



United Nations
Economic Commission for Africa

Office for
Eastern Africa



Blue Economy Valuation Toolkit

Socio-economic Assessment of Blue Potential in Seychelles

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OUTLINE

01 INTRODUCTION TO THE BLUE ECONOMY VALUATION TOOLKIT

CHALLENGES · UPDATES · ONE SIZE FITS ALL · THE MOVING PARTS

02 TOOLKIT STRUCTURE

THE MODULES · INPUTS · OUTPUTS · BE SNAPSHOT

03 DATA INPUT

COUNTRY PROFILE · ECONOMIC DATA · SOCIAL DATA · ECOSYSTEM DATA

04 THE BLUE ECONOMY VALUATION SUMMARY RESULTS

ECONOMIC ACTIVITIES · SOCIAL DIMENSIONS · ECOSYSTEM SERVICES

05 CONCLUSIONS AND WAY FORWARD

INTRODUCTION TO THE BLUE ECONOMY VALUATION TOOLKIT - CHALLENGES

- **The valuation toolkit intent to capture the various dimensions of human interactions with the “Blue environment” (ocean, lakes, rivers, etc..) and account for the various types of benefits (utilitarian, hedonistic and/ or monetary) it procures**
- **The valuation toolkit is articulated around 3 main modules:**
 - An Economic Module to identify any economic activity associated with the Blue Economy,
 - A Social Module to identify the human dimension of any social interaction with the Blue Economy, and
 - An Ecosystem Module to identify any ecosystem service associated with the "Blue economy”
- **The toolkit is flexible and comprehensive enough to be relevant for any country within UNECA scope regardless of their geographic situation (coastal, insular or landlocked)**
- **The toolkit is based on a series of classification systems widely accepted among international experts in the field, compatible with existing national systems of accounting (SNA, SEEA,.....) and familiar to most stakeholders.**
- **The toolkit is not a “black box” trap but it is designed as an open, transparent, programmable and easily updatable platform which is replicable, easily accessible and widely used among stakeholders and practitioners.**

INTRODUCTION TO THE BLUE ECONOMY VALUATION TOOLKIT – ONE SIZE FITS ALL

- **The toolkit or BEVTK was developed using the popular platform Microsoft Excel™ which can easily be customized and programmed using VBA to prevent data entry errors and thus shielding most users from producing erroneous results and therefore misleading conclusions (GIGO!)**
- **The toolkit is easily updatable to reflect new data while it can cope and adjust to changes in data availability and is flexible enough to adjust the underlying data depending on a country's particular situation (landlocked, coastal or insular).**
- **For each of the 3 modules, the toolkit incorporates internationally accepted systems of standards used by experts across the globe:**
 - **Economic Module:**
 - International Standard Industrial Classification or ISIC Nomenclature (revision 4)
 - **Social Module:**
 - Social Indexes from UNDEP (Human Development Indexes such as (Gini, MPI, GII, HDI, ...), Maritime Security Index from Stable Seas, ILO, World Bank and from other Internationally recognized organizations. Most indexes followings UN's SDGs (SDG 1, 2, 4, 6, 7, 12, 14 and 15)
 - **Ecosystem Module:**
 - IUCN Global Ecosystem Typology 2.0 to describe each relevant ecosystem thus updating the IUCN Habitats Classification Scheme (version 3.1) from the previous version of the toolkit (Phase I)
 - Common International Classification of Ecosystem Services or CICES Nomenclature (version 5.1)

INTRODUCTION TO THE BLUE ECONOMY VALUATION TOOLKIT – PHASE II

- **Following Phase I of the BE valuation toolkit development, it was decided to move on to Phase II to improve the tool to reflect what was learned during the testing phase of the original version of the tool (BEVTK version 1).**
- **BEVTK version 2 is an update of the previous version in the following ways:**
 - Improve data processing and navigation speed for a better user's experience and interaction with the tool,
 - Update the overall methodology and more specifically the IUCN's ecosystem typology.
 - Improve the Social Module by introducing new social assessment indexes while ensuring a better adequation with the UN's SDGs
 - Improving the data validation system, error trapping, update the prefetched data repository, improve the list generator system, ensure MS Excel™ version compatibility, ...
 - Introduce reporting generator capabilities to produce seamless PDF documents reflecting the country's BE snapshot and other summaries.

INTRODUCTION TO THE BLUE ECONOMY VALUATION TOOLKIT – THE MOVING PARTS

Ecosystem Module

Social Module

Economic Module

Utility Databases

IUCN Global Ecosystem Typology 2.0
Descriptive profiles for biomes and ecosystem functional groups

CICES
Structure of CICES

Human Development Reports

STABLE SEAS Lighthouse INDEX
DEBOOK
2020 EDITION

THE 17 GOALS

World Social Protection Data Dashboards

one earth FUTURE
Flourish Through Governance

International Standard Industrial Classification of All Economic Activities (ISIC), Rev.4

FAOSTAT

INTERNATIONAL MONETARY FUND
IMF DATA ACCESS TO MACROECONOMIC & FINANCIAL DATA

Deflators

Utility Databases



OUTLINE

01 INTRODUCTION TO THE BLUE ECONOMY VALUATION TOOLKIT
CHALLENGES · UPDATES · ONE SIZE FITS ALL · THE MOVING PARTS

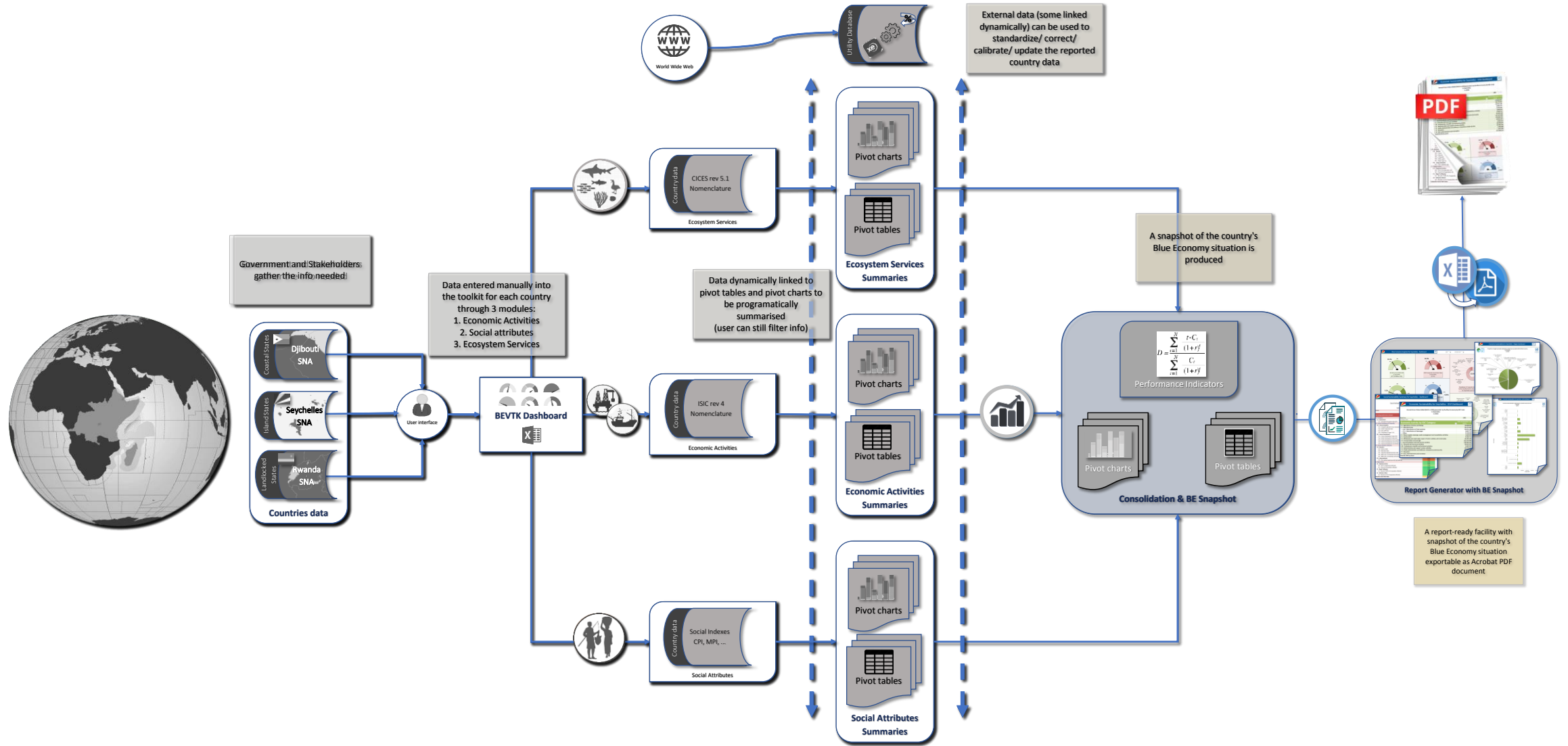
02 **TOOLKIT STRUCTURE**
THE MODULES · INPUTS · OUTPUTS · BE SNAPSHOT

03 **DATA INPUT**
COUNTRY PROFILE · ECONOMIC DATA · SOCIAL DATA · ECOSYSTEM DATA

04 **THE BLUE ECONOMY VALUATION SUMMARY RESULTS**
ECONOMIC ACTIVITIES · SOCIAL DIMENSIONS · ECOSYSTEM SERVICES

05 **CONCLUSIONS AND WAY FORWARD**

BLUE ECONOMY VALUATION TOOLKIT (BEVTK) STRUCTURE





OUTLINE

01 INTRODUCTION TO THE BLUE ECONOMY VALUATION TOOLKIT
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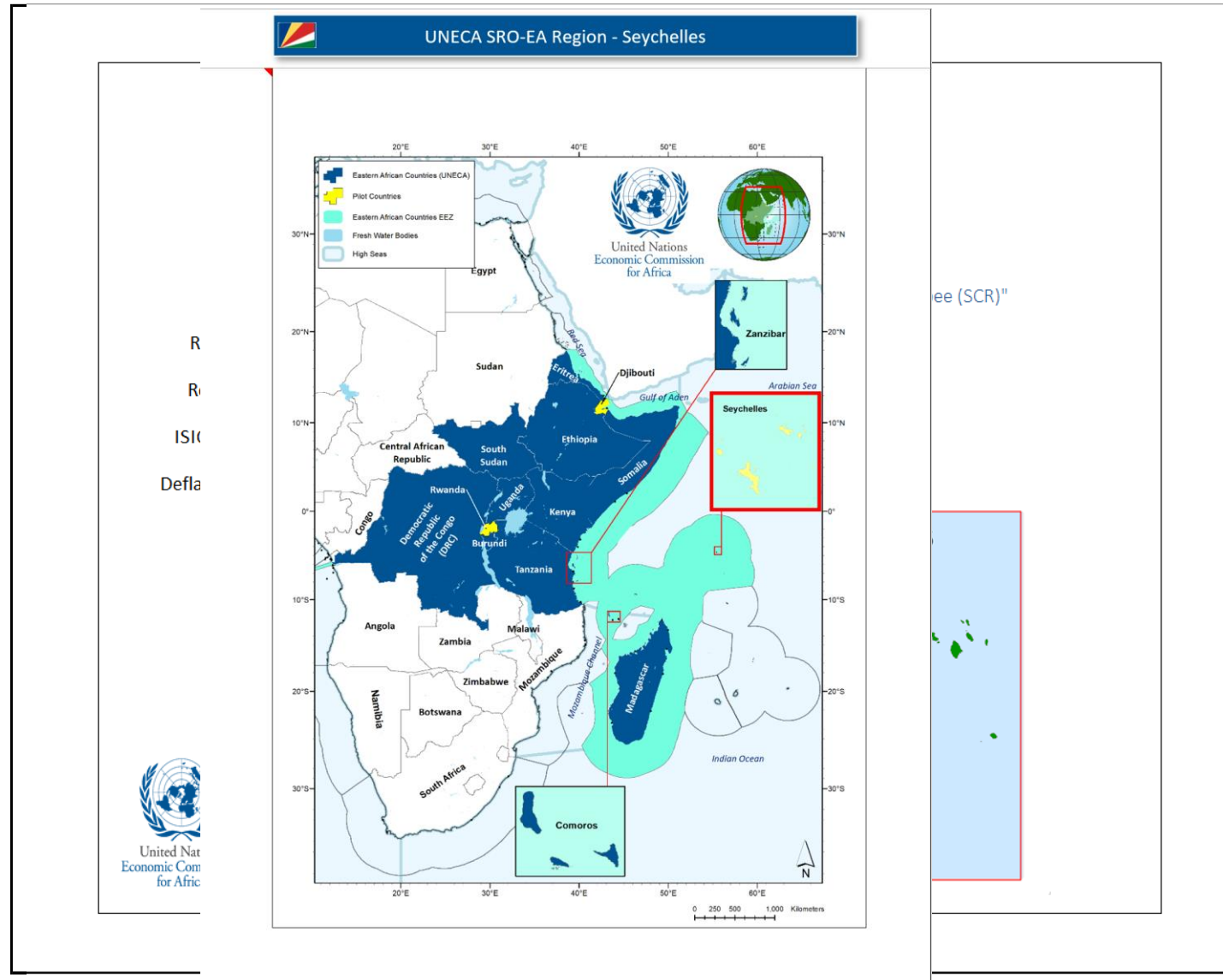
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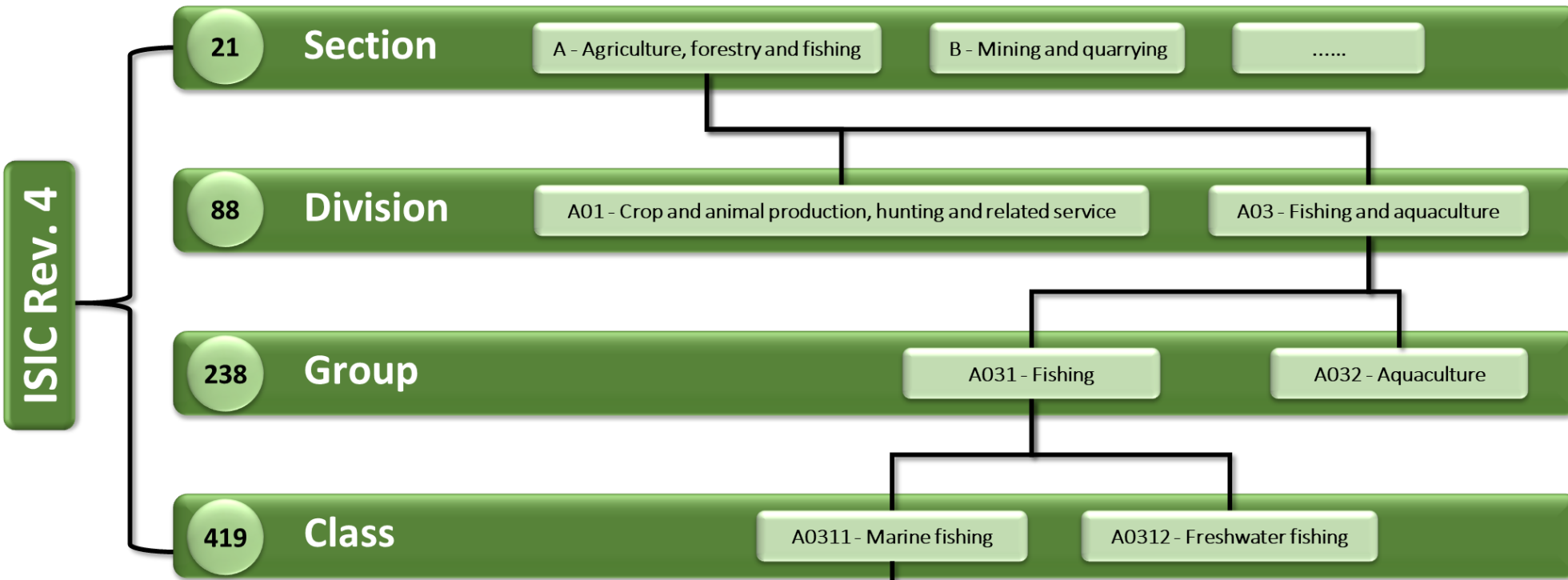
04 THE BLUE ECONOMY VALUATION SUMMARY RESULTS
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DATA INPUT – COUNTRY PROFILE



DATA INPUT – ECONOMIC ACTIVITIES



ISIC Code	Data Year	Data Source	Data Quality	% attributable to BE	Number of males employed in the reported activity	Number of males employed in the reported activity attributable to BE	Number of females employed in the reported activity	Number of females employed in the reported activity attributable to BE	Total employment in the reported activity	Total employment in the reported activity attributable to BE	Selected Data Currency (KES)	Total Wages in the reported activity in selected currency	Gross Value Added (GVA) of the reported activity in selected currency	Total Wages in the reported activity attributable to BE in selected currency	Gross Value Added (GVA) of the reported activity attributable to BE in selected currency	Total Wages in the reported activity attributable to BE (USD)	Gross Value Added (GVA) of the reported activity attributable to BE (USD)
A0311	2018	SNA	official	100%					400	400		54,854,000	159,800,000	54,864,000	159,800,000	\$ 772,177	\$ 2,249,085
B09	2018	SNA	official	100%												\$ 0	
C102	2018	SNA	official	100%												\$ 0	
C11	2018	SNA	official	10%					3,850	385		49,327,740	418,400,000	4,932,774	41,840,000	\$ 69,426	\$ 588,872

DATA INPUT – ECONOMIC ACTIVITIES - INPUTS



File Home Insert Page Layout Formulas Data Review View Developer ImageMSO Help Philippe UNECA-SRO-EA Design Tell me what you want to do

Help Save Print Settings Refresh Country Profile Economics Social Ecosystem BE Snapshot

Economic Data

- Input data
 - Add new record
 - Insert record below
 - Delete current record
 - Delete last record
 - Reset all Economic data
 - Fit row height to record
- GVA Summary
- Employment Summary
- Wages Summary

Economic Sustainability Data

Adjust Table's Rows Height Add new record

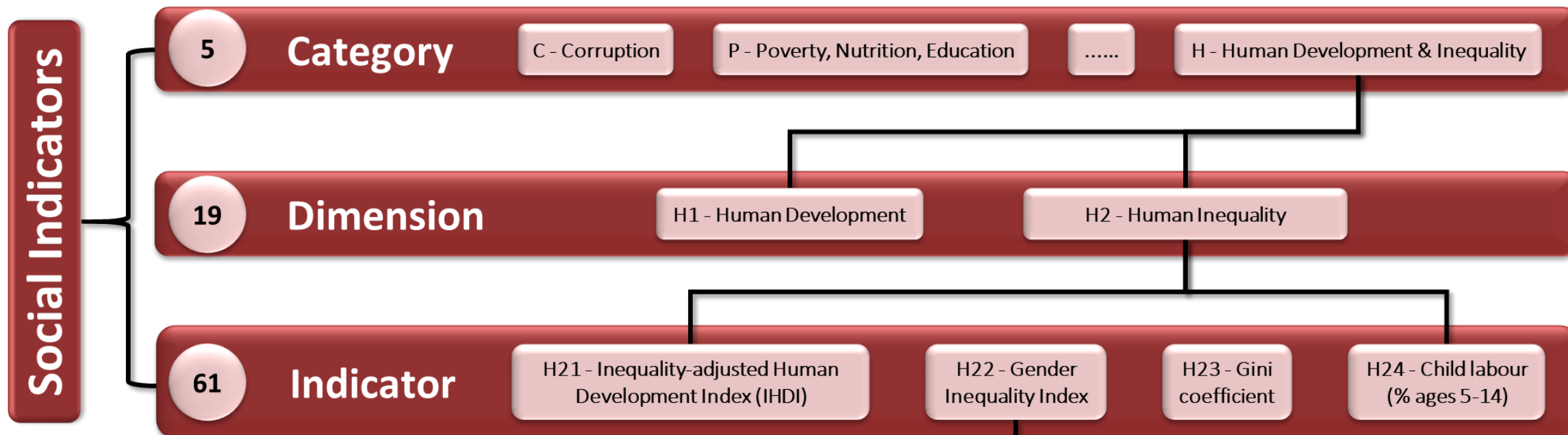
ISIC Code	Economic Activity Section Level 1	Economic Activity Division Level 2	Economic Activity Group Level 3	Economic Activity Class Level 4	Economic Activity Description	Data Year	Data Source	Data Quality
A0311	A - Agriculture, forestry and fishing	A01 - Crop and animal production, hunting and aquaculture	A031 - Fishing	A0311 - Marine fishing	- fishing on a commercial basis in ocean and coastal waters - taking of marine crustaceans and molluscs	2018	SNA	official
C1020	C - Manufacturing	C10 - Processing and preserving of food products	C102 - Processing and preserving of fish, crustaceans and molluscs	C1020 - Processing and preserving of fish, crustaceans and molluscs	- preparation and preservation of fish, crustaceans and molluscs: freezing, deep-freezing, drying, cooking, smoking, salting, immersing in brine, canning etc. - production of fish, crustacean and mollusc products: fish fillets, roes, caviar, caviar substitutes etc. - production of fishmeal for human consumption or animal feed - production of meals and solubles from fish and other aquatic animals unfit for human consumption - activities of vessels engaged only in the processing and preserving of fish - processing of seaweed	2018	SNA	guestimate
C1104	C - Manufacturing	C11 - Manufacture of beverages	C110 - Manufacture of beverages	C1104 - Manufacture of soft drinks; production of mineral waters and other bottled waters	- manufacture of non-alcoholic beverages (except non-alcoholic beer and wine): - production of natural mineral waters and other bottled waters - manufacture of soft drinks: ... non-alcoholic flavoured and/or sweetened waters: lemonade, orangeade, cola, fruit drinks, tonic waters etc.	2018	SNA	guestimate
A0322	A - Agriculture, forestry and fishing	A03 - Fishing and aquaculture	A032 - Aquaculture	A0322 - Aquaculture en eau douce	- fish farming in freshwater including farming of freshwater ornamental fish - culture of freshwater crustaceans, bivalves, other molluscs and other aquatic animals - operation of fish hatcheries (freshwater) - farming of frogs	2018	SNA	guestimate

DATA INPUT – ECONOMIC ACTIVITIES - CALCULATIONS



Economic Sustainability Data for Seychelles																					
ISIC Code	Economic Activity Section Level 1	Economic Activity Division Level 2	Economic Activity Group Level 3	Economic Activity Class Level 4	Number of males employed in the reported activity	Number of males employed in the reported activity attributable to BE	Number of females employed in the reported activity	Number of females employed in the reported activity attributable to BE	Total employment in the reported activity	% of the activity's employment attributable to BE	Total employment in the reported activity attributable to BE	Selected data currency (default is SCR)	Total Wages in the reported activity in selected currency	% of the activity's wages attributable to BE	Total Wages in the reported activity attributable to BE in selected currency	Gross Value Added (GVA) of the reported activity in selected currency	% of the activity's GVA attributable to BE	Gross Value Added (GVA) of the reported activity attributable to BE in selected currency	Total Wages in the reported activity attributable to BE (EUR)	Gross Value Added (GVA) of the reported activity attributable to BE (EUR)	
A0311	A - Agriculture, forestry and fishing	A03 - Fishing and aquaculture	A031 - Fishing	A0311 - Marine fishing	300	300	100	100	400	100%	400	SCR	54,864,000	100%	54,864,000	159,800,000	80%	127,840,000	€ 3,731,610.91	€ 8,695,121.36	
C1020	C - Manufacturing	C10 - Manufacture of food products	C102 - Processing and preserving of fish, crustaceans and molluscs	C1020 - Processing and preserving of fish, crustaceans and molluscs	1,483	1,334	371	333	1,854	90%	1,668	SCR	213,710,832	90%	192,339,749	716,700,000	90%	645,030,000	€ 13,082,114.04	€ 43,872,138.08	
C1104	C - Manufacturing	C11 - Manufacture of beverages	C110 - Manufacture of beverages	C1104 - Manufacture of soft drinks; production of mineral waters and other bottled waters	866	86	216	21	1,082	10%	108	SCR	13,837,392	10%	1,383,739	418,400,000	100%	418,400,000	€ 94,115.93	€ 28,457,750.14	
A0322	A - Agriculture, forestry and fishing	A03 - Fishing and aquaculture	A032 - Aquaculture	A0322 - Aquaculture en eau douce	542	108	135	27	677	20%	135	SCR	17,296,740	20%	3,459,348	261,700,000	100%	261,700,000	€ 235,289.82	€ 17,799,696.97	
C139	C - Manufacturing	C13 - Manufacture of textiles	C139 - Manufacture of other textiles		490	146	122	36	612	30%	183	SCR	36,526,068	30%	10,957,820	81,400,000	100%	81,400,000	€ 745,303.33	€ 5,536,474.33	
F422	F - Construction	F42 - Civil engineering	F422 - Construction of utility projects		4,728	945	1,182	236	5,910	20%	1,182	SCR	140,407,416	20%	28,081,483	687,100,000	100%	687,100,000	€ 1,909,980.48	€ 46,733,556.70	
G	G - Wholesale and retail trade; repair of motor vehicles and motorcycles				3,482	348	870	87	4,352	10%	435	SCR	10,299,900	10%	1,029,990	1,513,700,000	70%	1,059,590,000	€ 70,055.44	€ 72,068,708.11	
H5210	H - Transportation and storage	H52 - Warehousing and support activities for transportation	H521 - Warehousing and storage	H5210 - Warehousing and storage	3,344	2,675	836	668	4,180	80%	3,344	SCR	553,224,672	80%	442,579,738	2,232,500,000	100%	2,232,500,000	€ 30,102,350.84	€ 151,844,950.26	
I	I - Accommodation and food service activities				7,469	7,319	1,867	1,829	9,336	98%	9,149	SCR	1,171,012,272	98%	1,147,592,027	2,677,900,000	100%	2,677,900,000	€ 78,054,223.60	€ 182,139,123.09	
K	K - Financial and insurance activities				1,454	726	363	181	1,817	50%	908	SCR	119,856,000	50%	59,928,000	872,200,000	100%	872,200,000	€ 4,076,042.19	€ 59,323,254.48	
M	M - Professional, scientific and technical activities				1,070	160	267	40	1,337	15%	200	SCR	57,600,000	15%	8,640,000	535,400,000	100%	535,400,000	€ 587,655.26	€ 36,415,581.80	

DATA INPUT – SOCIAL DIMENSION



NDX	Social Category	Social Dimension	Social Indicator	Social Aspect Description	Data Year	Data Source
H22	H - Human Development & Inequality	H2 - Human Inequality	H22 - Gender Inequality Index	Gender Inequality Index (GII)	2018	UNDP (2019). Human Development Data (1990-2018)
H23	H - Human Development & Inequality	H2 - Human Inequality	H23 - Gini coefficient	Gini coefficient	2017	UNDEP, Human Development Data (1990-2018)
H24	H - Human Development & Inequality	H2 - Human Inequality	H24 - Child labour (% ages 5-14)	Child labour (% ages 5-14)	2017	UNDEP, Human Development Data (1990-2018)
I11	I - Illegal actions	I1 - illegal Traffiquing	I11 - Narcotic Traffic (% of population affected)	Narcotic Traffic (% of population affected)	2020	User defined

DATA INPUT – SOCIAL DIMENSION - INPUTS



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G27 Social Data Social Impacts Summary

Social Sustainability Data for Seychelles

Adjust Table's Rows Height Add new record

- Input data
- Add new record
- Insert record below
- Delete current record
- Delete last record
- Reset all Social data
- Fit row height to record

NDX	Social Category	Social Dimension	Social Indicator	Social Aspect Description	Data Year	Data Source	Data Quality	Social Indicator Value (Index)	Social Indicator Adjustment for BE (%)	Social indicator Gauge for BE
Ndx	Category	Dimension	Indicator	Description	Year	DataSource	Quality	Value	BEAdj	BEValue
H22	H - Human Development & B - Business Environment C - Corruption	H1 - Human Development H2 - Human Inequality	H21 - Inequality-adjusted Human Development Index (GII) H22 - Gender Inequality Index		2018	UNDP (2019). Human Development Data (1990-2018)	reliable		100%	
H23	H - Human Development & Inequality I - Illegal actions P - Poverty, Nutrition, Education	H2 - Human Inequality	H23 - Gini coefficient H24 - Child labour (% ages 5-14)		2017	UNDEP, Human Development Data (1990-2018)	reliable	46.80	100%	46.80
H24		H2 - Human inequality	H24 - Child labour (% ages 5-14)	Child labour (% ages 5-14)	2017	UNDEP, Human Development Data (1990-2018)	reliable		100%	
I43	I - Illegal actions	I4 - Organised actions	I43 - IUU (% of population affected)	IUU (% of population affected)	2020	User defined	guestimate	15.00	100%	15.00
I41	I - Illegal actions	I4 - Organised actions	I41 - Piracy (% of population affected)	Piracy (% of population affected)	2020	User defined	guestimate	2.00	100%	2.00
I11	I - Illegal actions	I1 - illegal Traffiquing	I11 - Narcotic Traffic (% of population affected)	Narcotic Traffic (% of population affected)	2020	User defined	guestimate	5.00	100%	5.00
I21	I - Illegal actions	I2 - Substance Abuse	I21 - Narcotic use (% of population affected)	Narcotic use (% of population affected)	2020	User defined	guestimate	5.00	100%	5.00

DATA INPUT – SOCIAL DIMENSION - CALCULATIONS



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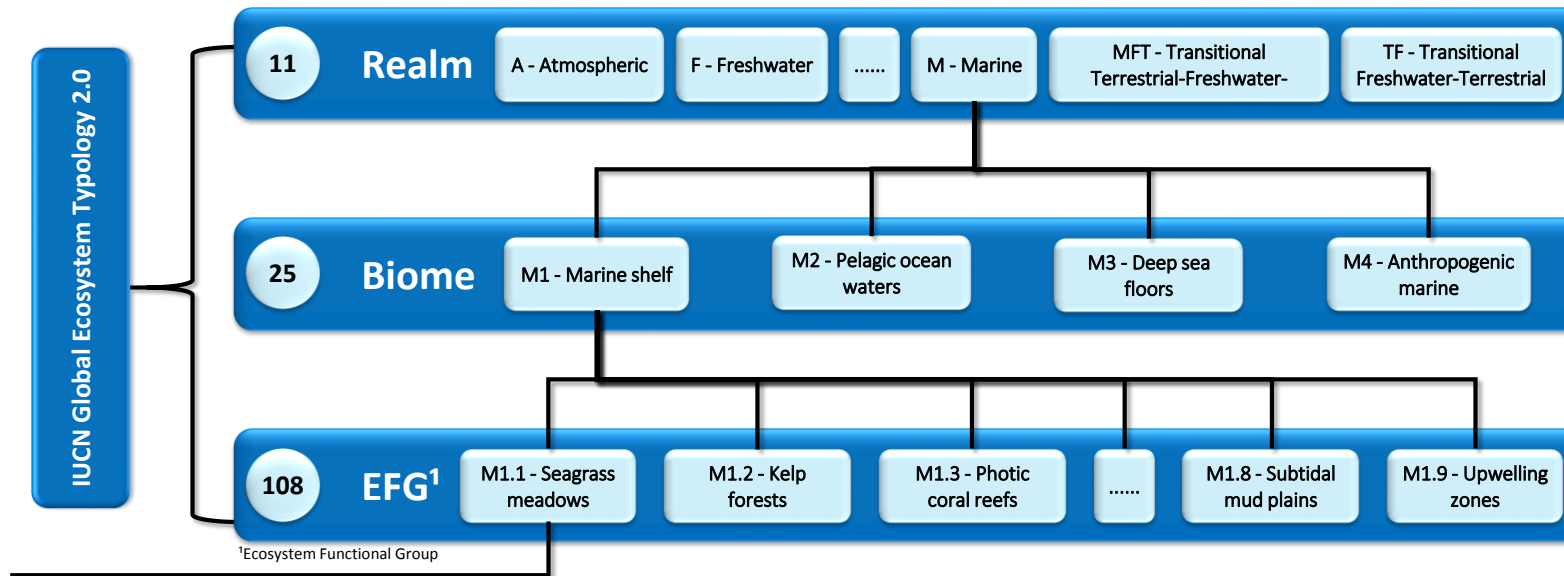
G27

Social Sustainability Data for Seychelles

Adjust Table's Rows Height Add new record

NDX	Social Category	Social Dimension	Social Indicator	Social Aspect Description	Data Year	Data Source	Data Quality	Social Indicator Value (Index)	Social Indicator Adjustment for BE (%)	Social indicator Gauge for BE
Ndx	Category	Dimension	Indicator	Description	Year	DataSource	Quality	Value	BEAdj	BEValue
H22	H - Human Development & Inequality	H2 - Human Inequality	H22 - Gender Inequality Index	Gender Inequality Index (GII)	2018	UNDP (2019). Human Development Data (1990-2018)	reliable			
H23	H - Human Development & Inequality	H2 - Human Inequality	H23 - Gini coefficient	Gini coefficient	2017	UNDEP, Human Development Data (1990-2018)	reliable	46.80	100%	46.80
H24	H - Human Development & Inequality	H2 - Human Inequality	H24 - Child labour (% ages 5-14)	Child labour (% ages 5-14)	2017	UNDEP, Human Development Data (1990-2018)	reliable		100%	
I43	I - Illegal actions	I4 - Organised actions	I43 - IUU (% of population affected)	IUU (% of population affected)	2020	User defined	guestimate	15.00	100%	15.00
I41	I - Illegal actions	I4 - Organised actions	I41 - Piracy (% of population affected)	Piracy (% of population affected)	2020	User defined	guestimate	2.00	100%	2.00
I11	I - Illegal actions	I1 - illegal Traffiquing	I11 - Narcotic Traffic (% of population affected)	Narcotic Traffic (% of population affected)	2020	User defined	guestimate	5.00	100%	5.00
I21	I - Illegal actions	I2 - Substance Abuse	I21 - Narcotic use (% of population affected)	Narcotic use (% of population affected)	2020	User defined	guestimate	5.00	100%	5.00

DATA INPUT – ECOSYSTEM TYPE



Ecosystem Classification & Service Index	Ecosystem Realm Type	Ecosystem Biome Type	Ecosystem Functional Group (EFG)	EFG description	EFG ecological traits	Ecosystem estimated size	Ecosystem estimated size unit of measurement	Quality of the Ecosystem (<30%= heavily damaged , 100%=pristine)
INDX	ECRealm	ECBiome	ECEFG	ECEFGDescr	ECFGTraits	ES_Size	ES_SizeUnit	EcosystemQuality
M11.2261	M - Marine	M1 - Marine shelf	M1.1 - Seagrass meadows	Indicative distributions of anchialine caves and pools were based on mapped areas of carbonate rock outcrop (Williams & Ting Fong, 2016) and lava flows intersecting the coast, which were aggregated within a template of 1-degree grid cells.	<ul style="list-style-type: none"> Moderate-high productivity & diversity Net autotrophic energy Detrital & plant-based trophic structures Structural complexity Benthic life forms Mega-herbivores 	27,330.0 Km ²		85%
M11.116	M - Marine	M1 - Marine shelf	M1.1 - Seagrass meadows	Indicative distributions of anchialine caves and pools were based on mapped areas of carbonate rock outcrop (Williams & Ting Fong, 2016) and lava flows intersecting the coast, which were aggregated within a template of 1-degree grid cells.	<ul style="list-style-type: none"> Moderate-high productivity & diversity Net autotrophic energy Detrital & plant-based trophic structures Structural complexity Benthic life forms Mega-herbivores 	27,330.0 Km ²		85%
M11.2112	M - Marine	M1 - Marine shelf	M1.1 - Seagrass meadows	Indicative distributions of anchialine caves and pools were based on mapped areas of carbonate rock outcrop (Williams & Ting Fong, 2016) and lava flows intersecting the coast, which were aggregated within a template of 1-degree grid cells.	<ul style="list-style-type: none"> Moderate-high productivity & diversity Net autotrophic energy Detrital & plant-based trophic structures Structural complexity Benthic life forms Mega-herbivores 	27,330.0 Km ²		85%

DATA INPUT – ECOSYSTEM TYPES



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Help Save Print Settings Refresh Country Profile Economics Social Ecosystem BE Snapshot

Ecosystem Services Data Input data Add new record Insert record below Delete current record Delete last record Reset all Ecosystem data Fit row height to record

Ecosystem Services Summary

G23

Ecosystem Services Data for Seychelles

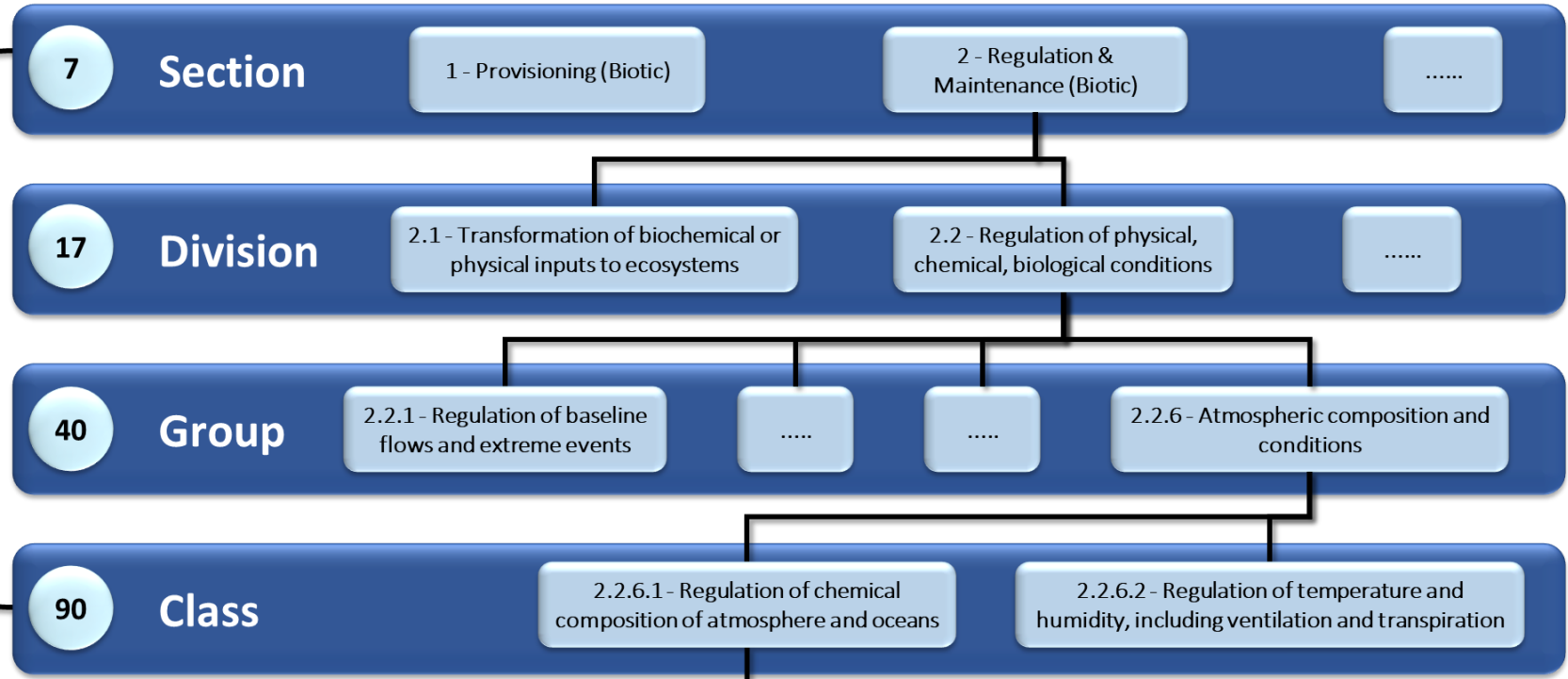
Adjust Table's Rows Height Add new record

Ecosystem Classification & Service Index	Ecosystem Realm Type	Ecosystem Biome Type	Ecosystem Functional Group (EFG)	EFG description	EFG ecological traits	Ecosystem Service Section	Ecosystem Service Division	Ecosystem Service group	Ecosystem Service Class
ESIndex	ESRealm	ESBiome	ESEFG	ESDescription	ESEFTraits	ESSection	ESDivision	ESGroup	ESClass
M11.2261	F - Freshwater FM - Transitional Freshwater M - Marine MFT - Transitional Terrestrial MT - Transitional Marine S - Subterranean SF - Transitional Subterranean SM - Transitional Subterranean	M1 - Marine shelf M2 - Pelagic ocean waters M3 - Deep sea floors M4 - Anthropogenic	M1.1 - Seagrass meadows M1.2 - Kelp forests M1.3 - Photic coral reefs M1.4 - Shellfish beds and reefs M1.5 - Photo-limited marine M1.6 - Subtidal rocky reef M1.7 - Subtidal sand beds M1.8 - Subtidal mud plain	Indicative distributions of anchialine caves and pools were based on mapped areas of carbonate rock outcrop (Williams & Ting Fong, 2016) and lava flows intersecting the coast, which were aggregated within a template of 1-degree grid cells.	<ul style="list-style-type: none"> Moderate-high productivity & diversity Net autotrophic energy Detrital & plant-based trophic structures Structural complexity Benthic life forms Mega-herbivores 	2 - Regulation & Maintenance (Biotic)	2.2 - Regulation of physical, chemical, biological conditions	2.2.6 - Atmospheric composition and conditions	2.2.6.1 - Regulation of chemical composition of atmosphere and oceans
M11.116				Indicative distributions of anchialine caves and pools were based on mapped areas of carbonate rock outcrop (Williams & Ting Fong, 2016) and lava flows intersecting the coast, which were aggregated within a template of 1-degree grid cells.	<ul style="list-style-type: none"> Moderate-high productivity & diversity Net autotrophic energy Detrital & plant-based trophic structures Structural complexity Benthic life forms Mega-herbivores 	1 - Provisioning (Biotic)	1.1 - Biomass	1.1.6 - Wild animals (terrestrial and aquatic) for nutrition, materials or energy	
M11.2112	M - Marine	M1 - Marine shelf	M1.1 - Seagrass meadows	Indicative distributions of anchialine caves and pools were based on mapped areas of carbonate rock outcrop (Williams & Ting Fong, 2016) and lava flows intersecting the coast, which were aggregated within a template of 1-degree grid cells.	<ul style="list-style-type: none"> Moderate-high productivity & diversity Net autotrophic energy Detrital & plant-based trophic structures Structural complexity Benthic life forms Mega-herbivores 	2 - Regulation & Maintenance (Biotic)	2.1 - Transformation of biochemical or physical inputs to ecosystems	2.1.1 - Mediation of wastes or toxic substances of anthropogenic origin by living processes	2.1.1.2 - Filtration/sequestration/storage/accumulation by micro-organisms, algae, plants, and animals
M11.2213	M - Marine	M1 - Marine shelf	M1.1 - Seagrass meadows	Indicative distributions of anchialine caves and pools were based on mapped areas of carbonate rock outcrop (Williams & Ting Fong, 2016) and lava flows intersecting the coast, which were aggregated within a template of 1-degree grid cells.	<ul style="list-style-type: none"> Moderate-high productivity & diversity Net autotrophic energy Detrital & plant-based trophic structures Structural complexity Benthic life forms Mega-herbivores 	2 - Regulation & Maintenance (Biotic)	2.2 - Regulation of physical, chemical, biological conditions	2.2.1 - Regulation of baseline flows and extreme events	2.2.1.3 - Hydrological cycle and water flow regulation (Including flood control, and coastal protection)
M1	M - Marine	M1 - Marine shelf							

DATA INPUT – ECOSYSTEM SERVICES



CICES ver. 5.1



Ecosystem Service Index	Ecosystem Service Section	Ecosystem Service Division	Ecosystem Service group	Ecosystem Service Class	Ecosystem Service Description	Data Year
2261	2 - Regulation & Maintenance (Biotic)	2.2 - Regulation of physical, chemical, biological conditions	2.2.6 - Atmospheric composition and conditions	2.2.6.1 - Regulation of chemical composition of atmosphere and oceans	By contribution of type of living system to amount, concentration or climatic parameter: Regulating our global climate Regulation of the concentrations of gases in the atmosphere that impact on global climate or oceans Any Provisioning (Biotic): Biomass Wild animals (terrestrial and aquatic) for nutrition, materials or energy	2017
116	1 - Provisioning (Biotic)	1.1 - Biomass	1.1.6 - Wild animals (terrestrial and aquatic) for nutrition, materials or energy			2017
2112	2 - Regulation & Maintenance (Biotic)	2.1 - Transformation of biochemical or physical inputs to ecosystems	2.1.1 - Mediation of wastes or toxic substances of anthropogenic origin by living processes	2.1.1.1 - Filtration/sequestration/storage/accumulation by micro-organisms, algae, plants, and animals	By type of living system, or by water or substance type: Filtering wastes The fixing and storage of an organic or inorganic substance by a species of plant, animal, bacteria, fungi or algae that mitigates its harmful effects and reduces the costs of disposal by other means By depth/volumes: Regulating the flows of water in our environment The regulation of water flows by virtue of the chemical and physical properties or characteristics of ecosystems.	2017
2213	2 - Regulation & Maintenance (Biotic)	2.2 - Regulation of physical, chemical, biological conditions	2.2.1 - Regulation of baseline flows and extreme events	2.2.1.3 - Hydrological cycle and water flow regulation (including flood control) and coastal protection		2017

DATA INPUT – ECOSYSTEM SERVICES -INPUTS



Ecosystem Classification & Service Index	Ecosystem Realm Type	Ecosystem Biome Type	Ecosystem Functional Group (EFG)	EFG description	EFG ecological traits	Ecosystem Service Section	Ecosystem Service Division	Ecosystem Service group	Ecosystem Service Class
M11.2261	M - Marine	M1 - Marine shelf	M1.1 - Seagrass meadows	Indicative distributions of anchialine caves and pools were based on mapped areas of carbonate rock outcrop (Williams & Ting Fong, 2016) and lava flows intersecting the coast, which were aggregated within a template of 1-degree grid cells.	<ul style="list-style-type: none"> Moderate-high productivity & diversity Net autotrophic energy Detrital & plant-based trophic structures Structural complexity Benthic life forms Mega-herbivores 	2 - Regulation & Maintenance (Biotic)	2.2 - Regulation of physical, chemical, biological conditions	2.2.6 - Atmospheric composition and conditions	2.2.6.1 - Regulation of chemical composition of atmosphere and oceans
M11.116	M - Marine	M1 - Marine shelf	M1.1 - Seagrass meadows	Indicative distributions of anchialine caves and pools were based on mapped areas of carbonate rock outcrop (Williams & Ting Fong, 2016) and lava flows intersecting the coast, which were aggregated within a template of 1-degree grid cells.	<ul style="list-style-type: none"> Moderate-high productivity & diversity Net autotrophic energy Detrital & plant-based trophic structures Structural complexity Benthic life forms Mega-herbivores 	1 - Provisioning (Biotic)	1.1 - Biomass	1.1.1 - Cultivated terrestrial animals for nutrition	1.1.6.1 - Wild animals (terrestrial and aquatic)
M11.2112	M - Marine	M1 - Marine shelf	M1.1 - Seagrass meadows	Indicative distributions of anchialine caves and pools were based on mapped areas of carbonate rock outcrop (Williams & Ting Fong, 2016) and lava flows intersecting the coast, which were aggregated within a template of 1-degree grid cells.	<ul style="list-style-type: none"> Moderate-high productivity & diversity Net autotrophic energy Detrital & plant-based trophic structures Structural complexity Benthic life forms Mega-herbivores 	2 - Regulation & Maintenance (Biotic)	2.2 - Regulation of physical, chemical, biological conditions	2.2.1 - Regulation of baseline flows and extreme events	2.2.1.3 - Hydrological cycle and water flow regulation (including flood control, and coastal protection)
M11.2213	M - Marine	M1 - Marine shelf	M1.1 - Seagrass meadows	Indicative distributions of anchialine caves and pools were based on mapped areas of carbonate rock outcrop (Williams & Ting Fong, 2016) and lava flows intersecting the coast, which were aggregated within a template of 1-degree grid cells.	<ul style="list-style-type: none"> Moderate-high productivity & diversity Net autotrophic energy Detrital & plant-based trophic structures Structural complexity Benthic life forms Mega-herbivores 	2 - Regulation & Maintenance (Biotic)	2.2 - Regulation of physical, chemical, biological conditions	2.2.1 - Regulation of baseline flows and extreme events	2.2.1.3 - Hydrological cycle and water flow regulation (including flood control, and coastal protection)
M1	M - Marine	M1 - Marine shelf							

1 - Provisioning (Biotic)

2 - Regulation & Maintenance (Biotic)

3 - Cultural (Biotic)

4 - Provisioning (Abiotic)

1.1 - Biomass

1.2 - Genetic material from wild animals and plants

1.3 - Other types of provisioning

1.1.1 - Cultivated terrestrial animals for nutrition

1.1.2 - Cultivated aquatic animals for nutrition

1.1.4 - Reared aquatic animals for nutrition

1.1.5 - Wild plants (terrestrial and aquatic)

1.1.6 - Wild animals (terrestrial and aquatic)

1.1.6.1 - Wild animals (terrestrial and aquatic)

1.1.6.2 - Fibres and other materials from wild animals

1.1.6.3 - Wild animals (terrestrial and aquatic)

1.1.6.3.1 - Wild animals (terrestrial and aquatic)

1.1.6.3.2 - Wild animals (terrestrial and aquatic)

1.1.6.3.3 - Wild animals (terrestrial and aquatic)

1.1.6.3.4 - Wild animals (terrestrial and aquatic)

1.1.6.3.5 - Wild animals (terrestrial and aquatic)

1.1.6.3.6 - Wild animals (terrestrial and aquatic)

1.1.6.3.7 - Wild animals (terrestrial and aquatic)

1.1.6.3.8 - Wild animals (terrestrial and aquatic)

1.1.6.3.9 - Wild animals (terrestrial and aquatic)

1.1.6.3.10 - Wild animals (terrestrial and aquatic)

1.1.6.3.11 - Wild animals (terrestrial and aquatic)

1.1.6.3.12 - Wild animals (terrestrial and aquatic)

1.1.6.3.13 - Wild animals (terrestrial and aquatic)

1.1.6.3.14 - Wild animals (terrestrial and aquatic)

1.1.6.3.15 - Wild animals (terrestrial and aquatic)

1.1.6.3.16 - Wild animals (terrestrial and aquatic)

1.1.6.3.17 - Wild animals (terrestrial and aquatic)

1.1.6.3.18 - Wild animals (terrestrial and aquatic)

1.1.6.3.19 - Wild animals (terrestrial and aquatic)

1.1.6.3.20 - Wild animals (terrestrial and aquatic)

DATA INPUT – ECOSYSTEM SERVICES - CALCULATIONS



File Home Insert Page Layout Formulas Data Review View Developer ImageMSO Help Philippe UNECA-SRO-EA Tell me what you want to do

Help Save Print Settings Refresh Country Profile Economics Social Ecosystem BE Snapshot

G23

Ecosystem Services Data for Seychelles

Adjust Table's Rows Height Add new record Euro (EUR)

Ecosystem Classification & Service Index	Ecosystem Realm Type	Ecosystem Biome Type	Ecosystem Functional Group (EFG)	Ecosystem Service group	Ecosystem Service Class	Ecosystem Service Description	Ecosystem estimated size	Ecosystem estimated size unit of measurement	Quality of the Ecosystem (<30%= heavily damaged, 100%=pristine)	Data Year	Data Source	Data Quality	Selected Data Currency (default is SCR)	Estimated unit value of ecosystem service per unit of ecosystem in selected currency	Estimated total value of the ecosystem service in selected currency	% attributable to the blue economy (default is 100%)	Estimated total value of the ecosystem service attributable to BE in selected currency	Estimated total value of the ecosystem service attributable to BE (EUR)
M11.2261	M - Marine	M1 - Marine shelf	M1.1 - Seagrass meadows	2.2.6 - Atmospheric composition and conditions	2.2.6.1 - Regulation of chemical composition of atmosphere and oceans	Any Regulation & Maintenance (Biotic): Regulation of physical, chemical, biological conditions - Atmospheric composition and conditions	27,330.0	Km²	85%	2019	Ministry of Environment, Energy and Climate Change. 2019. Nomination file to designate, and re-designate, areas for protected area status under the National Parks and Nature Conservation Act (NPNC), as amended (1982).	estimate	EUR	1,911	44,393,486	100%	44,393,486	€ 47,897,631.64
M11.116	M - Marine	M1 - Marine shelf	M1.1 - Seagrass meadows	1.1.6 - Wild animals (terrestrial and aquatic) for nutrition, materials or energy		Any Provisioning (Biotic): Biomass - Wild animals (terrestrial and aquatic) for nutrition, materials or energy	27,330.0	Km²	85%	2019	Ministry of Environment, Energy and Climate Change. 2019. Nomination file to designate, and re-designate, areas for protected area status under the National Parks and Nature Conservation Act (NPNC), as amended (1982).	estimate	EUR	2,154	50,038,497	100%	50,038,497	€ 53,988,225.30
M11.2112	M - Marine	M1 - Marine shelf	M1.1 - Seagrass meadows	2.1.1 - Mediation of wastes or toxic substances of anthropogenic origin by living processes	2.1.1.2 - Filtration/sequestration/storage/accumulation by micro-organisms, algae, plants, and animals	Any Regulation & Maintenance (Biotic): Transformation of biochemical or physical inputs to ecosystems - Mediation of wastes or toxic substances of anthropogenic origin by living processes	27,330.0	Km²	85%	2019	Ministry of Environment, Energy and Climate Change. 2019. Nomination file to designate, and re-designate, areas for protected area status under the National Parks and Nature Conservation Act (NPNC), as amended (1982).	estimate	EUR	1,243,759	28,893,143,450	100%	28,893,143,450	€ 31,173,788,816.19
M11.2213	M - Marine	M1 - Marine shelf	M1.1 - Seagrass meadows	2.2.1 - Regulation of baseline flows and extreme events	2.2.1.3 - Hydrological cycle and water flow regulation (including flood control, and coastal protection)	Any Regulation & Maintenance (Biotic): Regulation of physical, chemical, biological conditions - Regulation of baseline flows and extreme events	27,330.0	Km²	85%	2019	Ministry of Environment, Energy and Climate Change. 2019. Nomination file to designate, and re-designate, areas for protected area status under the National Parks and Nature Conservation Act (NPNC), as amended (1982).	estimate	EUR	353,170	8,204,315,685	100%	8,204,315,685	€ 8,851,913,430.35
M1	M - Marine	M1 - Marine shelf																



OUTLINE

01 INTRODUCTION TO THE BLUE ECONOMY VALUATION TOOLKIT
CHALLENGES · UPDATES · ONE SIZE FITS ALL · THE MOVING PARTS

02 TOOLKIT STRUCTURE
THE MODULES · INPUTS · OUTPUTS · BE SNAPSHOT

03 DATA INPUT
COUNTRY PROFILE · ECONOMIC DATA · SOCIAL DATA · ECOSYSTEM DATA

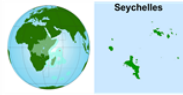
04 THE BLUE ECONOMY VALUATION SUMMARY RESULTS
ECONOMIC ACTIVITIES · SOCIAL DIMENSIONS · ECOSYSTEM SERVICES

05 CONCLUSIONS AND WAY FORWARD

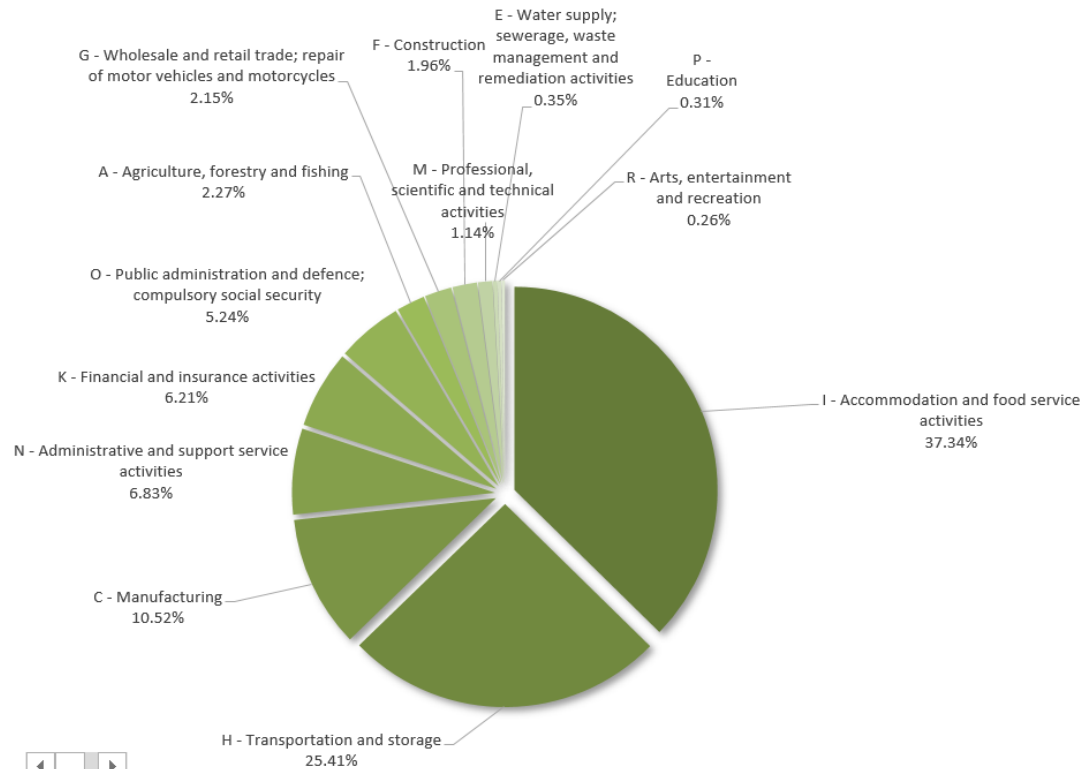
THE BLUE ECONOMY VALUATION SUMMARY RESULTS – ECONOMIC ACTIVITIES



Economic Sustainability for Seychelles - GVA Dashboard



Average Annual proportion of Gross Value Added (GVA in USD) generated by the Blue Economy in Seychelles in 2018



Total GVA generated by BE

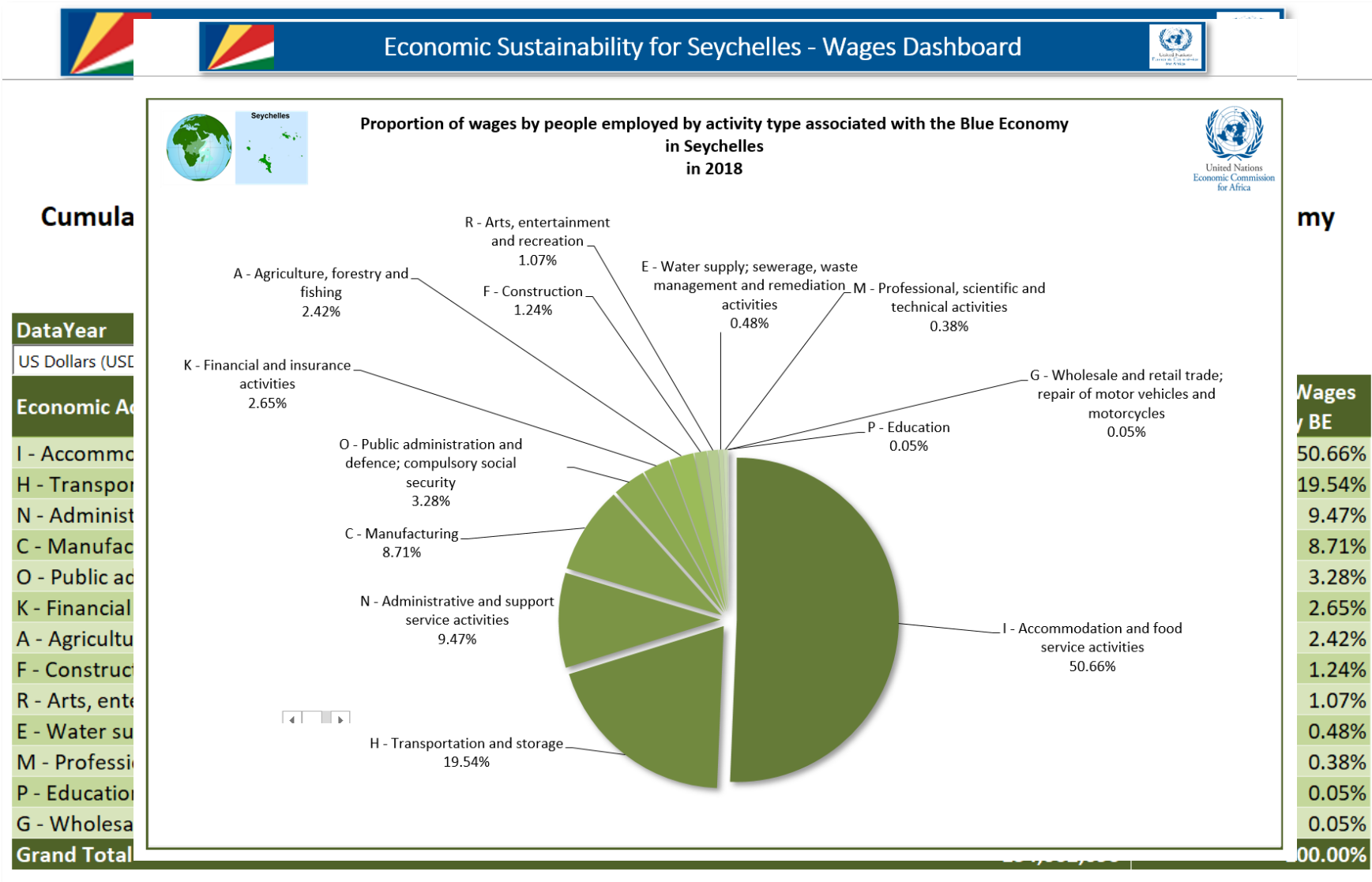
I - Accommodation and food service activities	37.34%
H - Transportation and storage	25.41%
C - Manufacturing	10.52%
N - Administrative and support service activities	6.83%
K - Financial and insurance activities	6.21%
O - Public administration and defence; compulsory social security	5.24%
A - Agriculture, forestry and fishing	2.27%
G - Wholesale and retail trade; repair of motor vehicles and motorcycles	2.15%
F - Construction	1.96%
M - Professional, scientific and technical activities	1.14%
E - Water supply; sewerage, waste management and remediation activities	0.35%
P - Education	0.31%
R - Arts, entertainment and recreation	0.26%
Grand Total	100.00%

Data Year

US Dollars (USD)

- I - Accommodation and food service activities
- H - Transportation and storage
- C - Manufacturing
- N - Administrative and support service activities
- K - Financial and insurance activities
- O - Public administration and defence; compulsory social security
- A - Agriculture, forestry and fishing
- G - Wholesale and retail trade; repair of motor vehicles and motorcycles
- F - Construction
- M - Professional, scientific and technical activities
- E - Water supply; sewerage, waste management and remediation activities
- P - Education
- R - Arts, entertainment and recreation
- Grand Total**

THE BLUE ECONOMY VALUATION SUMMARY RESULTS – ECONOMIC ACTIVITIES



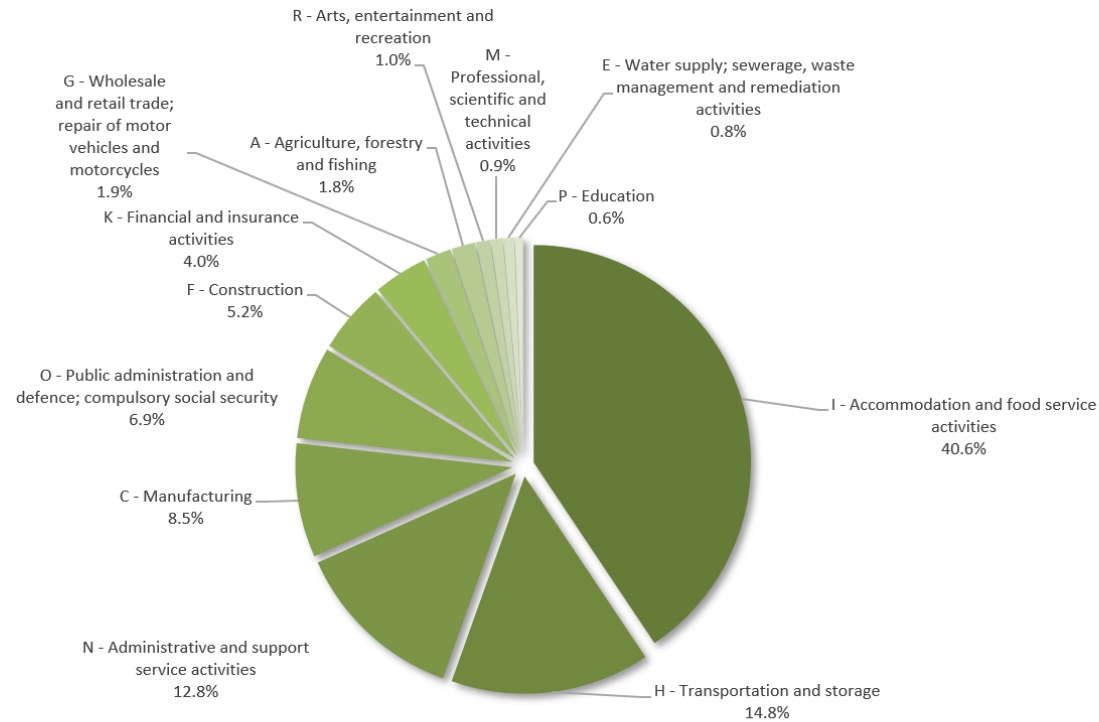
THE BLUE ECONOMY VALUATION SUMMARY RESULTS – ECONOMIC ACTIVITIES



Economic Sustainability for Seychelles - Employment Dashboard



Proportion of people employed by activity type associated with the Blue Economy in Seychelles in 2018



Data Year

Economic Activity

I - Accommodation and food service activities

H - Transportation and storage

N - Administrative and support service activities

C - Manufacturing

O - Public administration and defence; compulsory social security

F - Construction

K - Financial and insurance activities

G - Wholesale and retail trade; repair of motor vehicles and motorcycles

A - Agriculture, forestry and fishing

R - Arts, entertainment and recreation

M - Professional, scientific and technical activities

E - Water supply; sewerage, waste management and remediation activities

P - Education

Grand Total

of Total
Employment
attributed by BE

40.61%

14.84%

12.83%

8.48%

6.89%

5.25%

4.03%

1.93%

1.78%

1.04%

0.89%

0.81%

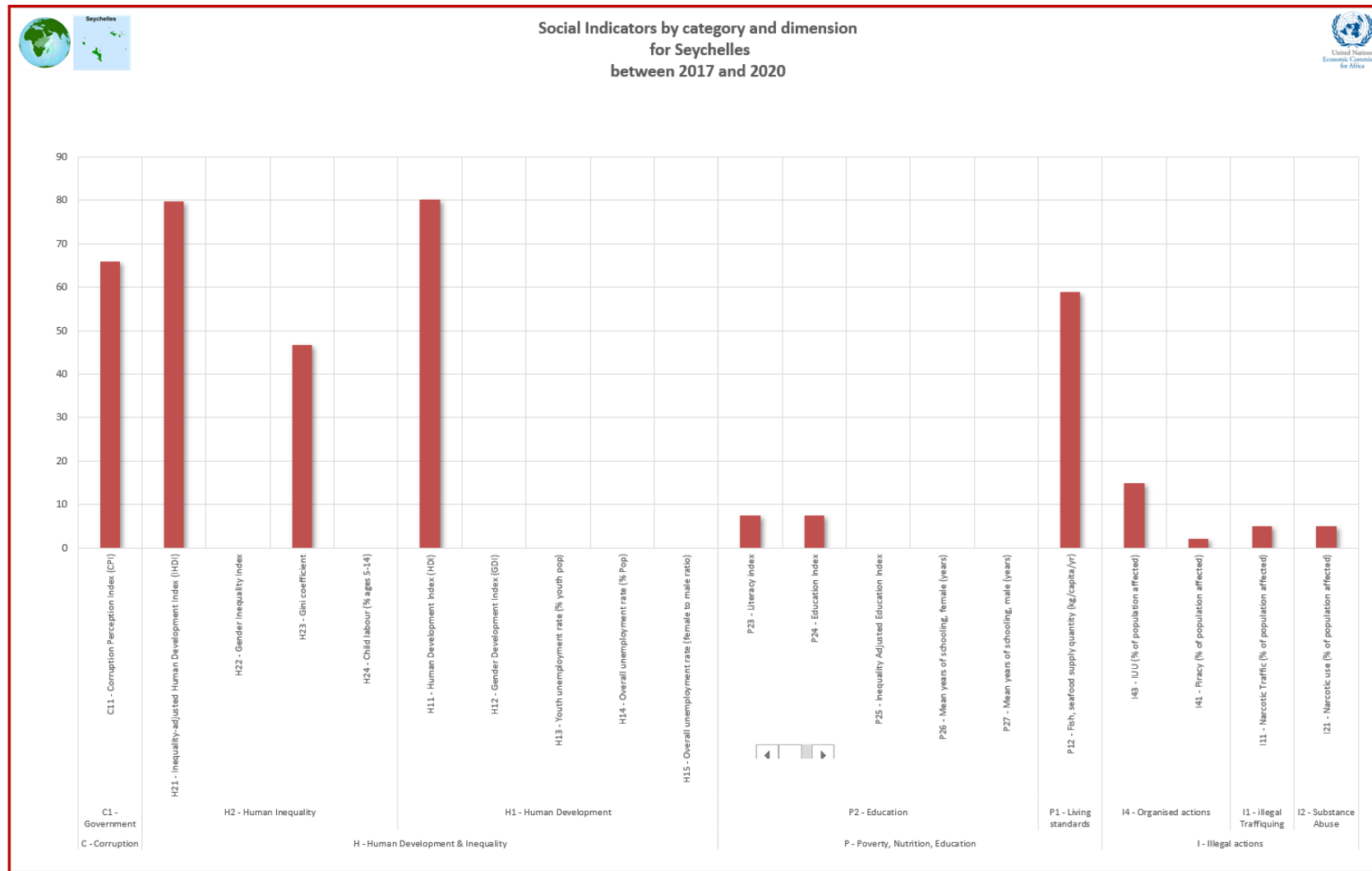
0.61%

100.00%

THE BLUE ECONOMY VALUATION SUMMARY RESULTS – SOCIAL DIMENSION



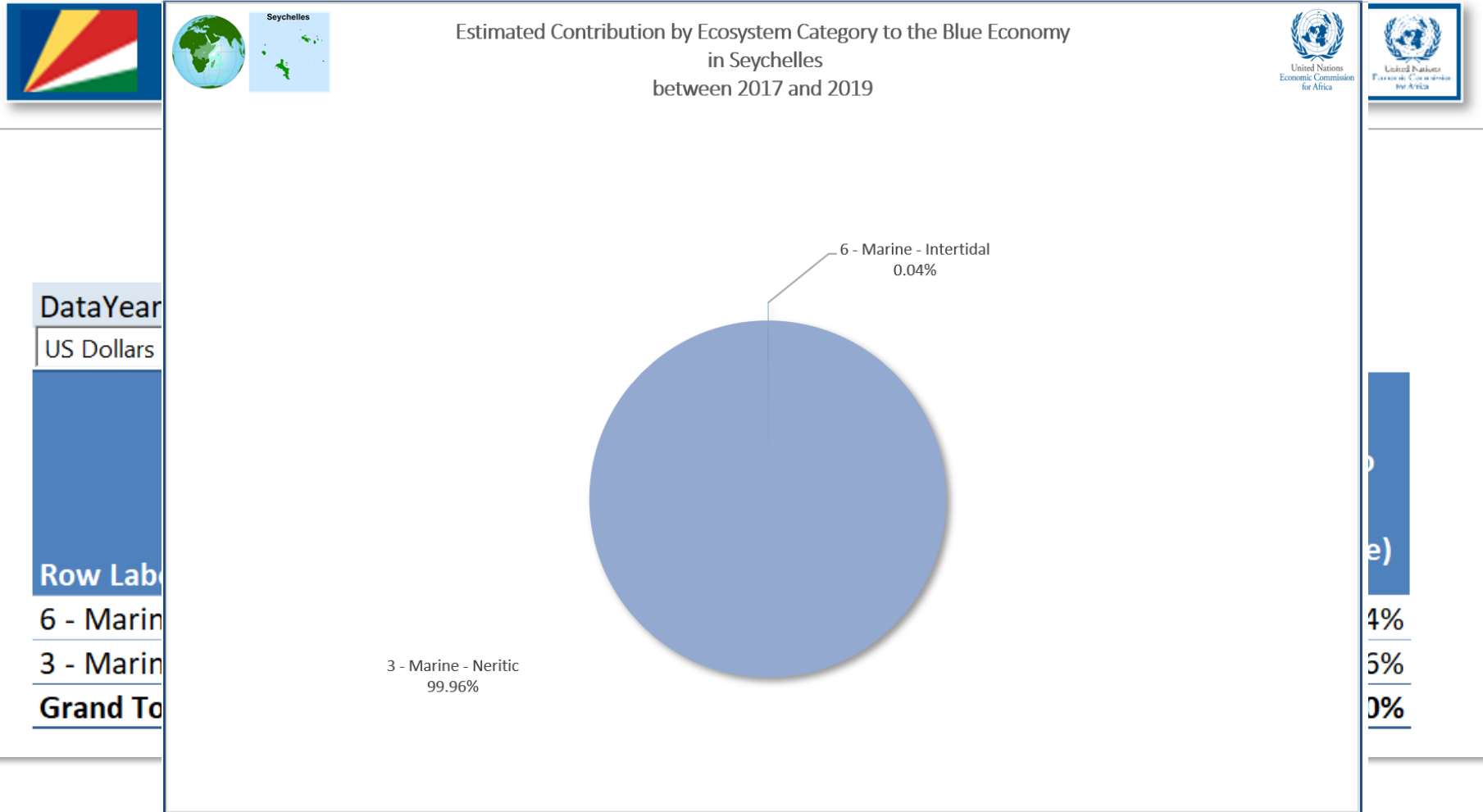
Social Sustainability Summary for Seychelles – Dashboard



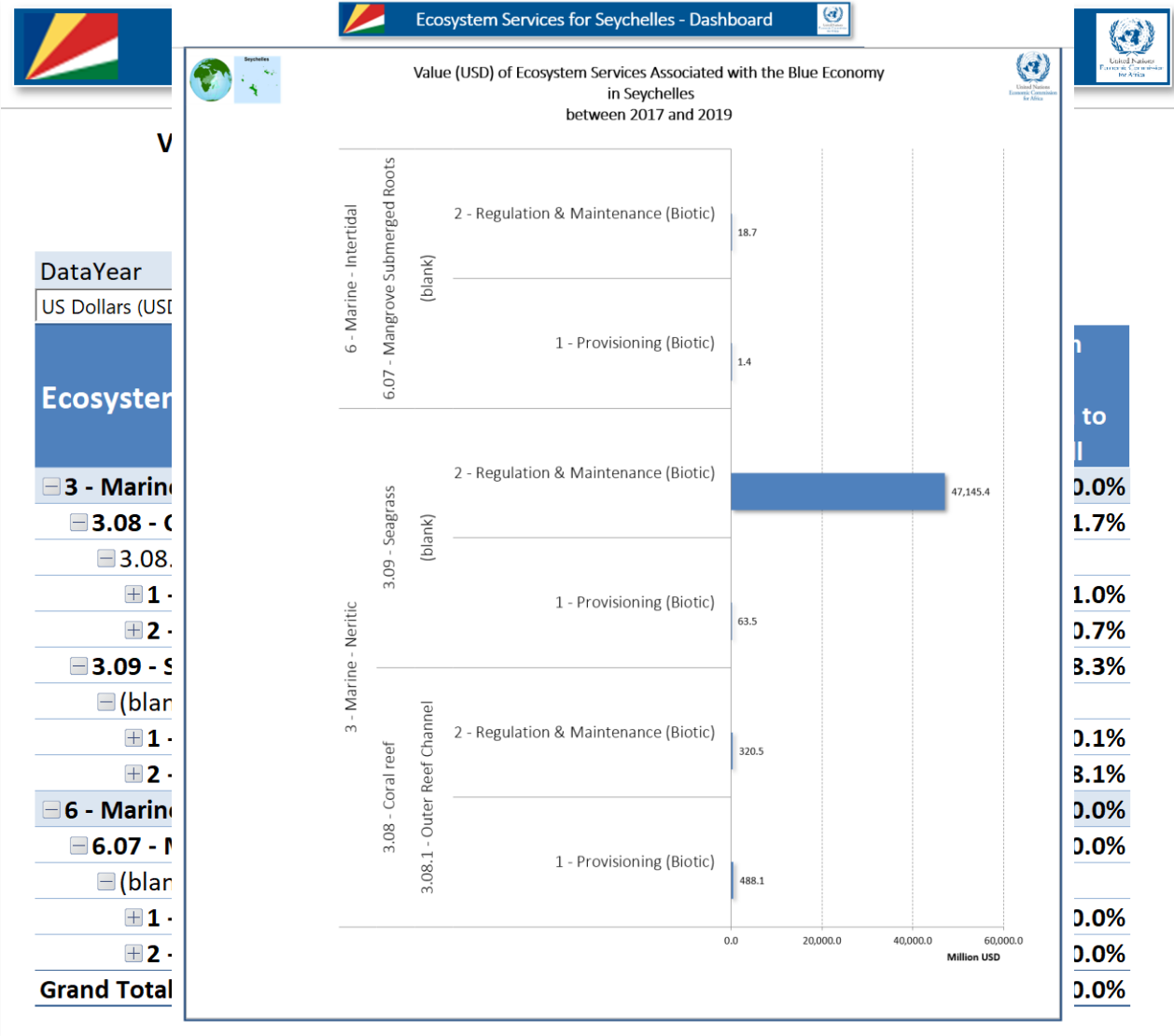
THE BLUE ECONOMY VALUATION SUMMARY RESULTS – ECOSYSTEM SERVICES



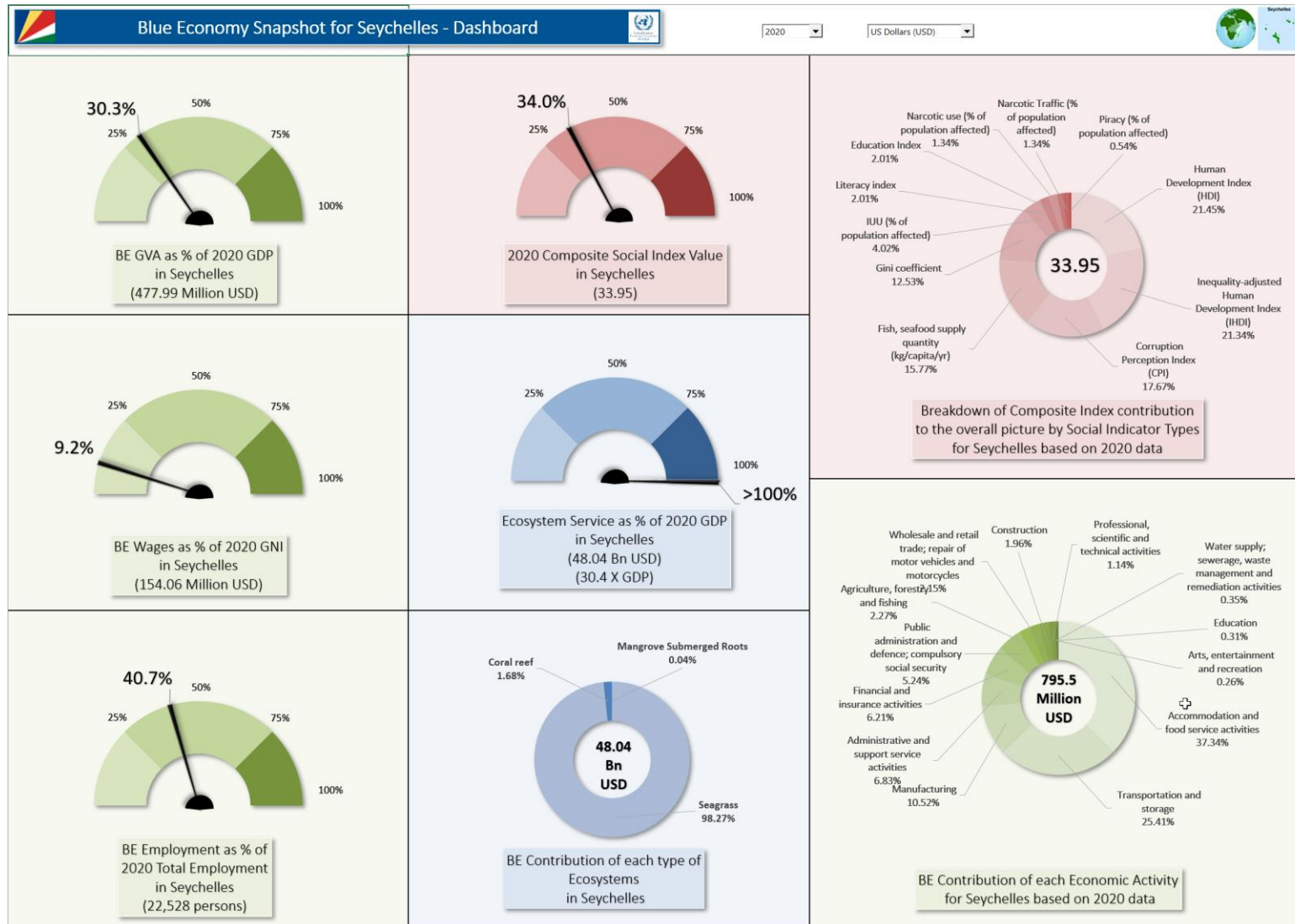
Ecosystem Services for Seychelles - Dashboard



THE BLUE ECONOMY VALUATION SUMMARY RESULTS – ECOSYSTEM SERVICES



THE BLUE ECONOMY VALUATION SUMMARY RESULTS – OVERALL SNAPSHOT





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05 CONCLUSIONS AND WAY FORWARD

CONCLUSIONS AND WAY FORWARD

- **The main challenge now is for the relevant East African countries to collect the necessary information needed to run the toolkit**
- **Some of this information will required surveys to be conducted to collect the missing data**
- **The toolkit was designed as a dynamic decision-making tool and as such is flexible enough to accommodate user defined categories in each of the 3 modules. It is therefore NOT a Black Box.**
- **This is still a work in progress and the toolkit will undoubtedly go through some more improvements.**
- **We are opened to comments, suggestions, recommendations to improve the tool.**



THANK YOU!

[Bit.ly/SeychellesBE](https://bit.ly/SeychellesBE)

Ideas
to
Action