁵ "The Global Impact Investment network (GIIN) estimates survey", accessed Aug.18, 2018, <https://thegiin.org/impact-investing/need-to-know/>, showed impact investment of US\$114 billion in 2017.

hybrid investment, mezzanine and equity loans.⁶⁶ Tax reform is ongoing,⁶⁷ and private sector appetite for green investment has grown significantly in recent years. In 2017, the Green Bond market was estimated at US\$155.4 billion with projections between US\$ 250 to 300 billion in 2018.⁶⁸

Box 4: Seychelles Debt Swap for Conservation and Climate Adaptation (Financing aspects)

Under the debt swap, Seychelles' Conservation and Climate Adaptation Trust (SeyCCAT) was established to administer the debt swap proceeds and repayments. The debt that Seychelles owed to Paris Club creditors was bought by The Nature Conservancy (TNC) and on-loaned, via SeyCCAT, back to the Government of Seychelles. The Government of Seychelles makes repayments to SeyCCAT, who repays TNC, as well as manages the debt service savings in the form of a revolving Blue Grants Fund and a Blue Endowment Fund, thus securing a sustainable flow of funds to support the long-term management of the Seychelles network of MPA's, sustainable fisheries, and other activities that contribute substantially to the conservation, protection and maintenance of biodiversity and adaptation to climate change.

SeyCCAT will disburse US\$280, 000 annually via the Blue Grants Fund, with a first call for proposals announced at the end of 2017. As of 2018, SeyCCAT is able to disperse over US\$670,000 per annum owing to a new capital inflow from the Blue Bonds. SeyCCAT continues to develop new mechanisms to grow its asset base.

Seychelles Blue Bond

In October 2018, The Government of Seychelles launched a sovereign blue bond worth US \$ 15 million with guarantees from the World Bank and the Global Environment Facility and the technical support of Princes' Charities International Sustainability Unit (ISU) to attract private investment, in order to finance a transition to sustainable fisheries and in particular the implementation of the Mahé Plateau Demersal Fisheries Management plan. This 10-year blue bond to finance fisheries projects, makes it the world's first country to utilise capital markets for funding the sustainable use of marine resources.

The proceeds of the Blue Bond will be disbursed in the form of grants (blue grants disbursed through SeyCCAT) and loans (blue investment fund disbursed through the Development Bank of Seychelles). The aim of the Blue Bond is to encourage a shift to sustainable fisheries practices and job creation through on the one hand improved fisheries management and stock rebuilding activities and on the other hand diversification of the fisheries sector focusing on post-harvest value chains and services. The proceeds of the Blue Bonds, approved in June 2017 by the World Bank Board, combined with the World Bank Third South West Indian Ocean Fisheries (SWIOFish3) Governance and Shared Growth Project will total some USD\$25 million of public and private investment for sustainable fisheries.

Dominique Benzaken, Commonwealth Fund for Technical Cooperation Senior Ocean Governance Expert

⁶⁶ Seychelles is no longer eligible for Official Development Assistance (ODA) under the Development Assistance Committee (DAC) of the Organisation for Economic Development and Assistance (OECD), even though its economy remains vulnerable to environmental and economic shocks. Seychelles, along with other small islands, has consistently argued in international fora (with support from organisations such as the Commonwealth) that the Gross National Income (GNI) eligibility criteria used by the World Bank and other bilateral donors, should take account of small islands' vulnerability and the lack of buffering from environmental and economic shocks.

⁶⁷ Seychelles is implementing progressive tax reform. For information see resources of Ministry of Finance, Trade and Economic Planning, Government of Seychelles at <http://www.finance.gov.sc/resources>.

⁶⁸ For more information, see Climate Bonds Initiative, accessed Aug.18, 2018, <https://www.climatebonds.net/>.

Challenges

Securing sustainable financing for conservation is an on-going concern. To date, efforts at sustainable financing have been *ad hoc*, sector or project based and often donor driven, with much of the conservation finance being through bilateral and international grants on a project basis. Because of Seychelles high-income country status, some of these funding sources may no longer be available. A review of protected area finance shows that site based revenue generation (e.g. through tourist entry fees and concessions) is significant and by far exceeds funding from central government (through the SNPA) and extra-budgetary funding (2016)⁶⁹. Most of site based revenue generated until recently went to the Government consolidated revenue and was only partly reinvested in SNPA for management purposes. The newly independent status and recently adopted SNPA Strategic Plan has changed this situation.⁷⁰

Tracking how much government and non-government funds accrue to Seychelles Blue Economy is difficult to assess because relevant financial information is either not available or not labelled as a Blue Economy activity. Exceptions include when funds have been earmarked to support a Blue Economy activity, for example the proceeds of Seychelles Debt Swap or the Blue Bond/SWIOFISH 3 (outlined above).

Mapping Blue Economy international and domestic investment from public and private sources, as well as financial instruments used for disbursement and results delivered would identify financing gaps (with respect to financing needs for the Blue Economy) against Blue Economy investment priorities and principles. This would also at the same time improve transparency and accountability, which are essential for building credibility with public and private investors nationally and internationally.

Despite its good economic performance, the potential appeal of outcomes related to environmental and social returns, means that Seychelles still needs credit enhancement (e.g. by international banks or insurers) to reduce the credit risk to private investors as Seychelles' small economy may not be attractive enough for large private investors, such as international pension funds. There is however global appetite for "impact investing" in sustainable development, which Seychelles has been able to capitalise on with the support of international partners.

Seychelles needs to demonstrate its sustainability credentials to Blue Economy investors through strong design principles based on transparency, sustainability, efficiency, viability and accountability and the articulation of viable pipeline activities consistent with Seychelles Blue Economy strategic priorities. Attracting the relevant expertise to design financial instruments, which can produce an attractive return on investment and yet be affordable by Seychelles is another challenge. Seychelles has been fortunate to benefit from the expertise

⁶⁹ A Rylance and H Barois, *Sustainable financing Plan for Seychelles Protected Area System. Report to Government of Seychelles -UNDP -GEF PA finance project*, (2016).

⁷⁰ The SNPA has recently been able to retain its revenue to go back into conservation management. This is a step in the right direction and a good sign for the future.

of international partners such as Prince Charles Charities International Sustainability Unit and The Nature Conservancy.

As a high income country, it is critical that Seychelles increases domestic revenue through much more efficient application of revenue raising instruments such as taxes, resource rent, licenses, fees and levies and better compliance and enforcement capacity, but also through policy reform (e.g. tax reform, effective pricing of resource rent and licences for example) and through growing its economic base.

From the Blue Economy perspective, it is important that funds raised and allocated confirm with sustainability principles enshrined in a “Seychelles Blue Economy Brand”. Much can be achieved when fees charged to tourists are re-invested in managing the resources they experience (e.g. protected areas). Similarly charging resource rent at its true value would ensure sustainable fishing and could be reinvested into the long-term management of fisheries.

Attracting more local and international private investment will increase the revenue base of Seychelles, including through equity investments, bonds, incentive schemes and support for SMEs consistent with Blue Economy principles and a “Seychelles Blue Economy Brand” (see section on business environment).

This is predicated on having accountable and effective mechanisms for attracting and disbursing funds. At present, Seychelles has in place a number of mechanisms which can assist in identifying investment opportunities for foreign and national investors including the Seychelles Investment Board (SIB) and Societe Seychelloise d’investissement (SSI), as well as several purpose based Trust Funds (e.g. SeyCCAT). The recently released Public Private Partnership Policy provides a framework for procuring and financing large infrastructure projects and services and has multiple aims: To encourage private sector investment in public infrastructure and related services; Harness private sector skills and innovation in the provision of infrastructure and related services; Improve the quantity, quality and efficiency of infrastructure provision through healthy competition; and ensure rigorous governance and accountability in the provision of infrastructure and public services.⁷¹

Overall absorptive capacity and ability to manage large investments may still be an issue and Seychelles has found itself, at times, unable to disburse its allocated funds because of a lack of capacity or viable investable projects and activities.⁷²

Strategic opportunities

Whole of government strategic priorities for investment are needed to achieve necessary changes in mindset and accomplish long term goals of the Blue Economy. These include protecting the assets on which the Blue Economy depends, building a diverse, high value

⁷¹ Government of Seychelles, *National Public Private Partnership Policy* (2017).

⁷² The Programme Coordination Unit (PCU) within the Ministry for Environment Energy and Climate Change is an example whereby large-scale environmental projects are managed in a coordinated way.

innovation based economy, investing in people and institutions and maintaining strong regional and international partnerships.

A balanced investment strategy combining public and private investment should be based on strong design principles, focusing on a combination of priority investment to support existing and emerging sectors, (e.g. fisheries, tourism or waste management) which can generate an income stream over time. This is complemented by investment in “soft infrastructure”, or investing in people and institutions (e.g. governance, policy reform, education and skills development, connectivity, private sector engagement, knowledge and innovation) across all aspects of Blue Economy.

The lack of compliance and enforcement capacity of national legislation, combined with limited ability to track results is detrimental to Seychelles’ efforts. Whilst Seychelles has been successful at attracting private funds, it has been less so in implementing projects and demonstrating and reporting results for a number of reasons, including capacity, poor project design and complex governance. Improvements in these areas would bode well for increasing confidence in Seychelles as a destination for investment.

SeyCCAT, which was established to receive and disburse funds from the debt swap, provides an independent and accountable mechanism, suitable for capitalisation for Blue Economy implementation as it can grant, loan and invest its monies and could act as a clearing house for Blue Economy projects consistent with its mandate.

Box 5: Seychelles’ Conservation and Climate Adaptation Trust (SeyCCAT)

Seychelles’ Conservation and Climate Adaptation Trust (SeyCCAT) was initially capitalised with blended capital proceeds from the Government of Seychelles US\$21.6M debt restructuring that was completed in 2015. With the support of The Nature Conservancy (TNC), the debt restructuring deal enabled the Government of Seychelles to make a policy commitment to safeguard 30% of its exclusive economic zone in marine protected areas (MPA’s) via a national Marine Spatial Planning (MSP) process.

SeyCCAT is a public-private trust, independently registered, legally established under its own Act (2015) and represents best practice for environmental, social and governance (ESG) screening, accountability and transparency. SeyCCAT can grant, loan or invest its monies.

As a result of this multilateral and blended capital debt restructuring (a world first for marine conservation), SeyCCAT is managing three cash flows: 1, to repay the impact investor, 2, to annually distribute funds via a Blue Fund (over twenty years), and 3, to capitalise an endowment fund that will mature on the twenty first year.

Martin Callow, CEO SeyCCAT

Whilst multi-country loans and grants from international organisations are common in the Indian Ocean region, they are seldom initiated by the regions themselves. Most ocean related organisations in the region have identified Blue Economy as a driver for economic development, but there has been limited progress on its practical implementation and the best means of bringing together actors to develop a common agenda for investors (see regional cooperation section). There is benefit in considering a regional mechanism to

attract large private investors (e.g. Aggregate Climate Bonds or regional trust funds). Examples from other regions would inform such processes (e.g. The Regional Caribbean Biodiversity Fund).⁷³

Domestic Blue Economy implementation should include the following elements:

- Understanding the international financial landscape and opportunities for public and private investment;
- As a high income country, continue advocating for the inclusion of a vulnerability criterion in eligibility for ODA;
- Meanwhile, build intelligence, capacity and partnerships to access public and private investment building on its “Blue Economy Brand”;⁷⁴
- Develop Blue Economy investment guidance for prospective investors, consistent with international initiatives (e.g. EC/ISU/WWF BE investment guidelines);
- Investigate means to reducing the costs of capital and risks through insurance products and resilience bonds and by ensuring a more predictable policy environment;
- Actively seek out interest from potential investors both public (e.g. through Banks, GCF, multilateral and bilateral) and private investors and convene regular Blue Economy Investors Roundtable and listing Seychelles projects on Investors Exchange platforms;
- Secure and develop capacity and financial expertise to negotiate with private investors and international institutions financial deals, which minimise transaction costs and optimise revenue.
- Developing nationally agreed investment “projects”
- Prioritise strategic Blue Economy roadmap investment opportunities, targeting relevant investors, and taking advantage of the private investment sector’ appetite for investing in traditionally public investment domain (sustainability, climate, social impacts etc.) and ensure policy coherence across sectors.

Building national revenue raising capacity through:

- Continued policy reform, fiscal discipline and result based management;
- Expanding the revenue base by improving the profitability of BE sectors through value adding; encouraging greater private sector engagement (e.g. SMEs) and exploring new sectors, focusing on high value consistent with a sustainable “Blue Economy brand”);
- Eliminating perverse incentives which promote unsustainable practices (e.g. fisheries subsidies on fuel and ice which encourage overcapacity and lead to overfishing);
- Reviewing of fees, levies, licenses and resource rent for efficiency and pricing commensurate with use (user pays principle);

⁷³ The Indian Ocean Rim Association, the Nairobi Convention and the Indian Ocean Commission all have a Blue Economy agenda, which could be better aligned and strengthened and a platform for investors.

⁷⁴ The EU, WWF and Prince Charles Charities ISU launched blue economy principles at The Economist World Ocean Forum, which are consistent to Seychelles Blue Economy principles (European Investment Bank, ‘Blue Finance Principles Unveiled to Support Ocean Health and Investment’ 08 March 2018, accessed Jul.18 2018, <http://www.eib.org/infocentre/press/releases/all/2018/2018-060-blue-finance-principles-unveiled-to-support-ocean-health-and-investment>.

- Strengthening compliance and enforcement capacity in the collection of fees, levies, including through e-government and incentives for compliance (e.g. tax rebates for sustainability compliance and accreditation);
- Review of efficiency of state owned Enterprises, and develop measures to eliminate unfair practices (e.g. access to land) and ensure accountability, as well as investigating privatisation options.

Streamlining accountability and transparency on how investment is used:

- Assess current mechanisms and assess efficiency, duplication, transparency and fit for purpose and streamline mechanisms for attracting, receiving and disbursing funds;
- Developing accountability measures and monitoring protocols (e.g. financial and sustainability) based on international best practice (e.g. Environmental, Social and Governance Criteria);
- Put in place a monitoring and evaluation framework for reporting on Blue Economy (see section on monitoring and evaluation);
- Improve Seychelles' attractiveness internationally as a place to invest for large institutional investors interested in Blue Economy and sustainable development outcomes;
- Exploring opportunities for regional cooperation on Blue Economy to increase attractiveness to large investors.

Maritime safety and security

Blue economy and maritime security are intertwined. Non-traditional security threats such as IUU fishing, climate change and marine pollution are increasingly merging with illegal and criminal activities. Increased focus on maritime security and the impacts of IUU fishing make it opportune to develop a national strategy for IUU fishing as a subset of a broader maritime security cooperation strategy integrated with regional efforts.⁷⁵

A national strategy for IUU fishing would help clarify strategic objectives, facilitate a more integrated and coordinated approach and bring together key responses including the domestication of global, regional regulatory and policy instruments and principles (e.g. the Ports States Measures Agreement (PSMA), the scope of the anticipated Biodiversity Beyond National Jurisdiction treaty,⁷⁶ the role of Regional Fisheries Management Organizations (RFMOs), maritime monitoring, control and surveillance capability, seafood traceability,

⁷⁵ For example, the Regional Plan for Fisheries Monitoring, Control and Surveillance (MCS) in the South West Indian Ocean (RPFS) See Indian Ocean Commission, Regional Plan for Fisheries Surveillance in South West Indian Ocean (RPFS) (Smart Fiche 36), http://commissionoceanindien.org/fileadmin/projets/smartfish/Fiche/FICHE_36-ENG.pdf; the Indian Ocean Commission Information Exchange tools for Fisheries MCS (Smart Fiche 37), http://commissionoceanindien.org/fileadmin/projets/smartfish/Fiche/FICHE_37-ENG.pdf and the Fish-i-Africa Taskforce-1. More information at FISH-i-Africa, <https://fish-i-africa.org>.

⁷⁶ There is debate about the role of the treaty to address fisheries, as this is considered the function of RFMOs. Information about the first Intergovernmental Conference, September 4 -17 2018, can be found at United Nations, “Intergovernmental Conference on Marine Biodiversity of Areas Beyond National Jurisdiction”, accessed Sept.17 2018, <https://www.un.org/press/en/highlights/BBNJ>.

accreditation and market mechanisms (e.g. European Union and US import rules) and transparency initiatives such as the Fisheries Transparency Initiative, (FiTI).

Development of a national and regional maritime security strategy and an IUU fishing strategy, consistent with regional initiatives is important, as is increased capacity for monitoring, control and surveillance across Seychelles' EEZ. Seychelles is investing in developing effective fisheries management measures to transition to sustainable fisheries and improve fish stocks, through the World Bank SWIOFISH 3 project and the proceeds of Seychelles Blue Bond, which go hand in hand with addressing impacts of IUU fishing, not just on tuna fisheries but also on small scales fisheries. Building MCS capabilities including the use of new technologies such as satellite monitoring and smart phone based applications are opportunities for more effective surveillance which have yet to be fully explored and mainstreamed into MCS.

With its large EEZ, an economy highly dependent on its oceans (fisheries, tourism) and limited national capacity for prosecution and monitoring, control and surveillance (MCS), Seychelles is highly vulnerable to security risks such as piracy, illegal activities including IUU fishing, human trafficking and broader environmental risks such as marine pollution and climate change. Such security risks require a combination of global regional and national responses.

Regional cooperation and international advocacy

Coordination across global institutions and harmonization of legal instruments at all levels of decision-making (from international to national) poses a challenge. Increased utilization of the ocean, together with threats to healthy oceans and overexploitation of species or habitats, increases the need to coordinate and develop management plans for existing and future uses, integrated at local, national and regional levels.

Regional collaboration to address shared challenges (e.g. implementing a Blue Economy agenda, maritime security, IUU fishing, new markets) can define a competitive advantage; build a common pool of technical resources (educational services, research and development) and attract a greater share of available global development finance.

International engagement, through strategic alliances and global partnerships with island states and like-minded nations influence global policies (e.g. ocean and climate, SDGs), promote development finance, facilitate access to global resources for regional and national Blue Economy implementation and maintain Seychelles' position as a leader in Blue Economy implementation.

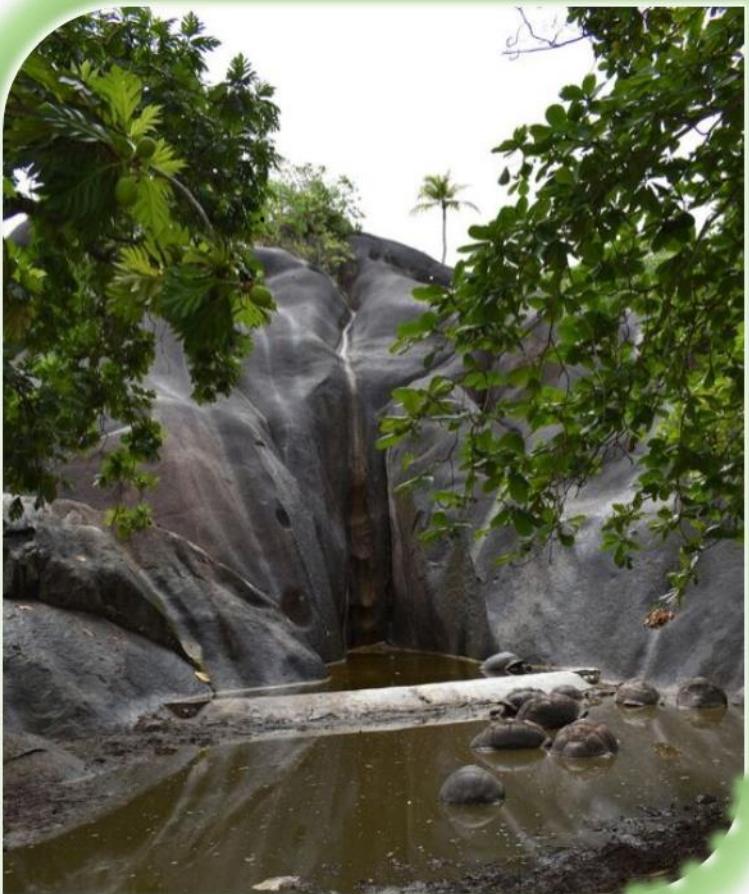
Regional Blue Economy agenda areas could include:

- Opportunities for improved sea connectivity across the region in areas such as ports infrastructure, tourism marketing, IT connectivity and identifying potential regional hubs of economic activity based on the comparative advantage of sub-regions (i.e.

islands and African coastal states. Attention needs to be paid to the impact of broader encompassing initiatives such as the China Belt and Road initiative;

- Collaboration between regional institutions such as Indian Ocean Rim Association (IORA), Indian Ocean Tuna Commission (IOTC), the Indian Ocean Commission, and regional conventions to identify synergies for sustainable fisheries, value chains and aquaculture, renewable energy, tourism and common approaches to the protection of critical areas for marine biodiversity (e.g. the Western Indian Ocean region);
- Exploring trans-boundary marine spatial planning, for example through the Indian Ocean Commission for which Seychelles is President in 2018. This will also require taking into account the EU priority of the Indian Ocean Region regarding regional governance under their International Ocean Governance Initiative;
- Collaborating on the development of a regional marine research, knowledge, and innovation agenda, building on respective capabilities and focusing on marine science, regional resource assessments, socio-economic intelligence, climate change, biotechnology, renewable energy technology, marine conservation, and ecosystem health. This could include regional conferences on marine science and innovation and training workshops, supporting the establishment of regional-based facilities and networks and mechanisms for sharing information, and developing joint training and skills building programmes for a blue economy;
- Continued active engagement within the Indian Ocean Region on areas of common maritime security interest, facilitating joint activities, and hosting regional meetings to build the region's capacity for maritime policing and marine domain awareness including through the newly established REFLEC3;⁷⁷
- Developing joint measures for non-traditional threats such as IUU fishing, climate change, and environmental security, under new or existing mechanisms;
- Identifying investment opportunities at the regional level under existing agreements and by drawing on examples of regional practice from other regions.

⁷⁷ “Regional Fusion & Law Enforcement Centre for Safety & Security at Sea”, <http://www.rappicc.sc/>.



4. Current and Emerging Focus Areas for the Blue Economy

'The Blue Economy represents a new frontier for Seychelles. Seychelles is the first country in Africa to develop a Marine Spatial Plan that better protects our ocean, creates opportunities for investment, and generates more wealth for our economy...we are the first country in the world to use an innovative debt swap mechanism where the protection of our ocean is used to reduce our debt....the Blue Economy represents new investment, new professional careers, and new opportunities.

State of The Nation Address by President Danny Faure, 6 March 2018



Photo Credit: Seychelles Ports Authority

4.1 Coastal and marine tourism: strengthening a sustainable tourism blue brand



Photo Credit: Seychelles Ports Authority

Tourism is a major employment generator with over 1,000 Seychellois tourism operators. 13% - 17% of Seychellois workers (2016) directly depend on tourism for their living, mostly in a semi-skilled capacity. The average number of employed persons in tourism related industries stood at 11,813. This represents 25% of total employment in the second quarter of 2017.⁷⁸

The tourism sector includes approximately 571 establishments,⁷⁹ with an average occupancy rate of between 50 to 65%, depending on the type of establishment and location. Visitor return rates for 2016 averaged 16%,⁸⁰ with the number of visitors to Seychelles increasing by 10% to just over 303,000. Receipts from international tourism grew from US\$393 million in 2015 to US\$407 million in 2016, equivalent to US\$1,342 per visitor. The direct contribution of tourism to total GDP at current market prices in 2015 was 25%. The quality of Seychelles' coastal and marine environment is a major attraction for tourists with key beach activities including snorkelling, scuba diving, sport fishing and water sports activities. Yachting and cruise activities attract about 15% of visitor arrivals in Seychelles, making it a small but not insignificant sector.

⁷⁸ National Bureau of Statistics 2017.

⁷⁹ Tourism Department, 2017.

⁸⁰ National Bureau of Statistics 2016.

Challenges

Emerging trends in the sector indicate that airline seat capacity has increased in recent years, and tourism arrivals have followed, but this has not significantly changed the occupancy rate. This is due to an informal growth sector of unregistered, self-catering and small guest house establishments including those marketed directly through shared economy platforms. This is accompanied by variable service standards, changes in destination perception with spending per tourist on a downward trend, putting marketing of Seychelles as a pristine, upmarket blue destination at risk.

The sector faces a challenge of maintaining the number of visitors at sustainable level and at the same time, enriching the tourism experience particularly in the area of pricing and cultural resource use. Seychelles currently ranks 123 of 141 countries on price competitiveness⁸¹ and 138 for cultural resources and business travel.⁸² Addressing systemic issues such a favourable business environment, including entry by local investors and operators, and skill development are important strategies. A comprehensive review of carrying capacity in terms of destination image, ecological capacity and environmental sustainability would complement the recent study on accommodation and employment carrying capacity.⁸³

Unsustainable expansion of facilities negatively affects existing infrastructure, particularly in high-density areas so developing management plans for such areas is required. There is a commendable accreditation scheme for hotels, however developing mandatory standards for the tourism industry as a whole is necessary, together with consideration to user fees to support management of those areas.

Strategic opportunities

A Blue Economy/tourism image based on sustainability credentials, quality and diverse visitor experiences (e.g. low density/nature based tourism) products, service and quality price ratio will bring value added revenue and opportunities for local employment and investment to Seychelles without expending the current hospitality infrastructure. Whilst there is scope for increasing visitor numbers within the existing bed availability, this is not necessarily advisable. *The Seychelles Tourism Master Plan 2012-2020*,⁸⁴ currently being validated, includes measures such as a moratorium on new permits for large hotels extended until 2020, and a reallocation of unused beds to existing operations. Other areas of focus include securing investment opportunities for local business expansion, equal opportunities for those with limited capacity to have a fair and equal opportunity for investment, environmental sustainability, which is considered crucial for today's travellers, the collection

⁸¹ World Economic Forum, *Travel and Tourism Competitiveness Report 2015* 40.

⁸² *ibid* 46.

⁸³ I Richter, 'Carrying Capacity Study for the Inner Islands of the Seychelles towards Sustainable Tourism and Residential Development' (2016).

⁸⁴ Seychelles Tourism Board, *Seychelles 2012-2020 Tourism Master Plan* (2011).

of timely and accurate data for the development of better informed policy and access to trained & reliable human resources.⁸⁵ These are positive responses.

Critical elements include strategically diversifying the tourism market, for example towards Asia and Africa, regulating the small scale sector, improving service standards to retain the high-end market and addressing destination perceptions in terms of a quality tourism experience based on a natural and pristine environment. A more diverse range of tourism opportunities and products to improve the visitor experience, increase expenditure per visitor and streamline the business environment are important. Local and international accreditation of hotels and tourism service providers based on environmental footprint reduction measures would help ensure the protection of the environment and lead to improved efficiency, as well as be attractive to sustainability conscious investors, consumers and visitors.

Box 6: The Seychelles Sustainable Tourism Label (SSTL)

The Seychelles Sustainable Tourism Label (SSTL), recognized by the Global Sustainable Tourism Council (GSTC) is a voluntary certification programme which aims to enhance the quality and sustainability of visitors' experiences by mitigating tourism's negative economic, environmental and social impacts on the destination and contributing to the preservation of natural and cultural treasures for the future generations of Seychelles.



It is user-friendly and designed to encourage hotels to mainstream sustainable practices into their operations and thus safeguard the biodiversity and culture of Seychelles. The SSTL is presently applicable to hotels of all sizes. Interested hotels apply for the SSTL by way of a letter or email with a copy of their internal audit results, which are reviewed for completeness. A third party assessment is then set. Results are verified, and if the hotel has scored the minimum points for its size, it is recommended for an award with an "approved" status. Should the hotel not score the minimum required points, it will be recommended for re-assessment within six months with a "pending" status.

An Awards Panel meets to review the recommendations and will confirm the award unless irregularities are identified. In order to achieve the SSTL a hotel needs to demonstrate that it has adopted a minimum number of sustainable business practices. Some practices are required for all businesses while others are optional. The criteria have been designed to be inclusive and encourage an incremental approach to sustainability. There are three basic criteria that a participating enterprise must meet to achieve the SSTL.

See <http://www.sstl.sc/>. Seychelles Ministry of Tourism

Increased tourism product development based on a greater range of quality, nature-based opportunities and niche lifestyle products derived from local products, food, cultural

⁸⁵ Statement by new Minister of Tourism, Civil Aviation, Ports and Marine, Didier Dogley reported at Alain St. Ange, "Seychelles Tourism stakeholders meet to finalize review of Tourism Master Plan" 11 June 2018, accessed Sept.16, 2018, <https://www.eturbonews.com/225241/seychelles-tourism-stakeholders-meet-to-finalize-review-of-tourism-master-plan>.

heritage and creative arts, would benefit the tourism sector and provide opportunities for local investment and MSMEs by opening up new revenue streams to support Seychelles' nature conservation and cultural heritage management.⁸⁶ The proposed cabinet-approved Maritime Museum, would be an invaluable tourism attraction, and educational asset. This can have multiplier effects on local employment and be a focal point for future international, regional and national cultural events, improving the visibility of Seychelles and the Indian Ocean as a region.

There are opportunities to market Seychelles' tourism through regional cooperation. Efforts to improve ports infrastructure to cater for small cruises is also planned in collaboration with other Indian Ocean islands, to enhance the region's competitiveness as a destination.

Box 7: Vanilla Island Association

The Vanilla Islands Organisation began as a concept under the aegis of the Indian Ocean Commission with joint agreement by six islands of the region - Mayotte, Comoros, Madagascar, Seychelles, Mauritius and Reunion. The Organisation's prime objective is to position the Indian Ocean region as a quality world-class holiday destination that offers unparalleled diversity and sustainable tourism and to foster the prime objective of developing the tourism sector. This will be accomplished through multilateral agreements with stakeholders combining expertise and joint action plans to maximize efficiencies in attracting high-end visitors to the region. Steps include coordination and joint collaboration with member countries' tourism promotion infrastructure, analyzing tourism trends and long term perspective of tourism growth within the region, and identifying new, unexplored avenues and markets. Innovative concepts such as a regional carrier, improved cooperation between member states' airlines and development of the cruise ship industry to promote fly/cruise products are being seriously explored. *Ministry of Tourism and Seychelles Ports Authority*



⁸⁶ The World Bank, *Seychelles Tourism Value Chain Report* (2016) provides useful guidance on opportunities for the sector diversification from encouraging creative activities, to local food production.

4.2 Securing Fisheries and Transitioning to Sustainable Fisheries



Photo Credits: Seychelles Maritime Academy

Seychelles has a well-developed capture fisheries sector with gross total current account receipts of SR 15.961 billion or 31.5% total current account receipts in 2012. The fisheries sector represented 96% of total national exports in 2014.⁸⁷ Fishing and related sectors employ 5,000 – 6,000 people, approximately 10% of the total formal work force,⁸⁸ the majority of whom are employed by the Indian Ocean Tuna Ltd (IOT) cannery, a Thai Union Group company, which comprises a mostly foreign labour workforce of 2,300.⁸⁹ IOT is the largest single exporter on Mahé.⁹⁰ Exports consist of canned tuna, fishmeal and fish oil, with the latter being used in the production of Omega 3 oils and other products used by the food industry.

Fishing sub-sectors are mainly artisanal or demersal, industrial and semi-pelagic, and seafood processing.⁹¹ Artisanal fisheries consist of mainly hook and line and trap fishing by approximately 1300 fishermen (52% being boat owners/fishermen), with 31 % earning less than SCR5000 a month. Small-scale artisanal fisheries exploit a high diversity of species and habitats and are the main source of local fish supply, with some emblematic species showing signs of overfishing (e.g. Bourswa, *Lujanus sebae* species). This also appears to be the case for the sea cucumber fishery despite the fact that there is a limit to the number of licences

⁸⁷ The World Bank, *Third South West Indian Ocean Fisheries Governance and Shared Growth Project (SWIOFish3)* (P155642) (07 March 2017) 4.

⁸⁸ Seychelles Fishing Authority, *Annual Report 2014* (Seychelles Fishing Authority 2017) 5.

⁸⁹ *ibid.*

⁹⁰ World Bank Group, *Country Diagnostic Report* x.

⁹¹ Third South West Indian Ocean Fisheries Governance and Shared Growth Project (Swiofish3) Process Framework.

issued due to limited monitoring and enforcement capacity. Management plans for those fisheries are being developed, but so far have not been gazetted or implemented. Local fisheries are heavily subsidised (ice, fuel, VAT exemptions and cheap loans) at a high cost to government. This contributes to overcapacity, leading to inefficiencies and further resource depletion. Whilst subsidies can encourage positive behaviour change, they need to be used with care. Phasing out subsidies is a sensitive matter, and requires good communication for their implementation.⁹²

Indian Ocean tuna fisheries consist mainly of skipjack, yellow fin and big eye species, contributing 20% of the global tuna catch.⁹³ Seychelles is a member of the IOTC, which has responsibility for the management of trans-boundary tuna fisheries. IOTC data suggests that tuna species are near full exploitation or overexploited, as is the case of yellow fin tuna.⁹⁴ As result, the IOTC agreed on Resolution 17/01/ for a reduction of yellow fin tuna catch by 15%.⁹⁵ A number of fisheries agreements with European nations and private foreign companies regulate access rights to and benefits from Seychelles EEZ tuna fishing grounds. There is also a reciprocal fisheries agreement with Mauritius. Whilst EU fishing agreements are publicly available;⁹⁶ this is not the case for other agreements.

Challenges

Fish stock depletion is a matter of importance for coastal states economies and prosperity. Most fisheries are near or fully overexploited, consideration may need to be given to a shift from the current open access system to a greater rights-based management regime suited to local/regional circumstances. Domestic issues include the aging of the local fisher population, low attractiveness of fishing as an occupation, the need to phase out subsidies, and exploring how best to improve resource rent from tuna fisheries, including through fisheries agreements.

The introduction of IOTC harvest control rules for yellow fin tuna (Resolution 17) and the use of fish aggregating devices (FADs) have brought to light the urgent need to develop a national tuna management plan to implement the Resolution, in ways that will minimise impacts on the industry, and ensure compliance and the sustainability of the fishery overall.

Importantly, measures are needed to promote the use of non-destructive fishing technologies to reduce impacts on non-targeted species (e.g. FADS and discarded fishing equipment). Whilst this is an issue with yellow fin tuna, other tuna species could be overfished. This is compounded by the impact of IUU fishing, which further depletes the tuna

⁹² J Wilson, 'The Fisheries Sector: A Policy Note for the Republic of Seychelles' (2017).

⁹³ World Wildlife Fund, "Indian Ocean Tuna Fishery Improvement Project", accessed Aug.18, 2018, <https://www.wwf.org.uk/what-we-do/projects/indian-ocean-tuna-fishery-improvement-project>.

⁹⁴ Indian Ocean Tuna Commission, "Status Summary for Species of Tuna and Tuna-Like Species under the IOTC Mandate, as well as other Species Impacted by IOTC Fisheries", accessed Aug.18, 2018, <http://www.iotc.org/science/status-summary-species-tuna-and-tuna-species-under-iotc-mandate-well-other-species-impacted-iotc>.

⁹⁵ Indian Ocean Tuna Commission, Resolution 17/01 on an interim plan for rebuilding the Indian Ocean Yellow fin tuna stock in the IOTC area of competence (year of adoption: 2017).

⁹⁶ European Commission, "Bilateral agreements with countries outside the EU: Seychelles", accessed Sept.10, 2018, <https://ec.europa.eu/fisheries/cfp/international/agreements/seychelles>.

stocks and limited resource availability for enforcement. Seychelles is engaging with the IOTC on the setting of its tuna quota and phasing out the number of FAD and supply vessels.

Whilst sport fishing comes under the jurisdiction of the Seychelles Fishing Authority (SFA), sport fishing charter operators' licenses are issued under the Tourism Department, as vessels need to undergo inspections to carry passengers. Whilst sport fishing may contribute significantly to the overall catch for a given species, there are currently no quotas or sport fishing licenses, and sport fishing data which would allow monitoring, catch limits and inclusion of their catch has not been included in fisheries data collection, analysis and management. As a result, it is difficult to gauge their contribution to fishing effort and catch.

Weak compliance and enforcement capacity remains a critical issue for the SFA. The Seychelles Fishing Authority Strategic Plan may help address refocusing on attracting and retaining staff, and prioritising core management responsibilities over non-core activities.

Strategic opportunities

Fish less, fish smarter – value chains and seafood traceability

Despite being a mature sector, considerable diversification potential exists by increasing handling and storage capacity by provision of better fish processing facilities. The Ile du Port Handling Services (IPHS), a joint venture company between the Government, a foreign investor and private Seychellois shareholders, provides a 425m quay with premium berthing and handling services to tuna fishing ship owners, and has been in operation since January 2016. In addition, a Central Common Cold Store, able to store up to 12,600 tonnes of fish is scheduled for completion in 2019, and will contribute to value addition of tuna resources and improved logistics in port, leading to increased revenue and cost savings as well as providing opportunities for new business to be developed.

With some 250,000 tonnes (2016) of tuna being transhipped through Port Victoria, the opportunity to maximise domestic processing, promote export and increase Seychellois stakeholders' involvement in the industry is significant and could make Port Victoria a primary seafood processing hub in the Indian Ocean. However, some trends may indicate otherwise as although transshipping in Port Victoria has almost doubled between 2013 and 2016, landings have decreased slightly over that same period.⁹⁷

Fisheries exports have primarily focused on canned tuna. This is a major export earner for the country (40% government owned), with the main tuna value chain being low value canned tuna primarily processed through IOT. Developing higher value fish products based on existing facilities utilising fish landed by purse seiners could provide new opportunities. At the same time, the feasibility of targeting the high-value sashimi export market and encouraging long liners to Seychelles should be investigated. This will most likely require dedicated infrastructure.

Finally, the potential for innovation in the use of fish by-products is high for the food, pharmaceutical, fashion and cosmetic industries. This is an area which Seychelles lacks

⁹⁷Personal Communication, Mr. Philippe Michaud, Senior Special Advisor, Blue Economy.

capacity and may not be able to develop in the short to medium term. The Government is preparing a by-catch policy, which should provide guidance to operators and experience from Nordic countries could inform Seychelles' approach, and improve access to technology.⁹⁸

To ensure these opportunities are realised, legal and regulatory reforms will be required. The Fisheries Act was reviewed in 2014⁹⁹ (in part to allow for aquaculture and ecosystem rights based management) whilst the *Seychelles Fisheries Policy 2005*¹⁰⁰ requires revision.

Effective sector governance arrangements will require continued efforts in formation of local partnerships, the establishment of mechanisms to foster greater levels of accountability, transparency, sharing of information, improved enforcement, and the adoption of market-based incentives for sustainable fishing.

Developing artisanal fisheries management plans and introducing catch limits for key species is an essential step towards sustainable fisheries. This requires a phased and participatory approach, supported by a sustained communication campaign to bring the local fishing community on board. With a reduction of effort on the horizon, it will be important to provide opportunities for alternative employment and training, to facilitate a shift to post harvest activities and alternatives to fishing activities. Ensuring effective private sector engagement through government support for associations would clarify private sector interests and greatly facilitate their involvement in decision-making, leading to better long-term outcomes.

Box 8: The Blue Bond/Third South West Indian Ocean Fisheries Governance and Shared Growth Project (SWIOFish3) – investing in sustainable artisanal fisheries

The fisheries sector is the second most important sector of Seychelles' economy, closely behind tourism. Many fisheries in Seychelles lack management measures that regulate either the levels of fishing or the amount of fish that can be caught in order to prevent overfishing. Fisheries are also subsidised, which coupled with overfishing and an absence of limits on the number of fishing licenses or quota, has led to overcapitalisation, i.e. too much fishing capacity for the amount of fish that can be harvested sustainably. Best practises for fisheries management, including co-management, agreed-upon management decision rules, and ecosystem and rights-based approaches, are legislated for (*Fisheries Act 2014*) but are yet to be implemented in most fisheries. Meanwhile, the performance of fisheries value chains is hampered by operational inefficiencies, economies of scale, low differentiation and market penetration, and high costs of labour, utilities and credit. Recognising these challenges, Seychelles has initiated the Third South West Indian Ocean Fisheries Governance and Shared Growth Project (SWIOFish3).

SWIOFish3 is built on a novel blend of financing, comprising loans from the World Bank and a grant from the Global Environment Facility (GEF), totalling US\$ 10.29 million. It will also be financed by

⁹⁸ Nordic Atlantic Cooperation (NORA), Nordic Council of Ministers, FAO, The Commonwealth Secretariat, Faroe Islands, *Final Report from the Large Ocean Nations Forum on Blue Growth, Malta, October 2017*, (Torshavn: NORA, 2018).

⁹⁹ Government of Seychelles, *Fisheries Act* (Act No. 20 of 2014).

¹⁰⁰ Seychelles Fishing Authority, *The Fisheries Policy* (2005).

the issuance of a Blue Bond to private investors by the Government of Seychelles, the first of its kind in the world and expected to be valued at US\$15 million. A World Bank guarantee (€5 million) and a GEF concessional loan (US\$ 5 million) have been leveraged in support of the Blue Bond.

Fisheries governance reforms are being addressed through SWIOFish3 support to the design and management of sustainable-use marine protected areas and the implementation of the Mahé Plateau Demersal Fisheries Management Plan. Sustainable-use marine protected areas are being identified across the exclusive economic zone (EEZ) through the Seychelles Marine Spatial Planning (MSP) initiative. SWIOFish3 is assisting in the formulation of fisheries management standards and plans for these protected areas, assessing their biological and socioeconomic impacts and implications for fisheries access agreements, and is supporting the implementation of monitoring, control and surveillance plans. As part of the Mahé Plateau Demersal Fisheries Management Plan, the SWIOFish3 project is designed to support rebuilding of stocks and fishery profitability, while laying the foundation for a transition to rights-based fisheries management. Further SWIOFish3 support for governance reforms include strengthening of the policy and strategic development frameworks, and improved quality of and access to fisheries information. A Blue Grants Fund is being established with proceeds of the Blue Bond to further reinforce public and private sector engagement in the governance of marine resources.

Governance reforms will pave the way for sustainable investment in the fisheries sector, ensuring the resource base remains protected as fisheries value-chains expand. Creating an enabling environment for investment is a core component of SWIOFish3, which aims to identify opportunities for strengthening and diversifying value chains while designing a turn-key financial mechanism to receive and disburse the private investment in the Blue Bond to investments in Seychelles' fisheries sector (through a Blue Investment Fund). Importantly, the eligibility of investments in the value chains is linked to milestones in governance reforms. SWIOFish3 therefore establishes the institutional competencies and frameworks for the sustainable management of fisheries, and promotes the development of a Blue Economy through the creation of incentives for stakeholders to engage in the needed reforms.

Dr Jan Robinson, Coordinator, SWIOFISH3 project, World Bank

Towards a Seychelles tuna management plan

The tuna economy of Seychelles has played a critical role in the country's development over the past four decades. Seychelles geographic location *vis a vis* tuna fish stocks and the extension of Port Victoria as a strategic port for tuna fishing, give it a unique competitive advantage to improve revenue from licensing, port services and post-harvest fish processing activities, despite constraints due to land scarcity.

With the introduction of IOTC management measures for yellow fin tuna, there is urgent need to develop a national tuna management plan to manage its quota so as to minimise impacts on the sector and ensure compliance. Whilst minimising immediate impacts on the sector is urgent, over the longer term it is will be essential to consider a range of options to obtain adequate resource rent from the country's fisheries resources.

An expert review of terms and conditions of tuna fisheries agreements could identify options to improve both sustainability and profitability of tuna fisheries. There is also an opportunity for local investment in the tuna fisheries sector with the possibility of a Seychelles owned (as distinct from flagged) tuna fleet being established. Such consideration will require robust information and the economic feasibility of such a transition would have to be considered including incentives to facilitate local ownership. There is a significant amount of data being collected at the national and regional level, which, if made easily accessible, could effectively inform management decisions and the enforcement of management measures in place.

Seychelles “blue fish” brand

With importance placed on seafood traceability and combatting overfishing, the Seychelles “Blue Economy brand” as a label for sustainable fisheries, offers a competitive advantage in global markets. Two initiatives in that direction include: third party eco-labelling and accreditation of Seychelles fisheries by the Fisheries Improvement Project (FIP April 2017-March 2022) being developed under the Marine Stewardship Council for purse seiners, and the Fisheries Boat Owners Association local fish labelling project (see Boxes 9 and 10).

Box 9: Seychelles Fisheries Improvement Project

With growing consumer demand for sustainably caught seafood and overfishing of important stocks, Seychelles has launched a Fishery Improvement Project (FIP) in collaboration with industry and the World Wide Fund for Nature (WWF). The project, named the Sustainable Indian Ocean Tuna Initiative (SIOTI), aims to achieve measurable and verifiable improvements in the Indian Ocean tuna fisheries that are targeted to meeting the fisheries sustainability standard set by the Marine Stewardship Council (MSC).

The MSC Fisheries Standard reflects international best practice in fisheries management and is based on the United Nations Food and Agriculture Organisation Code of Conduct for Responsible Fisheries Guidelines. To meet this standard, fisheries must be well managed so that fish stocks remain healthy and impacts on the environment are minimised. Therefore, achieving this standard would provide credible verification of the sustainability of Indian Ocean tuna fisheries.

SIOTI is a multi-stakeholder effort that will utilise the collective power, resources and efforts of the partners to bring about positive improvements to the way tuna fisheries are managed. It will focus on stocks of skipjack, yellow fin and big eye that are targeted by French, Italian, Spanish, Mauritian and Seychelles-flagged purse seine vessels in the Indian Ocean. Improved performance goals and activities of SIOTI will focus on the development of robust harvest strategies for tuna, ensuring that management measures are in place to maintain target and secondary species above biological limits, and providing a framework to manage the ecosystem impacts associated with purse seine fishing. Thus, SIOTI will focus on the key areas of sustainable sourcing (healthy and well managed fish stocks, minimal and reversible impact on ecosystems, and an effective fisheries management framework) and ensure that best practices are adhered to by supporting the development and adoption of appropriate conservation and management measures by the IOTC.

The SIOTI partnership, with a coordination role by the Seychelles Fishing Authority, comprises 17 industry partners: ATUNSA Inc.; Beach Fishing Limited; Compagnie Francaise du Thon Océanique; Hartswater Limited; Inpesca Fishing Ltd; Indian Ocean Ship Management Services; Interatun Ltd.; Industria Armatoriale Tonniera; Isabella Fishing, Ltd; OPAGAC; Orthongel; OPTUC; Princes Limited; SAPMER SA; Thai Union Europe; Thunnus Overseas Group; and Tuna Fishing Company.

Box 10: Fisheries Boat Owners Association Labelling Project

Seychelles hook and line fishermen have launched a Label Program, in partnership with the Seychelles Fishing Authority and the Seychelles Bureau of Standards. It is a voluntary code of conduct based on set standards criteria for certification, developed with and endorsed by the fishermen. These standards translate the commitments of the fishermen operating under the scheme. It is a multiple-attribute certification of the product including: selectivity (hook and line), origin, quality and freshness, traceability, resource sustainability and respect of the environment. These attributes allow fishermen to provide consumers a “premium” fish product from Seychelles, unique on international seafood markets.

To guarantee the origin of the fish, it is tagged with a label, including a reference code of the fishing boat on which the fish was captured. Entering this code on the Program’s web page enables full traceability of the fish, i.e. who, where and how the fish was caught with ability to retrieve information about the fishermen, the boat, the fishing ground and the fishing technique employed. By providing traceability, the label tagged on the fish is a powerful tool against IUU fishing and assures the consumers that the product has not contributed to the problem. This makes the product and the fishery “IUU Free”. The Label program is also a tool for management of the resources as it provides traceability, sustainability (including technique, size of the fish, respect of protected species and marine protected areas). The engagement of the artisanal fishermen in this project shows that they can be major partners in the protection of resources, sustainable exploitation and management. The project promotes sustainable practices and allows small-scale fishermen to sustain their activities in a fair manner.

Virginie Lagarde, Fishing Boat Owners Association

Streamlining Fisheries Governance

Seychelles Fishing Authority manages Seychelles’ monitoring, control and surveillance (MCS) programme as part of its responsibility under the Fisheries Act 2014. It collaborates with local and regional partners including the Police, Coast Guard, Air Force and National Drug Enforcement agencies to ensure compliance through the NISCC. Regionally, the high profile of IUU fishing and its momentum at the regional level in the Indian Ocean region is reflected in the Indian Ocean Rim Association (IORA) Leaders Declaration 2015,¹⁰¹ and the Lomé Charter.

Initiatives such as a review of the mandate of the SFA under the Fisheries Act 2014, the 2005 Fisheries Policy and the Seychelles Fishing Authority Establishment Act to enable greater focus on fisheries management and significant reduction of non-core functions such as administration of subsidies and business owner responsibilities, would free up much needed capacity for fisheries policy, management and regulation. Further clarification of the respective roles and responsibilities of the SFA and the Ministry of Fisheries and Agriculture would improve efficiency and transparency of decision-making.

An economic intelligence unit would greatly enhance Seychelles’ fisheries management capacity.

¹⁰¹ Indian Ocean Rim Association, *Declaration of the Indian Ocean Rim Association on enhancing Blue Economy Cooperation for Sustainable Development in the Indian Ocean Region* (Mauritius 2 – 3 September 2015).

Fisheries Transparency Initiative

Seychelles has been a strong advocate of the FiTI, which seeks to establish a global standard for fisheries information to be made available for more transparent decision-making. A level playing field at the regional level would encourage a more strategic approach to decision making by coastal states *vis a vis* distant fishing nations with regard to negotiating fisheries agreements.

Regional and International Cooperation

Seychelles, as a member of the IOC, participates in a regional MCS programme aimed at sharing intelligence as well as building capacity for enforcement to address IUU fishing. IUU fishing represents a major threat to sustainable fishing by taking away from legitimate fishing efforts, leading to resource depletion. Cooperation is essential to address common concerns.



4.3 Port infrastructure and Maritime Transport

International shipping and port infrastructure are vital to the economy of Seychelles. Port Victoria is operated by Seychelles Ports Authority (SPA), under the responsibility of the Ministry of Tourism, Transport and Aviation. The SPA provides a variety of commercial facilities including container, general, bulk and project cargo handling and storage, bunkering, warehousing, a commercial slip and the inter-island terminal and quays. Fishing and associated activities are a large component of port activity, generating demand for processing landing and trans-shipment facilities, fuel supplies and associated services and commodities. As a landlord port, income from port services comes primarily from concession fee arrangements paid for cargo handling (24%) followed by tuna transhipment (11.3%) a combination of towages dues, pilotage and berthing fees, with cruise passenger fees only contributing 1%. Increase in tourism developments on the inner islands has led to a threefold increase in inter-island boat transport between Mahé, Praslin and La Digue.

The Seychelles Port Authority Income streams are under review as part of the port's current development plans. The current, multi-module, Port Development Study being developed by the Commonwealth Secretariat makes recommendations on achieving a better balance in terms of income sources, coming into line with other ports in the region and through these and other instruments upping the scale of annual Port Authority earnings.

Challenges

Seychelles' Port Victoria operates as a multipurpose port and is most likely to remain so, with cargo, cruise and tuna set to dominate port activities and revenue for the foreseeable future. Fishing activity has also recently been improved by the construction of a new privately-owned quay and terminal area, which will accommodate a large new cold store. (See previous fisheries section).



The recent port development approach has of necessity entailed determining different sector requirements to meet future demand in a competitive and cost effective way. A review of tariffs as well as institutional reform with regard to the port management model and long-term concession agreements for port operations is underway.²

With oversight for ports and shipping resting with several institutions, there is some level of duplication, with unregistered activities such as local pleasure crafts not under any form of management, falling between the cracks. At a more general level, the lack of an electronic centralised compulsory vessel registration system is an impairment to effective vessel movement management. Other issues, also common to other sectors, include the need to train and retain a skilled and reliable workforce, and promoting a spirit of entrepreneurship.

Strategic opportunities

SPA is embarking on an ambitious plan to expand and modernise infrastructure, improve availability and quality of services and safety, diversify ports revenue, and ensure environmental sustainability. This is absolutely essential in the cargo sector which for some time now has been subject to changes in the shipping sector such as increases in ship size and the phasing out of geared vessels (ships with their own cranes for cargo handling). Port facilities have to be modernised accordingly and via the new multi-purpose cargo terminal concession, operating standards raised in line with international benchmarks. Similarly, larger cruise vessels placing pressure upon port facilities and operations will also benefit from the port upgrade. The changes underway also mirror developments at other ports in the region.

Seychelles' strategic geographic position regarding tuna stocks means that it will remain the port of choice for tuna landing and transhipment, provided external factors such as climate change do not affect the distribution of tuna stocks. Extending service operations to 24 hours will increase the attractiveness of Port Victoria. Additionally, with the IOTC decision to land all by catch, there is an opportunity for building trade in fish products through Port Victoria to the region. Maintaining small-scale fishing port facilities and good inter-island transport facilities in the Inner Islands are also essential to supporting tourism activities.

Seychelles' location outside the cyclone belt means safe harbour facilities for vessels. Providing quality ship maintenance, fish storage, processing and other facilities are opportunities for diversifying revenue stream from fishing. Benefits to Seychellois can accrue through employment creation, and the issue of overfishing can be mitigated by incentivising post-harvest activities, thus facilitating a transition to sustainable fishing for example by utilising the Ile du Port Storage and Processing facilities. Supplying merchant and naval vessels with local food and products could also provide a market for local produce. The potential for out of season activities needs to be better identified through assessment of the potential for sales of local food produce to surveying calling vessels.

In recent years, there has been a steady stream of cruise ships calling into Port Victoria, yet facilities, tourism opportunities and products to fully cater for this market are still limited (see sustainable tourism section). Evaluation of initiatives for developing an authentic

experience for cruise visitors is useful and a cruise policy is being developed to provide the framework for a sustainable and profitable cruise sector. Green ports strategies, which provide for waste management facilities, reduce marine pollution, and focus on renewable energy, are useful models to ensure certain standards are met above and beyond international obligations.

Marketing Seychelles as a small to mid-range cruise ship destination, if well managed, can realise additional benefits. Seychelles Port Authority, as a member of the Port Management Association for Eastern and Southern Africa, hosted a cruise tourism strategy conference to discuss synergies and foster an Indian Ocean collective cruise ship destination marketing strategy.

Productive collaboration between national and regional agencies on maritime security and safety, particularly against piracy, has been effective in securing the safety of ports and surrounds. However, this has to be placed in context of a homeport potentially generating much bigger benefits. A Master Plan for port development over the short to longer term would be most beneficial given the structural changes underway.



4.4 Mariculture

With 33.1% of global fish stocks fished beyond biological sustainability,¹⁰² there has been a massive expansion of fish and shellfish farming (mariculture) to meet global demand. Recognising its potential contribution to the Blue Economy, Seychelles is committed to the development of a sustainable mariculture industry. To date, mariculture ventures in Seychelles have included a successful pearl farm operation in Praslin and sea cucumber fishing under a fisheries licence system with limited entry. Until 2008/9, Seychelles operated a black tiger prawn farm on Coëtivity.

The *Seychelles Mariculture Master Plan (MMP)* developed in 2011 and finalized in 2015, aims to ‘enable Seychelles to develop a sustainable mariculture sector that is integrated into its economic vision and respects the unique and sensitive nature of the marine environment’.¹⁰³

The Mariculture Master Plan proposes the development of caged fin fish farming based on 3 scenarios, first a “low road” scenario whereby by mariculture is mainly land based and inshore (within 2 kilometres), focused on low trophic mariculture (e.g. sea urchins and sea cucumbers); a second “medium road” scenario with a combination of land based and inshore and Aquaculture Development Zone (ADZ) finfish cage farming; and a “high road” scenario focused exclusively on offshore aquaculture finfish cage farming.

Each of those scenarios comes with projected investment, production capacity, revenue stream and human resource requirements. A pilot project for fin fish cage farming, an ADZ, has been endorsed by Cabinet, including a research and development facility, a land based Brood Stock and Acclimation Quarantine Facility and a pilot hatchery with capacity of up to 200 tons per annum. The recently amended Fisheries Act (2014) provides the legal framework for the development of a mariculture sector. The Act requires the development of a mariculture sector plan and policy¹⁰⁴, as well as regulation of mariculture operations to include standards and licence conditions, compliance and enforcement.¹⁰⁵ An environmental and social impact assessment was conducted and approved in 2017.

Challenges

The proposed approach to Seychelles’ development of a new mariculture sector is based on high value fin fish farming, principally red snapper, for frozen whole or fileted fish to market. Challenges faced by this emerging sector include high input capital for infrastructure development: land, investment, research and development, reliance on imported feed and

¹⁰² Food and Agriculture Organisation of the United Nations, *The State of World Fisheries and Aquaculture 2018*, (Rome: FAO, 2018), 6.

¹⁰³ Seychelles Fishing Authority, “Seychelles Aquaculture”, accessed Aug.22, 2018, <https://www.seyaquaculture.com/>.

¹⁰⁴ The Mariculture Master Plan was completed in 2015; more information is available at Advance Africa, “Seychelles Mariculture Master Plan”, accessed Sept.16, 2018, <https://advanceafrica.co.za/project/seymmp/>.

¹⁰⁵ A draft Seychelles National Aquaculture Policy (SNAP) was produced in 2014 which led to the development of the Aquaculture Regulations in the Fisheries Act 2014. A set of Aquaculture Standards have also been developed. See further, Regulations for the sustainable development and management of Aquaculture and Sea-Ranching in the Republic of the Seychelles’ which formed Part III, Sub part 7, Sections 34 (2) and (3) of the Fisheries Act of 2014.

labour, availability of sufficient processing facilities, and most importantly the need for a highly qualified workforce not currently available in the country.

Community concerns include the siting of cages, potential impacts of high nutrients on the marine environment, loss of tourism amenities, as well as possible competition with artisanal capture fisheries and limited opportunities for local investors. Lessons learnt from other islands such as Mauritius which has an existing mariculture sector, would be useful to inform the development in Seychelles. A cross-sectoral high-level committee on aquaculture chaired by the Vice President is overseeing the development of the mariculture sector.

Strategic opportunities

Seychelles has been promoting small-scale mariculture as an alternative to artisanal fishing as a strategy to reduce pressure on wild caught fish, through the World Bank SWIOFish3 programme. A driving force for small scale mariculture should be on targeting high value species and products, for example for the tourism market (e.g. shells, corals, clams, marine plants etc.) or to supply semi processed products for the food, pharmaceutical and cosmetic industries, to make it a viable value proposition. Exploring opportunities for local investment would be desirable to ensure a more diversified sector.

There would be value in exploring the feasibility (and export market opportunities) of high value small-scale aquaculture and learning from experience abroad.¹⁰⁶ The proposed Research and Development Facility, planned at this stage for fin fish farming only, could be expanded in due course to develop the expertise and optimise techniques for growing (as feasible extractive by products) from a range of marine species beside fish.

Seychelles Mariculture Master Plan however primarily focuses on caged finfish farming (which is included in the range of mariculture opportunities Seychelles should consider), but so far does not provide for small-scale mariculture. Cabinet has approved a pilot project for cage fish fin farming which will be evaluated before proceeding to large-scale implementation of caged finfish farming as is proposed by the Mariculture Management Plan.

The development of a mariculture sector requires a clear regulatory framework for licensing, production systems standards, food safety, production controls, water use, environmental impacts, training, research, capacity development, compliance and enforcement and independent audits. It must also operate under a well-defined policy, management and governance framework for success.¹⁰⁷

Legislation and a policy framework for the use of biological resources other than commercial species are being developed as part of Seychelles' implementation of the Nagoya Protocol of the Convention on Biological Diversity with the support of the Global Environment Facility.

¹⁰⁶ Possible low trophic species considered appropriate for Seychelles include seaweeds, sponges, sea cucumbers, black lipped oysters, corals and maricultured live rock. Report for the Government of Seychelles *op.cit.*

¹⁰⁷ *Report to the Government of Seychelles on behalf of the Commonwealth Secretariat*, (London: Commonwealth Secretariat and SRSI, 2015).

Specific recommendations on mariculture to promote the emerging sector could include:

- Promotion of co-culture of different species at a single site, with commercial operators sharing co-located facilities;
- Investigation of whether mariculture of extractive species can be used as coral reef restoration to lower the ambient nutrient levels on coral reefs;
- Ensure that the potential conflict between mariculture for food security versus mariculture for export earnings is managed through the *Seychelles National Aquaculture Plan* using mechanisms such as community based mariculture and control of the value chain;
- Given the linkages between the biotechnology sector and the aquaculture sector, and the specific areas where the development of Mariculture poses a significant risk to the underpinning principles of the Blue Economy, consideration should be given to a Blue Economy Research and Development Strategy (rather than a standalone Aquaculture Research and Development Strategy) to address in part the issue of human and infrastructure capacity and to reduce risks of misalignment.¹⁰⁸



Photo Credit: UniSey/BERI

¹⁰⁸ *ibid.*

4.5 Biotechnology and marine biological resources

Biotechnology refers to the ‘application of science and technology to living organisms, as well as parts and products and models thereof, to alter living or non-living material for the production of knowledge goods and services’.¹⁰⁹ International market estimates for marine biotechnology products and processes are in the region of 2.8 billion euros,¹¹⁰ and an analysis of patent data from the Indian Ocean Region shows that exploration is taking place mostly within jurisdictions, with the highest concentration being in the Mozambique Channel and around the island countries north of Madagascar: areas of high biodiversity.¹¹¹ Blue biotechnology is therefore a potential area that can be explored for the expansion of Seychelles’ Blue Economy with its high biodiversity and extensive marine resources.

Up to now, commercial utilisation of genetic and biochemical properties for pharmaceuticals, cosmetics or the food industry has been minimal in Seychelles. This is essentially due to the high cost of exploration, lack of access to research and development infrastructure, limited technical capacity and regulatory framework and insufficient interest by local investors in such high-risk ventures.

Most biotechnology activities in Seychelles have focused on the use of fish by-products, an abundant and cheap raw material from the Seychelles Tuna Cannery. A Seychelles private company has been using tuna by-products from Seychelles Tuna cannery (operated by Indian Ocean Tuna Ltd, a subsidiary of Thai Union and partly owned by the government of Seychelles) to produce refined hydrolysates exported and used in the production of high value omega 3 compound for the food industry.¹¹² Further assessment of the viability of the use of fish by-products is a potential venture for small and medium enterprises.

A vibrant biotechnology community provides aspects of upskilling and entrepreneurship critical for the future development of other aspects of the Blue Economy based on innovation and technology. Mechanisms such as tax incentives, training, or seed infrastructure investment could be used to incentivise MSMEs and biotechnology is an opportunity to strengthen Seychelles “blue brand” of high quality, high value sustainably utilised marine resources.

Given the high commercial value of biotechnology products, it would also be feasible to investigate opportunities for sea ranching or mariculture focusing on low trophic species producing high value products and necessitating minimal space, an advantage where land is scarce. Examples of such innovation can be learnt from other nations, for example, Vanuatu

¹⁰⁹ The Organisation for Economic Co-operation and Development, statistical definition of biotechnology in J Day, A Hughes, L Greenhill and MS Stanley, *Blue Biotechnology* (Commonwealth Blue Economy Report Series, No. 5. London: Commonwealth Secretariat, 2016).

¹¹⁰ Joel Querellou et al, *Marine Biotechnology: A New Vision and Strategy for Europe*, (Marine Board-ESF Position Paper 15) (Marine Board-ESF, 2010).

¹¹¹ UNEP Nairobi Convention and Western Indian Ocean Marine Science Association (WIOMSA), *Regional State of the Coast Report: Western Indian Ocean. A summary for policy makers* (Nairobi, Kenya: UNEP and Western Indian Ocean Marine Science Association (WIOMSA) 2016).

¹¹² A wholly owned subsidiary of Mauritius GOIA Ltd, in Seychelles under the Name of Ocean Products (OPS) established in 2005. OPS is specialized in crude near semi refined grade tuna oil with its main focus in the optimization of the quality of tuna oil through cold extraction, traceability and new technologies.

utilises community based sea cucumber ranching for compounds used in treating HIV/ AIDS and health supplements.¹¹³

It will be necessary to establish the appropriate regulatory and policy framework for the use of biological resources. These include access and benefit sharing provisions in accordance with international obligations under the UN Convention on Biological Diversity Nagoya Protocol 2010¹¹⁴, CITES, the World Trade Organisation (WTO) and the World Intellectual Property Organisation (WIPO), in order to clarify Intellectual property procedures for exploration permits, patenting and contracts. The experience of nations such as Kenya can provide valuable lessons.

Research and development infrastructure will be required to support this emerging sector. As a small island, Seychelles is unlikely to develop such highly specialised capacity without strong partnerships with international and regional research and development institutions to attract the necessary investment and expertise. Seychelles' competitive advantage in marine conservation and environmental management good practice will stand it in good stead in the development of targeted expertise in marine research.

Seychelles' National Policy and Strategy for Science, Technology and Innovation (2016-2025), developed by the National Institute of Science, Technology and Innovation (NISTI),¹¹⁵ is a mechanism for harnessing knowledge and expertise available in local institutions. This Policy, the first for NISTI since its inception in 2014, aims to address and strengthen the four key pillars of a knowledge-based economy identified by the World Bank: more economic incentives and policies; a more educated, knowledgeable and skilled workforce; an efficient national innovation system; and a modern and adequate information infrastructure.

NISTI has engaged with institutions in the region to access such added capacity, given limitations in Seychelles. Iceland provides an interesting model for research and development infrastructure, investing strongly in research and innovation and product development through a public/private partnership arrangement and setting up a platform for SMEs. Such a model could be used at the regional level perhaps using innovative financing to attract funds. A regional research and development platform would be more attractive to international researchers and investors, potentially with the Indian Ocean Commission providing a focal point for hosting such capacity.

¹¹³ Nordic Council of Ministers and the Government of the Faroe Islands in close cooperation with the Food and Agriculture Organization of the United Nations (FAO) and the Commonwealth Secretariat, *Blue Growth in Large Ocean Nations. Conclusions for the Large Oceans Nations Forum held in Malta, October 2-4 2017*, (Obed Timakata, 2017).

¹¹⁴ United Nations, The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity (adopted 29 October 2010).

¹¹⁵ NISTI was established by the National Institute of Science, Technology and Innovation Act, (Act No. 6 of 2014) with the objectives inter alia of Inter alia, promote science, technology and innovation; approve and coordinate scientific research programs and activities at the national level; ensure collaboration and cooperation between organisations engaged in science, technology and innovation; partake and involve in the decision making process of all technology transfers and acquisitions at national and international level; take measures for protection of intellectual property rights of persons making research and innovation and advise the government on policy and legislative measures; and improve research and development through capacity building and funding in science, technology and innovation.

4.6 Energy: renewable energy and oil and gas



Seychelles depends on imported oil to support the transport, domestic electricity sector, and other energy services. An estimated 99.5% of its domestic primary energy consumption is based on oil products, imported and resold by Seychelles Petroleum Company (SEYPEC).

As a SIDS, Seychelles has no significant impact on global CO₂ emissions, or on the consumption of fossil fuels and has no obligation to reduce its greenhouse gas emissions under the Kyoto Protocol.¹¹⁶ This notwithstanding, the lack of diversity in its energy supply is a vulnerability that Seychelles is seeking to address. As the Seychelles Energy Policy (2010-2030) notes, Seychelles' economy has grown by an average of 4% over the last ten years, and if this development continues, imported oil products will more than double to 220.000 tonne of oil equivalent (toe) before the year 2030. Accordingly, reducing energy dependency by exploring oil production for export combined with domestic renewable energy production such as solar and wind, could contribute to increased security of supply as well as meeting projected international commitments under the Paris Agreement for 100% renewable energy use by 2050.¹¹⁷

The Energy Act 2012 implemented by the Seychelles Energy Commission (SEC), is presently the legislation governing all activities on generation, transmission, distribution and sales of electricity in Seychelles, as well as other aspects relating to electricity use. Although it is not yet fully enforced, the Act also refers to policies, in particular, incentives on renewable energy and energy efficiency. Upstream and downstream oil and petroleum are not covered by the Energy Act, and accordingly SEC does not have mandate in these areas. The European Union has funded the development of a new Energy Act, which has paved the way for the integration of renewable energy sources into the electricity grid. In 2013, the United Arab

¹¹⁶ Energy Policy of the Republic of Seychelles, 2010 – 2030. The policy notes that in 2007, one third of oil imports were used for transport purposes and almost two thirds for electricity production. Only about ten percent was used for direct consumption in the industry, commercial and domestic sectors.

¹¹⁷ *Seychelles INDC 2015 op.cit.*

Emirates donated a wind farm to Seychelles to help diversify the electricity supply, which produces about 2% of electricity demand.

The Energy Policy focuses on the need to reduce energy dependency through increased energy efficiency and promotion of renewable energy with targets of 5% and 15%¹¹⁸ in national electricity production by 2020 and 2030. So far renewable energy (wind and solar) stands at 3% of total electricity demand. With prospective plans aligned to Paris Agreement commitments to further increase the use of renewable energy beyond the set targets to 100% by 2050, the energy sector may be expected to experience growth in the coming years.

Renewable energy

Meeting Seychelles' renewable energy targets would require a progressive change of the energy system and infrastructure, such as the introduction of large scale renewable energy plants (solar PV plants, offshore wind farms, or biomass plants), distribution generation, grid stabilising technology such as battery and pump storage, and the introduction of smart grid and smart meters.¹¹⁹

The move to low carbon and renewable energy will need to be incremental and robust to ensure security of supply during the transition. Seychelles is currently implementing two GEF-funded projects focused on solar photovoltaic energy and energy efficiency, both of which address energy security issues in terms of electricity.

Challenges to a transition to a low carbon future include assessing the feasibility of some renewable energy technologies, the capacity of the existing electricity grid,¹²⁰ an appropriate regulatory and incentive scheme to attract finance as well as expertise and availability of knowledge and testing of relevant technologies.

In general, a number of renewable energy opportunities exist including offshore wind, wave and tidal energy and ocean thermal energy conversion (OTEC). Some of these are mature technologies increasingly approaching commercial scale, whilst others are still in development phase (e.g. wave energy). For Seychelles, a pre-feasibility study for OTEC highlighted a potential location for a plant as the cleanest energy source available.¹²¹

Development potential for this and other renewable ocean energy sources is already being monitored; for example, in 2016, an assessment of solar and wind potential including harvesting energy from waves was conducted. A 2017 SEC position paper acknowledged the 2013 launch of the Port Victoria wind farm and the implementation of the UNDP/GEF rooftop solar project as clear achievements.¹²² In June 2018, a tender was launched to

¹¹⁸ Seychelles Energy Commission Report (2017).

¹¹⁹ Seychelles Energy Commission (Mamy Razanajatovo), *Investing Part of Oil Revenue in the Energy Transition of Seychelles* (Working Group Paper for the Seychelles Upstream Petroleum Policy 8 August 2017).

¹²⁰ The Government commissioned for the Assessment of Grid Absorption Capacity, Grid Code, Feed-In Tariffs, and Model Power Purchase Agreement for Renewable Energy Systems in Seychelles, in 2013-2014 by Energy Nautics GmbH Germany and Meister Consultants Group, Boston, USA. Studies were commissioned by the World Bank SIDS-DOCK Program Project. (Seychelles Energy Commission Report 2017).

¹²¹ SIDS Dock and GEC Co Ltd, *Ocean Thermal Energy Conversion for the Republic of Seychelles*, 10.

¹²² Seychelles Energy Commission, *Investing Part of Oil Revenue in the Energy Transition of Seychelles*.

develop, finance, own and operate a 4MW floating grid-connected solar PV plant.¹²³ Seychelles' commitment to sourcing cleaner energy and attaining energy security has been underscored by Minister for Environment, Energy and Climate Change as follows: 'as a country, we need to transition to a cleaner energy sector, we need to strengthen our energy security. We are committed and willing to address these challenges.'¹²⁴

Box 11: Encouraging adoption of renewable energy technologies

The Small and Medium Enterprise (SME) loan scheme – This scheme is aimed at encouraging business development and entrepreneurship in various sectors other than retail and wholesale. It covers loans up to SCR3 million for new business loan applications, with an annual turnover of no more than SCR 5million. Like the SEEREP loan, this facility is also available for purchase and installation of solar photovoltaic (PV) systems but in this case is aimed at commercial premises. The scheme is based on a two-tiered interest rate structure with Government providing some element of interest subsidy where the client will be charged 5% interest on the first SCR 1million then 7% interest on the next SCR 2million. For any additional amounts above SCR 3million, the interest rate would be negotiated between the bank and the client.

Potential for renewable energy technologies - Engagement with the Institute for Environmental Analytics (IEA) to develop a platform (RESAT) similar to the IRENA global atlas on renewable energy sources and potential using satellite data is still in development phase.

Ocean Thermal Energy Conversion – A prefeasibility study has identified OTEC as a cheaper, stable power source that could enable resources to be used elsewhere. A 50MW class system was estimated to provide an electricity generation cost of 0.16US\$/kWh and water generation cost of 0.18US\$/ton.

Offshore wind - The potential for offshore wind energy will need to be quantified through a resource assessment in order to determine its financial viability.

Tony Imaduwa, CEO Seychelles Energy Commission

Strategic opportunities

Investment in renewable energy can contribute to a reduction in dependence on imported oil, clean energy (which is important to Seychelles Blue Brand), as well as a more secure energy supply. Seychelles can consider more ambitious 2030 renewable energy targets as part of its 2020 climate commitments, given the size of its economy and overall energy demand to transition to a low carbon economy and reduced dependence on imported fuel. Lessons learnt from cities of similar size could be considered.

Seychelles has an opportunity to put in place a regulatory and policy regime for oil and gas exploration to generate desired socio-economic benefits, while also safeguarding the marine environment and resources to maintain Seychelles' blue brand. A whole of government approach and stakeholder consultations will be essential for effective implementation and communication to Seychellois in terms of the challenges and opportunities this new sector

¹²³ 'First-ever floating grid-connected solar PV plant' *The Nation*, 22 June 2018.

¹²⁴ 'First-ever floating grid-connected solar PV plant in Seychelles launched at Africa Energy Forum' (*The Nation*, 22 June 2018), accessed Sept.01, 2018, <https://www.afdb.org/en/news-and-events/with-alsf-support-seychelles-launches-tender-for-the-development-of-a-4-mw-solar-pv-plant-18253/>.

could offer. Legislation and policies for the development of an oil and gas sector will need to be reconciled with the stated long-term renewable energy targets under the energy policy and Seychelles' INDC in order to ensure that the development of its nascent oil and gas sector is consistent with its national energy policy.¹²⁵

Although Seychelles has a small carbon footprint, climate change mitigation is an opportunity to reduce energy dependency by developing renewable energy including marine renewables and attracting financing and technical expertise to meet stated renewable energy targets. An assessment of Seychelles carbon storage capacity (blue carbon) will also contribute its to international obligations as well as contributing to the effective management of marine and coastal ecosystems for blue carbon storage as well as other benefits for fish production, water quality and coastal protection. Blue Carbon can also offer offsets for CO₂ emitting activities such as electricity generation. To date, there has been no inventory and assessment of Seychelles' carbon storage, although the potential exists, particularly given Seychelles' extensive sea grass habitats. Seychelles can also consider increasing carbon sinks and as a party to the Global Blue Carbon Partnership, could attract the necessary technical support to assess its blue Carbon potential. A proposal to the Green Climate Fund (GCF) on marine ecosystem based mitigation and adaption to climate change could also be considered.

[Oil and gas exploration](#)

The Government has undertaken extensive work in this area. An upstream petroleum policy is also under development in consultation with key stakeholders, to promote efficient and safe petroleum operations and helping Seychelles manage its potential oil and gas resources in an environmentally responsible manner, as a contribution to Seychelles economy and for the benefit of all Seychellois. A number of exploration licences have been granted and taken into account in the development of Seychelles Marine Spatial Plan.

Challenges faced by Seychelles in developing an oil and gas sector include that the down turn in the oil price of recent years has made attracting exploration investment difficult. This is despite Seychelles' attractiveness to prospective investors, in terms of predictability of source, proximity to markets, in particular the Asian Market, economic stability and the development of a regulatory, fiscal and policy regime and transparent and responsible institutional arrangements. It is also uncertain at this stage whether such an endeavour is economically viable, given the high costs of operation.

Ensuring environmental sustainability and safeguards are in place and effectively enforced are important to Seychelles economically, as the basis of its two economic pillars are fisheries and tourism. Environmental provisions therefore need to be clearly articulated and enforced in all aspects of implementation. Finally, it is important that the sector offers

¹²⁵ The Commonwealth Secretariat has assisted Petro Seychelles with financial and licensing arrangements, including a model Petroleum Agreement and updates to the fiscal and tax laws. Safety and environmental issues still need review.

some job opportunities and that the benefits of this emerging sector are perceived positively by Seychellois.

Box 12: The Extractive Industries Transparency Initiative (EITI)

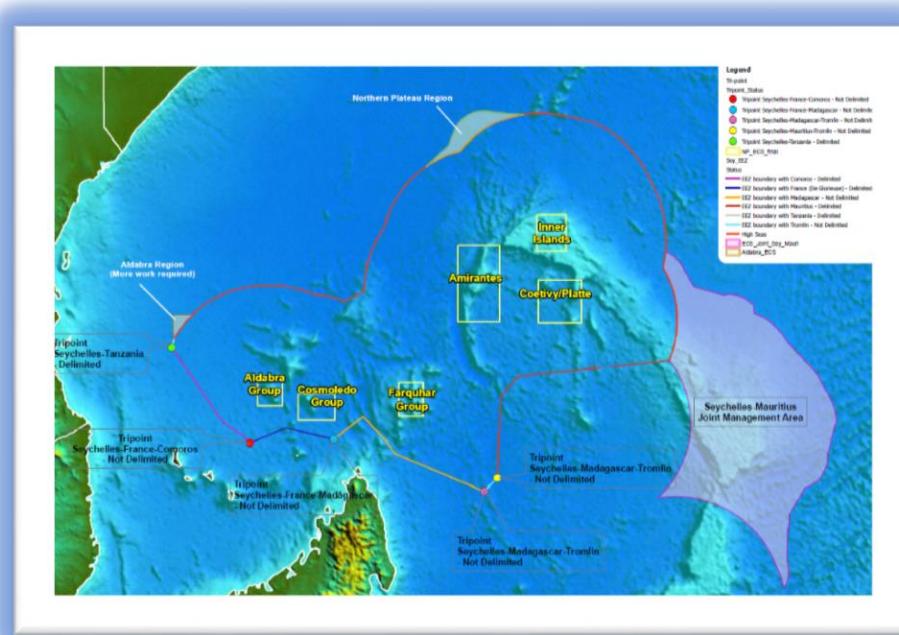
Good governance is a precondition for converting large revenues from extractive industries into economic growth and poverty reduction. When transparency and accountability are weak, the extractive industries may instead contribute to poverty, corruption, and conflict—the so-called “resource curse.” The EITI is an important step in defeating this “curse.” The EITI supports improved governance in resource-rich countries through the verification and full publication of company payments and government revenues from oil, gas, and mining. The Initiative works to build multi-stakeholder partnerships in developing countries in order to increase the accountability of governments.

Seychelles has been a member of EITI since 2014 and is committed to good practice and transparency. Although Seychelles does not have as yet an oil and gas sector, it has been supportive of the Initiative. Its 2015/16 EITI Report was published in 2018. The report *inter alia*, supports the disclosure of beneficial ownership by reporting companies.

Fatime Kante, Seychelles EITI National coordinator

Northern Plateau Continental Shelf Area beyond 200 nautical miles and the JMA

Seychelles received recommendations in respect of the Northern Plateau Region in September 2018. This area, identified on the below map, is an additional maritime area over which Seychelles exercises continental shelf jurisdiction.



The Seychelles – Mauritius Treaty for the Joint management of the Mascarene Plateau Region (2012) offers an opportunity to set up an extractive resource management regime which combines responsible exploration and the protection of the seabed. Bathymetric surveys have been conducted and a company has been granted an exploration permit.

Box 13: The Seychelles –Mauritius Joint Management Area (JMA) in the Mascarene Plateau region

The Joint Management Area (JMA) is an area of approximately 396,000 km² (roughly the size of Germany), over which both Seychelles and Mauritius exercise joint jurisdiction over the seabed and subsoil. In March 2009 a joint submission was officially lodged to the United Nations Commission on the Limits of the Continental Shelf (UNCLOS) by the two countries. Upon the receipt of recommendations from UNCLOS, Seychelles and Mauritius proceeded to sign two historical bilateral treaties on 13th March 2012. Under the first treaty, the two states established the outer limits of the continental shelf in order to provide for its recognition under the respective national laws and for the extended purposes of international law. They also agreed to exercise sovereign rights jointly for the purpose of exploring the continental shelf and exploiting its natural resources.

The second treaty, *The Treaty concerning the Joint Management of the Continental Shelf in the Mascarene Plateau region* (2012), which has a lifespan of 30 years, established the Joint Management Area (JMA) and provided an institutional and regulatory framework for its management, including the conservation, development and exploitation of its natural resources.

The treaty is unique and is the first of its kind as it makes provisions for the joint management of the largest area of maritime space in the world that is subject to joint management. Decreed in this treaty is the establishment of a three tier joint administrative structure; comprising of (listed in order of precedence) the Ministerial Council, the Joint Commission, and the Designated Authority. Although only the Joint Commission (JC) is currently in place, work is ongoing for the establishment of the Designated Authority (DA) and the Ministerial Council at the opportune time.

Philianne Albert, Director, Maritime Boundary Delimitation Project, Blue Economy Department

Both Seychelles and Mauritius are part of the Indian Ocean Commission (IOC). As the regime encompassed by the JMA covers both the water column and the seabed, and given that Large marine ecosystems (LMEs) by definition, frequently do include high seas areas contiguous to maritime zones, there are transboundary implications for neighbouring countries. The UNDP-GEF SAPPHIRE Project contains a Joint Management Area component which will focus on the newly-established Joint Management Area (JMA) between Mauritius and Seychelles for the Continental Shelf in the Mascarene region, as well as the associated Contiguous Adjacent High Seas Areas.¹²⁶ One of the project sub-components is intended to demonstrate Innovative Ocean Governance Mechanisms and deliver best practices and lessons for extended Continental Shelf Management within the Western Indian Ocean Large Marine Ecosystems. This is intended to be implemented as a ‘stand-alone’ project by UNDP and the Mauritius-Seychelles Joint Management Committee.

The Mauritius-Seychelles Joint Management Committee has established 5 Strategic Objectives related to the development of an institutional framework, technical capacity, data acquisition in support of adaptive management and a ‘blue ocean economy’ approach, along with multi-sector, multi-use planning. This UNDP GEF Project aims to provide direct support to achieving these objectives and capture lessons and best practices for the global LME community.

¹²⁶ United Nations Development Programme, “Joint Management Support to Mascarene Plateau Region - Project Document” accessed Jul.18, 2018, https://www.thegef.org/sites/default/files/project_documents/ID5513__PIMS_5262_SAPPHIRE_JMA_sub_Pro_Doc_revised_for_resubmission_18May2016.pdf.

4.7 Digital connectivity and e-government

Telecommunication, digital connectivity and digital services are critical elements of sustainable development. Along the Indian Ocean Region and East Africa has seen an increase in the number of submarine cables coming in operation in recent years. Seychelles is currently connected by an underwater cable linking to Mahé to Dar es Salaam, Tanzania (2012) under the Seychelles East Africa System, and plans are underway with two private sector companies and the Government for installation of a second cable in late 2019 and early 2020.



The availability and affordability of IT services to consumers and public and private institutions permeates all aspects of life. This encompasses learning, communication, the efficient delivery of government services and e-government, e-commerce through improved knowledge management, more informed decision flows by private citizens and public and private sectors alike and improved transparency. IT benefits economic activity and the use and protection of ocean and island resources, which is central to the development of the country.

Seychelles' IT consumer profile includes high mobile subscription (162.2 per hundred people), however internet subscriptions are low. Internet services remain expensive for the average Seychellois across the 4 services providers with 12.7 internet subscriptions per 100 people,¹²⁷ despite the Seychelles Competition Commission and the Seychelles Fair Trading Commission's watchdog role to maintain market competition by regulating anti-competitive

¹²⁷ World Bank Group, *Country Diagnostic Report*, 103.

measures. This is a regulatory gap to be addressed. With ICT being a new sector there is also a need to develop the skills and competencies necessary to benefit from this up and coming sector.

Strategic opportunities

The development and update of software could improve the efficiency of government processes and facilitate storage and access to data and information on all aspects of Blue Economy. This could support a wide range of government functions ranging from policy implementation, monitoring of key national socio-economic and environmental statistics nationally and regionally, to efficient service delivery. An E-government shop front would increase the efficiency of government service delivery and facilitate greater transparency and monitoring of use and trends. Such E-platforms could be developed with information providers and users alike.

Mainstreaming IT hardware and Internet access in schools and educational facilities would facilitate access to a range of educational opportunities. In addition, the value addition from increased digital connectivity across the region could also be explored as a potential new sector. Seychelles could consider establishing an offshore data storage facility with appropriate cyber security.

The proposed installation of a new submarine cable system with a low impact on the marine environment is consistent with a Blue Economy model providing economic benefits to Seychelles. Considering that the second cable may be joined with one of the new cables to be built in the region, exploring the feasibility of a link between India or Sri Lanka could be considered for the second cable link which, coupled with the existing East Africa link, could provide an alternative route for international traffic and securing international connectivity for the country.

Submarine cable systems need to have marine maintenance contracts to ensure specialised marine repair ships are available to repair cables in the event of damage. Such ships operate out of submarine cable depots, which are locations that also store spare submarine cable components. Seychelles' location is ideally suited for such operation. Attracting one of the cable repairs companies to set up a depot in Seychelles to service the Indian Ocean would provide a new area of Blue Economy activities and be consistent with the Blue Economy objective of economic diversification.

4.8 Enhanced Trade



Seychelles shares common challenges with other small island countries, which include a dependence on a narrow range of exports, high transportation costs due to geography and distance from end markets, dependence on imports such as food and fuel, and susceptibility to natural disasters and environmental shocks. Seychelles is very open to global trade, with an export-to-GDP ratio of 0.98, which of course comes with risks of transmission from reduced demand in end markets.

Expanding trading opportunities is a proven route to boost development. This includes through generating growth through increasing investment and private sector engagement, expanding trade opportunities for local companies, enhancing competitiveness, encouraging innovation and the spread of new ideas and knowledge, lowering the prices of goods and services for consumers, and boosting employment. International trade commitments can help to anchor and strengthen national legislation and policies, as well as boost transparency and predictability for investors.

Since 2009, Seychelles has endeavoured to open up its economy and has joined a number of trade agreements, notably accessing to the World Trade Organisation (WTO) and entering into the interim Economic Partnership Agreement (iEPA) with the EU and Eastern and Southern Africa, and has recently accessed to the SADC iEPA. Seychelles is also member of regional economic communities including the Common Market with Eastern and Southern Africa (COMESA) – which over time seeks to create a common market, with a Free Trade Area; and, the Southern African Development Community) for which it is a signatory to the SADC Trade protocol which seeks to create a Free Trade Area.

In 2015, Seychelles trade balance remained negative at -7.7 billion Seychelles Rupees (SCR), with canned tuna being the main export (3.032.1 million SCR) and the main imports being Food and live animals (2,995.2); mineral fuels, lubricants (2,345.5million SCR); manufactured goods 92,580.8million SCR) and machinery and transport equipment (-3,982.1million). Regional trade with COMESA member countries is minimal (exports at 10 million SCR and

imports at 813 million SCR). Trade with SADC countries is mainly imports (1981million SCR).¹²⁸

Exports of fish and fish products are an important source of foreign earnings, the value of fish products being over 95% of the total value of domestic exports (canned tuna, fish meal) with Europe being the primary market. The Seychelles overwhelmingly exports processed fish products of canned tuna, a labour-intensive process of cooking and loining, which generated around US\$373million compared to unprocessed fish products of US\$1.43million.¹²⁹

Seychelles currently specialises within the following fisheries sub-sectors: 1. Industrial purse seine tuna fisheries, which land to the canning factory, or tranships for end markets in the European Union (EU) and tend to be vertically integrated¹³⁰; 2. Artisanal line and net fisheries for the domestic markets; 3. Semi-industrial longline fisheries producing fresh tuna and swordfish for domestic and export markets; and, 4. Sea cucumbers to the Asian markets.

Trade policy directly along with sectoral and domestic policy directly influence the competitiveness of these market segments, which includes the use of fisheries subsidies. According to the Central Bank of Seychelles' annual report, 2014 earnings from tourism were US\$397.9million, and the total gross inflows from fisheries amounted to US\$508million (2014).¹³¹ In 2017, export of services totalled to US\$266.5million of which tourism earnings contributed US\$149.5million, representing approximately 56% of total exports for services.¹³² The value of the economic linkages between the two sectors related to the fisheries sector have not been estimated or analysed in detail.

Competitiveness Challenges

Addressing Harmful Fisheries Subsidies

The fisheries sector in Seychelles has received extensive subsidies to boost competitiveness for ice and fuel, as well as tax exemptions. The phasing out of subsidies which have anti-competitiveness effects in relation to trade is planned. However, since the unravelling of support programmes is complex and given that some subsidies are required to support the industry, the phasing out of subsidies will take time to implement. In addition to the cost to the public sector of subsidies to the fisheries sector, there is an additional impetus for reform in view of recent multilateral trade negotiations.

The WTO negotiations on disciplining fisheries subsidies are ongoing at the time of writing, with pressure to conclude and secure an outcome by 2020 – given the target included in Sustainable Development Goal 14.6 which calls on the international community to address

¹²⁸ Seychelles Bureau of Statistics Report (2017).

¹²⁹ Rainer Lanz and Hans-Peter Werner, "Opportunities and Challenges for Small Economies in Global Value Chains", in, *Handbook of Small States: Economic, Social and Environmental Issues*, ed. Lino Bruguglio (Oxford: Routledge, 2018).

¹³⁰ As reflected in the prominence of leading firms such as Heinz / MW Brands.

¹³¹ Seychelles Fishing Authority, *Annual Report 2014* (2017).

¹³² National Bureau of Statistics, *Statistical Bulletin* (2017). 2016 Annual National Accounts Statistics; Government of Seychelles.

harmful fishing subsidies, as part of an early harvest. Launched at The Doha Ministerial Conference in 2001, and subsequently negotiated with no agreement reached so far between WTO member states, the UN's SDG 14.6 calls for, 'by 2020 certain forms of fisheries subsidies, which contribute to overcapacity and overfishing, illegal, unreported and unregulated (IUU) fishing should be prohibited and members are encouraged to refrain from introducing new such subsidies'.

Whilst recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of those negotiations, no consensus on the draft text on fisheries subsidies was reached at the 2015 round of negotiations. Member States adopted a work programme to continue the negotiations. Seychelles continues to follow negotiations closely, including as part of the African, Caribbean and Pacific group.

Seychelles' position has been to ensure that the provisions of any agreement will not hinder the development of its domestic fisheries sector (therefore supporting the provision of Special and Differential Treatment for developing countries). Moreover, that adequate flexibility and capacity building is provided to implement the future provisions of an agreement, which could take a similar form as the recently concluded Trade Facilitation Agreement. Finally, it should be noted that the damaging effects of overcapacity and overfishing within the fisheries sector remains of concern to Seychelles in view of the sustainability of the industry – particularly the processed fisheries sector which specialises in canned tuna.

Increasing Value Added: Rules of Origin

There is a need for detailed analysis and differentiation between the fisheries market segments in relation to their contribution to domestic value added and foreign value added. Internationally, Seychelles is positioned within processing segment of the value chain which generally means, it is able to capture greater value addition and leverage rules of Origin - the cornerstone of bilateral and regional trade arrangements which determine the economic nationality of products – to benefit from tariff-free market access.¹³³

The determination of rule of origin focuses around the "vessel" carrying out fishing activities, whilst the rules for fish products are most often designed around registration and flags of the vessel; the percentage of equity ownership of the vessel by nationals and the percentage of officers and crew on board the vessels. In Seychelles, RoO are met predominantly in its dominant end markets through the flag of the vessel and ownership. This is because currently, the Seychelles raw material is supplied to the cannery and processed and exported to the EU. The raw material comes from either European Union (EU) flagged or Seychelles flagged vessels, which are all EU owned.

For the period 1984-2007, it is estimated that a total of 92 percent of catch in the entire West Indian Ocean purse seine fishery was by European-owned boats; the fleet also

¹³³ In general, when a product is fully processed in country, the product is considered as originating from that Country. To access the EU market, the origin of the fish is crucial Non-originating fish even if fully processed in Seychelles will still remain non-originating unless that this is obtained under the 'derogation' clause.

dominated Seychelles' in-EEZ purse seine fishery with 93 percent of all catch over the same period.¹³⁴ Given this dominance of European vessels, there are concerns that the current structure of the industry may limit the ability to penetrate intra-regional markets. This means that intra-regional trade policy developments, notably the tripartite agreement between SADC, East African Community (EAC) and COMESA will need to be monitored carefully, alongside the iEPAs agreed with the EU, and the specific details related to RoO which may enable, or hinder, the ability of Seychelles to benefit from market access opportunities.

Capturing Greater Value: Intellectual property

Looking beyond the conventional sources of income from the fisheries sector, it should be noted that to be compliant with the WTO/TRIPS Agreement, Seychelles passed the *Industrial Property Act* in 2014, which is concerned with intellectual property rights and covers issues of patents, trademarks and industrial design. This is a complex piece of legislation, which requires capacity to implement effectively.¹³⁵

Within this context, Seychelles has also a bill before the National Assembly on the implementation of the Convention on Biological Diversity Nagoya Protocol (2010) on access and benefit sharing of biological diversity. Both those pieces of legislation are important to blue economy because of the strong focus on innovation and high value products and technologies, which are intellectual property centred. Much remains to be done to build the capacity of Seychelles to explore, analyse and take advantage of the new trade opportunities which may derive from biological diversity within the broader framework of the Oceans Economy, of which the fisheries sector is just one component.¹³⁶

Strategic opportunities

The strategic opportunities in the fisheries sector must be carefully balanced with very real concerns regarding sustainability and domestic capacity and capabilities development. Over time, Seychelles has successfully created the necessary conditions for entry and upgrading – into the processing nodes of the tuna value chain - through the creation of port facilities, parastatals to provide services to fishing vessels, and the enactment of laws and regulatory institutions.¹³⁷ In order to continue to derive greater value from the fisheries sector a change in policy is required so as to focus on inter-sectoral linkages and product differentiation in order to boost quality, as well as introduce a greater range of services to the sector and enhance competition.

Opportunities for regional trade in goods (e.g. fish products) and services (e.g. tourism products) have yet to be fully realised. Product diversification and exploring of new markets

¹³⁴ Liam Campling, *The EU-centred commodity chain in canned tuna and upgrading in Seychelles*.

(PhD Thesis, London: School of Oriental and African Studies, University of London, 2012) 96.

¹³⁵ The Commonwealth Secretariat appointed an expert in 2017 to assist Seychelles in the implementation of this piece of legislation.

¹³⁶ Seychelles has submitted to the African Development Bank a proposal to build the capacity of local SMEs in biotechnology.

¹³⁷ Campling, *The EU-centred commodity chain* 86.

are presented in both the fisheries and the tourism sectors (see relevant sections). They are based on Seychelles' comparative advantage in the market place (e.g. geography, legal and policy framework, infrastructure), a "Blue Economy Brand" and enabling participation of the private sector in the economy. The proximity of Seychelles to the African continent presents a potential market of at least one billion people, with African economies growing in excess of 5% per year and EU growth slightly above 2%. Seychelles is actively engaged in negotiations for a FTA between the SADC, COMESA and EAC (known as the Tripartite Agreement) as well as participating in negotiations for the Continental Free Trade Agreement (CFTA).

The objectives of these initiatives include:

- Expand intra African trade through better harmonization and coordination of trade liberalization and facilitation regimes and instruments across RECs and across Africa in general;
- Resolve the challenges of multiple and overlapping memberships and expedite the regional and continental integration processes;
- Enhance competitiveness at the industry and enterprise level through exploiting opportunities for scale production, continental market access and better reallocation of resources;
- Investigate market access opportunities in the fisheries including ancillary services and linkages with other sectors such as tourism.

Efforts to diversify end markets and products should be pursued in parallel with ongoing negotiations for the Tripartite Agreement, as well as the CFTA, and the implementation of existing commitments under the IEPAs with the EU (ESA and SADC) in order to understand how trade policy changes can result in greater value addition and capture by the Seychelles. This shift in market orientation will necessitate a structural change in the organisation of the industry in order to boost the role of domestic entrepreneurs in the penetration of new market opportunities.

With the Indian Ocean Tuna Commission (IOTC)¹³⁸ resolution for purse seiners to land by-catch, further opportunities have been created for businesses to process and export non-targeted species. Care should be taken that a continuous supply of raw material is made accessible to small entrepreneurs and that a mechanism is set up to regulate access to the by-catch, in the anticipation that it will become a very competitive prospect and so as to ensure the sustainability and viability of this new growth sector over time.

Seychelles occupies a strategic place in the Western Indian Ocean tuna fishery because tuna regularly migrate through its EEZ and Port Victoria is at the centre of the regional purse seine fishery making it the most economically suitable base for the EU's distant water fleet (DWF), which is reflected in a strong bargaining position for Seychelles regarding its access agreement with the EU. A number of gains were secured in the most recent Fisheries

¹³⁸ See Indian Ocean Tuna Commission, 'Resolution 12/03 on the Recording of Catch and Effort by Fishing Vessels in the IOTC Area of Competence' (Year of adoption: 2012).

Partnership Agreement (FPA) which include: provision for employing two Seychellois crew. If not, boat owners pay a daily fee of €20 for two crew while in Seychelles waters; and, the application of ILO principles and rights to crew members along with guaranteed social security cover.

The annual EU payment alone to Seychelles under the 2014–19 FPA is €5,350,000, with boat owners paying various additional fees).¹³⁹ However, it is the domestic capture and creation of value from the application of taxes on and provision of goods and services to the EU DWF when in Port Victoria are far more significant – which deserve far greater attention by policy makers.¹⁴⁰

Capacity building

There is a need to move beyond consideration of direct revenue generation from fishing access agreements and taxing vessels and their activities to consider the linkages between different segments of the fisheries value chain and how greater value added may be derived. Ensuring the sustainability and viability of the industry for generations to come requires judicious consideration of the extent to which extent to which greater value addition can be derived in different markets (e.g. EU markets, compared to regional or domestic) and greater consideration of the enhancement of linkages between sectors.

To take advantage of trade opportunities to boost national development will require strengthening expertise and capacity. Training opportunities are available on Fish Trade from the UN Food and Agriculture Organisation (FAO) and with the IORA which focus on strategies for describing the value of fisheries, negotiating fisheries subsidies through the WTO Ministerial Conference and a range of trade governance and regulatory framework issues.

The Commonwealth Secretariat provides a platform for its members through regular meetings of trade ministers, as well as technical support on trade facilitation and investment through its Hub and Spokes programme and trade advisors, similar to its Climate Finance hub programme.¹⁴¹

¹³⁹ See Liam Campling, “The Global Value Chain in Canned Tuna, the International Trade Regime and Implementation of Sustainable Development Goal 14”, *International Trade Working Paper 2016/22*, (London: Commonwealth Secretariat 2016).

¹⁴⁰ *ibid.*

¹⁴¹ See The Commonwealth, “Hub and Spokes trade programme”, <http://thecommonwealth.org/hubandspokes>.

5. Implementation Plan

5.1 Building transparency and accountability in Blue Economy decision making

Seychelles ranks well on World Bank Governance Indicators (e.g. political stability, government effectiveness, rule of law and control of corruption), however according to the World Bank Report¹⁴² aspects of governance need strengthening in the area of transparency and accountability.

Following President Faure's focus on good governance, transparency and accountability, the climate is right for a more open, inclusive government to improve the efficiency, quality and responsiveness of government decision-making processes and building trust in institutions. The Government has been keen to strengthen state performance, following a decade of structural change in the post 2008 economic crisis period. Seychelles' democratic institutions have undergone important changes following the 2016 elections, whereby the opposition party won a majority in the National Assembly. The most visible outcomes of this new co-habitation are that National Assembly deliberations are now broadcasted live, and cabinet decisions are publicly available on the Statehouse website.

The introduction of results based management by government, with strategic planning, performance management and monitoring and evaluation being rolled out across government agencies is a significant milestone in public sector reform. Implementing such changes requires transformation in public institutions, as well as a change in mind set of the public servants in public life, with stronger focus on accountability, shared values, professional development and social responsibility, opening up the public service to a more diverse pool of talent with greater public and stakeholder participation in decision making. Mainstreaming transparency and accountability procedures across government is essential to ensure due process.

5.2 Institutional arrangements for Blue Economy implementation

During recent years, sustainability has become a widely used concept in all policy fora. Seen as a multi-faceted and cross-cutting concept, it is viewed as a goal, condition, an ethical process and even a management practice. Sustainability is also important for small states due to their inherent vulnerability and limited resources and is a major policy concern and focus (UN, 1994, 2005).

Effective whole of government processes and strategic policy coordination will be critical to the implementation of the Blue Economy roadmap. Such processes can be formal and informal, and are meant to foster a more integrated outward and forward-looking approach to national development. Previous national whole of government policy frameworks have been developed such as the *Seychelles Sustainable Development Strategy* (2012-2020) and

¹⁴² World Bank Group, *Country Diagnostic Report*.

the National Development Strategy (2015) have proved challenging to effectively implement.

Seychelles Vision 2020 is built on the notion that the rules for government, business, investors, and consumers will have to be dramatically rewritten to ensure that environmental considerations remain integral factors in socio-economic decision-making. The Blue Economy Strategic Policy and Roadmap is another, more targeted, attempt at strategic cross-sectoral development planning. With the 2017 Cabinet Decision to establish an Economic Planning Division within the Ministry of Finance, mandated with the development and implementation of rolling 5-year National Development Strategies to 2032, it will be important to ensure that Blue Economy strategic priorities and guiding principles are continually incorporated into strategic priorities in the 5-year National Development Strategies.¹⁴³ This is already taking place.

Proposed Blue Economy institutional arrangements should not be designed as a super governance mechanism, overriding existing legislation, mandates and institutions, which in the end would add another level of complexity to an already crowded institutional landscape. Rather, Blue Economy development should aim to add value by providing strategic policy coordination, oversight and advocacy for adding Seychelles “Blue Brand” to the national development process. Blue Economy is about promoting Seychelles Blue Economy nationally, regionally and internationally, facilitating access to resources and opportunities, in particular those arising from international engagement and ensuring Seychelles Blue Economy brings prosperity to Seychelles and maintains its international credibility.

In 2016, Cabinet considered Blue Economy institutional arrangements as follows:

- A Blue Economy High Level Forum chaired by the Vice President with government, civil society and private sector representation as a mechanism for national BE strategic communication, to share views on Blue Economy; The Forum would meet once a year (in line with government budget cycle);
- A Blue Economy Inter-Ministerial Council (a special BE session of Cabinet) to provide a strategic platform on whole of government Blue Economy implementation including international Blue Economy engagement. The BE Council would meet twice a year, and;
- An inter- ministerial Senior Officials (Principal Secretaries) Platform chaired by the Blue Economy Department supported by dedicated officers as focal points in each

¹⁴³ Government of the Republic of Seychelles, *The National Development Strategy 2015-2019* (NDS) provides an overarching framework for sustainable development in the Seychelles, is based on the Sustainable Development Framework and premised on four Key Results Areas: Governance; Economic Development; Social Development; and Environment & Energy. The NDS' main objective is to transform the country into a sustainable blue economy in keeping with Seychelles Strategy 2017 to double the country's GDP between 2007 and 2017 and its strategic orientations. The NDS is currently being reviewed and Government has decided to develop a long term (15 years) NDP, overseen by the newly created Department of Economic Planning. (As discussed in the *Vulnerability Profiling Report to the Government of Seychelles*, (London: Commonwealth Secretariat, 2018).

ministry to ensure effective cross-sectoral communication and a whole of government Blue Economy implementation in a practical way.

Of these options, Cabinet has supported the creation of a Blue Economy Ministerial Council to review the Blue Economy Roadmap when finalised. This means that in effect the Blue Economy Council would comprise a dedicated session of Cabinet. Other institutional arrangements are also being instituted with a view to centralisation of international aspects of oceans affairs.

Challenges

The Blue Economy Department under the Vice President's office, although responsible for the development of the Blue Economy Strategic Policy and Road Map, has no explicit mandate for implementation. Most of its work to date has been to facilitate and coordinate an integrated approach across government, mobilising resources and undertaking targeted strategic projects.

As the Blue Economy Roadmap draws from existing policies and initiatives and proposes a prioritised agenda and package of strategic opportunities to achieve a national Blue Economy vision, 'blue' lens and 'blue' objectives, the challenge is to ensure Blue Economy strategic priorities inform sector based planning, are reflected in the National Development Strategies and effectively implemented. Any institutional arrangements arrived at should facilitate this approach.

There are a number of government committees, Ministerial boards and councils already in place, however, so far, none has dedicated responsibility for oceans. Decisions are still made on a sectoral basis (e.g. fisheries, environment). This is a governance gap for oceans, and is problematic for ocean based development decisions across sectors. Seychelles Marine Spatial Plan to be completed in 2020, provides a basis for such decisions but so far, no single agency has overarching responsibility for its implementation (see section on marine spatial planning).

In proposing institutional arrangements for ocean governance and BE implementation, it will be important to focus on improving the efficiency of existing mechanisms. Harmonising and streamlining existing government functions and policies related to oceans would reduce duplication and streamline delivery and assist in the development of a workable governance model for implementation.

There is no high level inclusive strategic mechanism for oceans that could act as a hub for ocean governance and address emerging issues in an integrated way and make recommendations to Government. The Blue Economy Council approved by Government in 2016 is the government primary decision making body, and as such not designed as a multi-stakeholder platform.

Strategic opportunities for effective Blue Economy/ocean governance include:

- Establishing a mechanism for ocean-based development approval processes consistent with Seychelles' existing legislation and policies to implement the Seychelles Marine

Spatial Plan; either under an extended mandate and expertise of the existing Planning Authority or the Ministry of Environment, Energy and Climate Change, or a mechanism under the Blue Economy Department (see section on marine spatial planning).

- Formalising cross sectoral coordination mechanisms for oceans/Blue Economy including:
 - Bi-annual sessions of Cabinet (Blue Economy Council) as the main whole of government mechanism for Blue Economy cross-sectoral implementation, taking into account existing distinct high level sector based platforms (e.g. high level Committees on tourism and mariculture respectively);
 - Strengthening cross-sectoral coordination at the senior official level on oceans and Blue Economy implementation including under a mandated Blue Economy Department and aligned with the Economic Planning Development strategy processes;
 - Establishing by legislation an independent “National Ocean/Blue Economy Commission/Authority” with representation from government, private sector and civil society, as well as independent expertise (based on the SeyCCAT model), with a mandate for strategic oversight of ocean/Blue Economy national policy, and reporting; with high level stakeholder engagement and international interface. Such a mechanism would facilitate strategic policy coherence across government, and provide a mechanism for a more inclusive, informed, transparent and accountable decision-making process on strategic issues affecting ocean based sustainable development and protection of the environment, taking into account the regional and international contexts. It could also engage in scenario planning and consider emerging issues and commission strategic studies or co-opt experts. Lessons learnt from other countries would be most useful.
 - A resourced and mandated Blue Economy Department to act as Secretariat to BE institutional bodies. Over the last couple of years, the functions of the Blue Economy department have been better articulated and promoted, taking on a more strategic policy role and national, regionally and international interface. New arrangements for national coordination of development planning within the Ministry of Finance and Economic Planning have emerged. The Blue Economy Department could provide secretariat and technical support to a National Ocean Council/Commission and a cabinet Blue Economy Council, developing the cross-sectoral policy guidance necessary for implementing a Blue Economy agenda across government¹⁴⁴ and monitoring and implementation of Blue Economy roadmap. An overview of the current scope of work of the Blue Economy Department is attached at Annex 2).

Consideration should be given to various options in terms of decision efficiency, transparency and accountability. For example, creating a National Ocean/Blue Economy Commission under legislation may add to an already large number of institutions, however

¹⁴⁴ For example, BE investment guidelines are being envisaged under the WB SWIOFIH3 project.

to date there is no mechanism for whole of government strategic decision making on oceans and Blue Economy.

Whilst an independent body with membership including government private sector and civil society may seem like less government control on strategic decisions, it also brings more transparency and accountability and ultimately trust. To better facilitate getting bi-partisan support for the Blue Economy and institutional and implementation arrangements for through the National Assembly, this proposal would be essential. A key issue would be how to fund this body, so seed funding would be required until long term funding can be sourced.

Building strong well-informed constituencies for improved stakeholder participation in Blue Economy decision-making

Stakeholder engagement in decision-making is an important strategy for accountability and transparency. A number of options can be considered. For example:

- Explore holding National Ocean Commission meetings (if it is created) in La Digue and Praslin as well as Mahé and combine with a public forum to facilitate open public dialogue;
- Empower existing civil society forum (eg The Citizens Engagement Platform Seychelles or other) and a private sector forum (chaired by the VP) as information sharing platforms and to get structured input Blue Economy decision making;
- Encourage the incorporation of key Blue Economy interest groups as associations, professional bodies, as a key interface for government;
- Host regular Blue Economy briefings at the National Assembly on Blue Economy implementation;
- Create issue-based ad hoc multi-stakeholder working groups
- Coordinate an independent Blue Economy expert think tank to enrich Blue Economy/ocean thinking, bringing international expertise and experience to Seychelles and taking a long ranging strategic view.

5.3 Creating a culture of ocean stewardship – Communicating the Blue Economy

One of the main difficulties associated with the implementation of the Blue Economy is the limited awareness of the importance and role of the oceans and coastal environment in the economy and society more broadly.

Developing a culture of ocean stewardship takes time and requires changes in mindset. Investment in ocean knowledge and measures that increasingly mobilize society on the importance of the oceans in the nation's development are as important as cultural values and the place of oceans in the country's psyche. For many Seychellois, the ocean stops at the beach and fishing, which for many years has been the basis of local livelihoods. The reasons behind this lack of association with the broader ocean context may be a combination of socio-historical factors as many Seychellois were brought by boats during the settlement

period, and a strong emphasis a creating a creole identity following independence of the country, as the recent cultural policy of Seychelles indicates. There is an opportunity through the Blue Economy to generate positive attitudes towards the marine environment and increased participation in the Blue Economy.

Developing Seychelles Blue Economy brand visual identity

Throughout the Blue Economy road map much is made of “*Seychelles Blue Economy brand*” as a unique identifier for sustainable, responsible, innovative and equitable ocean based development. Seychelles Blue Economy still lacks that visual presence, importantly on internet and social media. Developing a visual identity including a logo and community on social media needs to be developed urgently as a critical part of a communication strategy.

Developing awareness of the marine environment and sustainable best practices

Seychelles’ unique ocean assets are beneficial to raising awareness and eventually driving behaviour change. Seychelles’ conservation community and the Ministry of Environment Energy and Climate Change are actively engaged in raising awareness of the marine environment, through the media, educational programmes, water based recreation and engagement in community based activities. These efforts need to be strengthened.

At the same time, the dependence of Seychelles’ prosperity on oceans, not just fishing and tourism needs to be better communicated, as it also includes land use, ports infrastructure ports and associated activities which generate much of the wealth of the country and allow for the current standard of living Seychellois enjoy today. Focused messaging indicating activities individuals and groups can do at home, at school and in the workplace supportive of a healthy environment requires active management so that the benefits enjoyed are there for the long term. Appropriate messaging and behaviours are critical to generating behaviour change.

National Ocean champions

Leadership is critical to advance the Blue Economy and promote ocean stewardship. Seychelles has achieved outstanding leadership on islands, climate, oceans and Blue Economy internationally thanks to individuals’ commitment and engagement in international ocean and climate fora and active membership of global partnerships (see international section). This success must be echoed domestically.

Promoting and instituting an ocean stewardship culture, starts with young people and youth, and engaging them actively through internships, schools’ holiday programmes, clean up days, participation in ocean events such as the ocean festival, the Blue Economy Day and international events (e.g. the UN Oceans Conference in June 2017). Prizes were organized for the winners of the Blue Economy Careers Profile Competition launched in schools in 2017.

The Blue Economy Department has produced promotional videos in Creole and engaged with partners such as the James Michel Foundation and the Ministry of Education. The Blue Economy Department also spearheaded the “Commemoration of the Youth Oceans

Champion” activity in 2017, a collaboration between the BE department and the Ministries of Youth, Environment, and Education. This was largely animated by youth leaders with the aim of encouraging youth to take ownership of the Blue Economy.

Oceans Day in June and the Ocean Festival in December are some of the opportunities available to raise broader community awareness of Blue Economy. Consultations, and taking messages to local communities and to targeted groups is important to get support for policy reforms, some of which perceived negatively unless explained in plain language. Community and church leaders play a critical role in this process and are excellent champions.

Box 14: The SIDS Youth Aims Hub (SYAH) internship programme

The SYAH is a youth-led NGO promoting and advancing sustainable development through youth-led projects supported by the Blue Economy Department, The UK High Commission and the private sector. In 2016, SYAH pioneered an annual Blue Economy Internship Programme to help tackle Sustainable Development Goal 14 (life below water) and SDG 8 (decent work and economic growth). The programme enabled youth aged between 16-24 the opportunity to pursue a two-week internship in organizations within the Blue Economy Sector in Seychelles followed by a one-week educational visit to various Blue Economy Organizations in Mauritius.

The educational visit in Mauritius allows Seychellois to visit and learn about the advancement of the ocean economy in other Small Island Developing States. It enables the development of a platform between Mauritians and Seychellois for the sharing of ideas and best practice within the region. The aim of the programme is to:

- Increase awareness on the Blue Economy amongst the youth;
- Inspire young people to take up a career in the ocean-based economy through hands-on experience;
- Better understand the diversity of opportunities offered within this sector;
- Enable young people to identify ‘gaps’ within the Seychelles’ Blue Economy and find innovative solutions and/or create enterprises to address these;
- Provide youth with formal, merit-based on-the-job experience;
- Enable employers to discover future employees and allow participants to develop transferable skills and network with employers and entrepreneurs.

In 2016, SYAH partnered with 14 local Organizations offering 19 youth placements over the course of one two-week session. In 2017, SYAH partnered with 14 local Organizations offering 31 youth internship placements over the course of two two-week sessions.

Kalsey Belle, President, SYAH

Private sector champions

Communicating sustainability to maritime sectors is critical to developing ocean stewardship, as those sectors are directly benefiting from marine resources and at the same can be responsible for the most harm. Providing the necessary technical information on best practice, facilitating exchange and peer learning, encouraging co-management and providing regulatory certainty and incentives through secure access rights based on sustainability principles are important strategies.

The private sector can play a critical role as investors in sustainability. Seychelles Debt Swap for Conservation and Climate adaptation and Seychelles Blue Bond project are examples whereby private finance is investing in the protection of the marine environment and in the

transition to sustainable fishing respectively (see section on financing Blue Economy). Local investors can engage with such initiatives, playing a key role in financing the management of Seychelles marine resources and the marine environment, and building absorptive capacity.

Private sector corporate contributions support local initiatives, and tourism operators integrate conservation activities in their operations, however these are still on a small scale. What is needed is a much greater awareness of the benefits that the private sector derives from a healthy environment and their responsibility to contribute to its maintenance as well being an active contributor in decision-making. Encouraging maritime professional associations is important strategy to facilitate responsible resource use.

5.4 Tracking Blue Economy implementation: Monitoring, evaluation, accountability and learning

Periodic Review: Progress on blue economy implementation outlined in this Roadmap should be reviewed annually and include feedback to and from stakeholders.

Development of a monitoring and evaluation and accountability framework, setting targets and indicators is required. Existing indicators which are globally recognised and measured on an annual basis, such as contribution to GDP and employment should be used as much as possible. They should be meaningful and easily measurable (e.g. SMART indicators)¹⁴⁵, building on and improving existing data collecting mechanisms. For example, whilst Seychelles Bureau of Statistics produces regular statistics, however obtaining definitive figures on the full contribution of fisheries and tourism to the economy are still difficult to obtain and needs improvement.

The World Bank and the World Economic Forum, The World Tourism and Travel Council use global socio-economic indicators such as the Gross National Income per capita, the Gini Index of inequality, the Ease of doing Business Index and the WEF Travel and Tourism Competitive Report, which can be used for global assessment of the Blue Economy performance.

In addition, the 17 SDGs also have already identified targets and indicators, which can be readily used or adapted.¹⁴⁶ The benefits of using such indicators are their global comparability. When indicators do not exist, additional indicators can be identified. National indicators however will need to be developed to take account of specific issues and measures developed.

A Monitoring and Evaluation strategy will have to be developed to track progress of the Blue Economy over time against agreed strategic objectives, noting that the time frame of 2030 is aligned with the SDG agenda. At present, implementation of the Blue Economy Roadmap

¹⁴⁵ Specific, Measurable, Agreed upon, Realistic and Time-based goals.

¹⁴⁶ UN General Assembly, '*Global indicator framework for the Sustainable Development Goals and targets of the 2030 Agenda for Sustainable Development*', A/RES/71/313 (6 July 2017).

is to be mainly implemented by blue economy related agencies, engaged in the National Development Strategy and Visioning process conducted by the Ministry of Finance, with blue economy advisory and reporting functions and activities being coordinated by the Blue Economy Department.

It would be desirable to schedule a mid-term review of Blue Economy Roadmap implementation, taking advantage of finance monitoring and evaluation processes underway. In developing indicative indicators aligned with the Blue Economy Roadmap's strategic objectives, it should be noted that some blue economy related sectors/ministries have already identified national indicators. (e.g. tourism).



6. Conclusion

With its EEZ of approximately 1.4 million km², its well-defined areas of maritime jurisdiction, and established ‘blue and sustainable environment credentials’, Seychelles is in a strong position to derive ongoing benefit from the implementation of Blue Economy principles. With a progressive policy and institutional framework, delivering on the Blue Economy Strategic Framework and Roadmap and the National Vision are critical to instilling an integrated approach to ocean-based sustainable development that brings together economy, environment and society in a manner that offers opportunities to all Seychellois.

The Roadmap has set out a series of focus areas to deliver the Blue Economy Vision. “To develop an ocean-based (blue) economy as a means of realising the nation’s economic, social and cultural potential in a globalised world through an innovation, knowledge-led approach, being mindful of the need to conserve the integrity of the Seychelles marine environment and heritage for present and future generations.”

Adequate absorptive capacity for implementation, enforcement of measures, and monitoring and evaluation are challenges shared across all sectors. Successful delivery and implementation of blue economy principles over time will require the adoption of transparent and accountable decision-making processes, clear monitoring, evaluation, accountability and learning indicators, robust institutional arrangements, and a culture of ocean stewardship. Government, private sector, civil society, communities and all Seychellois and the international community are all important stakeholders in this process.

Knowledge generated through research and development, and fostering an enabling environment for innovation and entrepreneurship which draws upon opportunities for regional and international cooperation, can provide much needed support. Seizing these opportunities to take advantage of the Blue Economy in traditional and emerging blue economy sectors remains key.

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