INCEPTION REPORT

National pilot ocean accounts in Viet Nam

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1. Background

1.1. Rationale for the Study

Ocean accounts organize ocean data (social, environmental, economic) into a common framework using the same structure as national accounts maintained by the National Statistical Offices or Finance Ministries. These provide the means to measure progress towards growth and sustainability of the ocean economy beyond Gross Domestic Product (GDP), in line with Sustainable Development Goals 14, 15.9 and 17.19 as well as international statistical standards. In addition, ocean accounts provide a common information infrastructure for ocean development policy, marine spatial planning, integrated environmental management, and international reporting including but not limited to the Sustainable Development Goals, Aichi Biodiversity Targets under the Convention on Biological Diversity and the Paris Agreement on Climate Change.

A comprehensive sequence of ocean accounts enables countries to monitor three critical trends: (1) changes in ocean wealth, including produced assets (e.g. ports) and non-produced assets (e.g. mangroves, coral reefs); (2) ocean-related income and welfare for different groups of people (e.g. income from fisheries for local communities); (3) ocean-based economic production (e.g. GDP from ocean-related sectors). Change in ocean wealth, not GDP, is the most important indicator of sustainability.

Ocean accounts are designed to function as a common reference point and information infrastructure for diverse coastal and marine related policies. This avoids policy shortcomings arising from isolated information such as coastal development decisions that may not take impacts on fisheries into consideration. Thus, the approach to ocean accounting as an integrated statistical framework fully supports commitments of the Government of Viet Nam in ensuring the balance between economic development, environmental conservation and the maintenance of ecological integrity. These priorities are reflected in several key policies, strategic and legal frameworks such as the Socio-Economic Development Strategy (SEDS); the Socio-Economic Development Plan (SEDP); the Viet Nam Green Growth Strategy (VGGS); the Party Resolution to Respond to Climate Change, Environmental Protection and Natural Resources Management; the National Action Plan for the Implementation of Agenda 2030 for Sustainable Development; and, the revised Law on Environmental Protection (LEP).

Additionally, the Central Party in October 2018 adopted the Resolution on Sustainable Development of Blue Economy. This has an overarching goal of enhancing the sustainable socio-economic development and environmental protection in marine and coastal areas and islands with the direction of development of a society with the transition to the sea. The Resolution recognizes that it should ensure ecological balance, harmonize the linkages between conservation and development, and bridge territorial, coastal areas and islands. It also sets targets to key priority sectors such as sea and island tourism, maritime economy, petrol and other resource exploitation, aquaculture, shipbuilding industry, and renewable energy. MONRE is currently developing a proposal on development of Blue Economy modes towards marine sustainable development to implement the strategy of sustainable development of Vietnam's marine economy to 2030, with a vision to 2045 which is supposed to be submitted to the Prime Minister for approval by 2022.

As a national strategic and policy research institute on natural resources and the environment, implementing ocean accounts is in alignment with ISPONRE's mandates evidenced by the Institute's previous work with United Nations ESCAP in 2019 on initial ocean accounts pilot implementation and in

2020 on national asset valuation in coastal areas with support from the World Bank. There is a need for a non-project assistance to ensure continuation of work to integrate natural capital values and protection of coastal and marine ecosystems into development planning through the production of ocean accounts in 2021-2022, in advance of the finalization of the GEF Trust Fund processes.

1.2. Introduction of Ocean Account

An Ocean Account is a structured compilation—of consistent and comparable information: maps, data, statistics and indicators—concerning marine and coastal environments, including related social circumstances and economic activity. The general purpose of such accounts is to inform and enable public policy decision-making about oceans, and related analysis and research. The function of these accounts is to provide coherent structures for standardizing fragmented data to produce reliable integrated indicators of interest to policy.
The general structure and groups of component tables of the Ocean Accounts Framework are illustrated in **Figure 1** below, and can be summarised as follows:

- **Ocean assets (natural capital):** recording the physical status and condition, and monetary value, of marine and coastal environmental assets (natural capital) including minerals and energy, land and soil, coastal timber, aquatic resources, other biological resources, water, and ecosystems including biodiversity.
- **Flows to economy (supply and use of ocean services, including goods[25]):** recording inputs from marine and coastal environmental assets to the economy, including ocean-related materials, energy, water, and ecosystem services. These inputs can be recorded in terms of physical quantities and monetary value.
- **Flows to environment (residuals including ecosystem impacts):** recording in physical units the outputs from the economy to the ocean environment including: solid waste, air emissions, water emissions, and impacts on ecosystems.
- **The ocean economy and the economy:** recording the monetary value of production, consumption, accumulation, imports, and exports in economic sectors deemed relevant to the ocean, as well as non-market services in comparison to the economy of a nation. The economy is reflected in the Ocean Accounts as users of ocean services and suppliers of residuals (pollutants) and activities that affect the ocean.
- **Governance:** recording a range of information (physical status, monetary value, and/or qualitative status) concerning collective decision-making about oceans, and the wider social and governance context in which such decisions are made. Information recorded in governance tables includes the status and/or value of: protection and management of ocean environment; the "environmental" goods and services sector of the ocean economy; relevant taxes and subsidies; applicable laws and regulations; health, poverty and social inclusion; risk and resilience; and ocean-related technologies.
- **Combined presentation:** recording a "report card" of summary information (physical quantities, monetary value, and/or qualitative status) and indicators concerning the flows of benefits and costs (the latter broadly defined as maintenance and restorations costs, disservices and externalities[26]) between the ocean environment and the economy. This information includes but is not limited to: the share of Gross Value Added / Gross Domestic Product attributable to the ocean economy; ocean resource rents; depletion, degradation and adjusted net savings relevant to oceans; contributions of oceans to human well-being (employment, sense of place) that are not recorded in the SNA; and relevant information concerning health, poverty and social
- inclusion.
- **National Wealth:** recording summary information (in terms of physical quantities, and/or monetary value) concerning a country's (or other region's) **stock of ocean wealth**, including relevant stocks of environmental assets recorded on a SEEA balance sheet; economic/financial assets recorded on an SNA balance sheet; a subset of environmental assets that are defined as "critical" according to agreed criteria; the resource life of environmental assets; and relevant societal assets such as education and health systems.

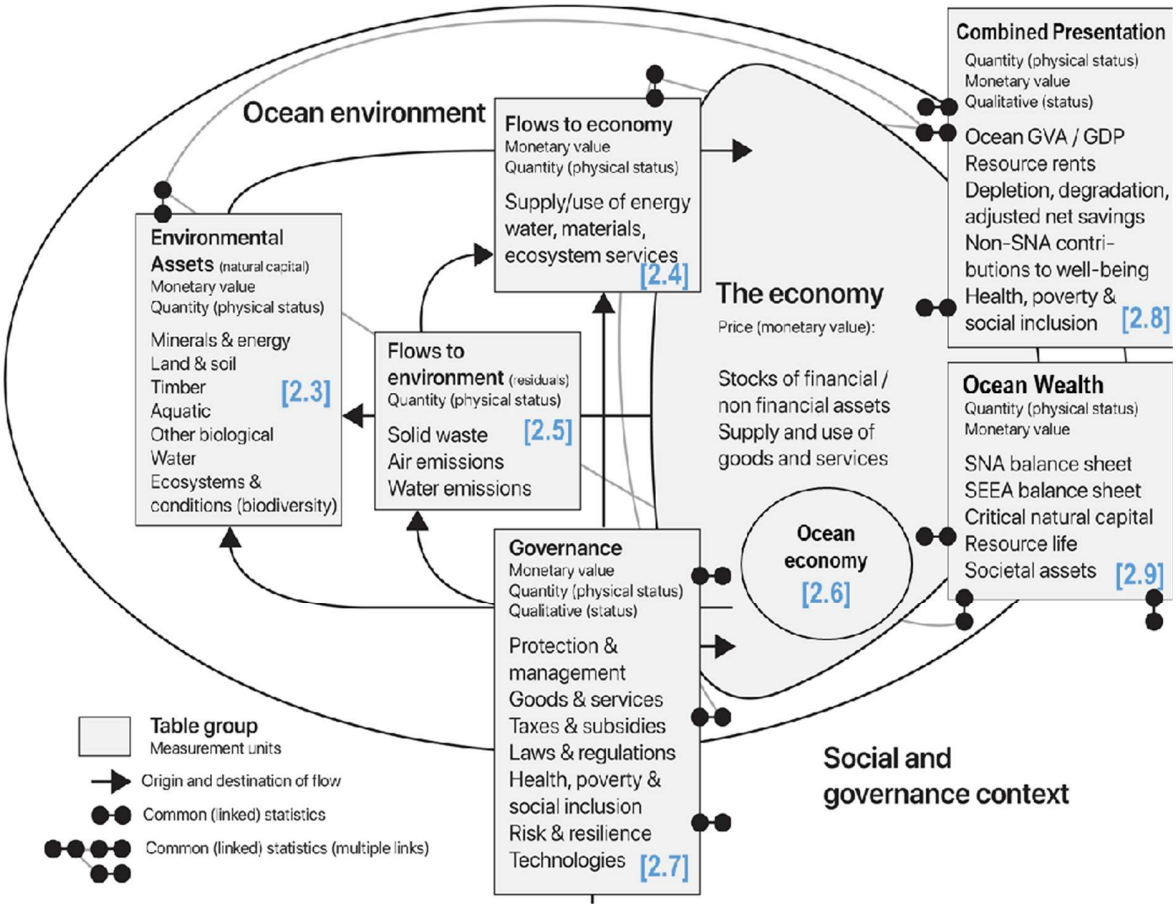

Figure 1: Detailed table structure of Ocean Accounts Framework

2. Study area

The pilot ocean accounts will be conducted in Quang Ninh province, located in the the North-East of the country, Quang Ninh Province has an onshore area more than 6.000 sq.km and sea area more than 6.000 sq.km, along with the 120 km coastal line, and more than 2.000 islands. In 2019 Quang Ninh province have 4 cities, 1 township, 10 district towns classified as urban category IV and V. The urbanization rate of Quang Ninh is 55% compared to 32% at national level. In 2020 the urbanization rate would reach 65%.

It has forests plains and sea and an international border gate of Mong Cai to the People's Republic of China. Quang Ninh has access to many lands and river-going transport ways including the Cai Lan, the only deep-sea port in northern Viet Nam. Besides, with the location nearing two of the biggest cities of Hanoi and Haiphong, Quang Ninh also plays an important role in regional socio-economic development, especially in the regional economic cooperation frameworks.

The province has approximately 80% of the area is mountainous, of which 64% is forest, agriculture land accounted for 8.26% of which about half is rice land. The province has 15 basins grouped into 3 main categories: mountain, hilly and coastal in which the coastal area is around 121,717 ha with three main ecosystems such as mangrove, seagrass and coral reefs.

3. Objective

This assignment focuses on calculating the condition account in Quang Ninh province. The study will focus on the following aspects:

Ocean-related income and welfare for different groups of people

- General socio-economic data (population, income of different target groups)
- Change of economic sector over period of time (i.e. agriculture, mining, tourism, industry, etc.)
- Marine dependent sectors for marine resources (i.e. tourism, transport, fishery, etc.)
- Interrelationship between socio-economic development and marine natural resources

Land-based and marine-based pollution

- Land-based and marine based pollution sources (i.e. tourism, mining, aquaculture, etc.)
- Change of environmental quality overtime (statistic and spatial)

Changes in ocean wealth, including produced assets (e.g. ports) and non-produced assets (e.g. mangroves, coral reefs);

- Change of key ecosystem overtime (i.e. mangroves)
- Land use change overtime, including land reclamation (lấn biển), that have negative impact on coastal and ocean environment: conversion of mangrove and tide flat to industry land, housing and tourism land; change in coastal protection sand dune forest
- Change of quality of ecosystem overtime

4. Approach and Methodology

Data collection

- Data will be collected from secondary studies, Statistic data (i.e. socio-economic development data, spatial data (land use change, key ecosystem, remote sensing), survey report.
- Data related to eoclogical conditon (sea grass, coral riff) will be collected from previsous in-country study (e.g. Report of the KC.09.27/06-10 program 2009).
- Data related to environmental condtion will be collected from environmont monitoring system in Quang Ninh (both raw data and annual report)

Consultation

- Dialogue with the GoV officials (e.g. from MPI, MoNRE, MARD), research institutes and provincial authorities are planned to be organized during the implementation of the study. The purpose of these activities is to seek consensus on some concepts and/or principles to get stakeholders comments on scoping/draft reports. It also aims to strengthen the capacity of government staff to use the agreed methodologies and awareness raising to help raise better understanding of the utility of natural capital accounting and then integrate the consideration of natural capital/ecosystem service values in the planning process.

Calculation

The compile of ocean account will follow the guidance from GOAP (See Figure 1)

5. Data sources

Table 1: Socio-economic data in Quang Ninh

Socio-economic data	**How to measure and Data availability**
General socio-economic data (population, income of different target groups) Change of economic sector over period of time (i.e. agriculture, mining, tourism, industry, etc.) (time period in 5 years period) Marine dependent sectors for marine resources (i.e. tourism, maring transport, fishery, etc.) (time period in 5 years period) GDP generated from different sectors (i.e. tourism, marine transport, fishery) Interrelationship between socio-economic development and marine natural resources	- Determine the concept and scope of marine economic accounts - Build a source of computational information: Statistical investigation, reporting mode - Calculate the production value of the contributing marine economic sectors - Calculate the added value of marine economic sectors - Analyze the contribution of marine economy and economic growth Data source: https://www.quangninh.gov.vn/bannganh/cucthongke/Trang/Catalog.aspx?Cat=14 - Data from Quang Ninh Statistical Yearbook for the period 2016-2020 - Mid-term Rural, Agricultural and Fishery Census 2020 - Annual tourism survey data (period 2016-2020)

Table 2: The Classification System (VSIC 2007) of the Ocean economy in Quang Ninh Province

STT	Industry	Coverage	Information sources
1	FISHERIES (include the freshwater fishing e.g. lakes, rivers, etc)	Aquaculture Fishing	Annual Fisheries Survey of the General Statistics Office
		Fishpond: ackish water pen, Brackish water cage, Marine Pen, Marine Cage, Oyster, Mussel, Seaweed	
		Commercial Fishing	
		Marine Municipal Fishing	
2	MINING AND QUARRYING	Extraction of salt	Annual corporate and individual surveys
		Extraction of Sand, Seawater dissolved minerals extraction	
3	MANUFACTURING	Canning /packing of fish and other marine products	Annual corporate and individual surveys
		Drying of fish and other marine products	
		Smoking of fish and other marine products	
		Manufacture of fish paste(bagoong)and fish sauce (patis)	
		Processing of seaweeds; manufacture of agar-agar or carrageenan	
		Production of fishmeal/prawn feeds	
		Manufacture of unprepared animal feeds from fish, crustaceans and mollusks and other aquatic animals	
		Processing, preserving and canning of fish, crustaceans and mollusks n.e.c. Manufacture of fishball, etc	
		Manufacture of engines and turbines for marine propulsion	
		Manufacture of marine capstans, pulley tackle and hoists, etc.	
		Building of ships and boats other than sports	

		Manufacture of floating or submersible drilling platforms	
		Manufacture of inflatable rafts	
		Manufacture of metal sections for ships and barges	
		Manufacture of inflatable boats	
		Manufacture of other pleasure and sporting boats n.e.c.	
4	CONSTRUCTION	Construction of Ports and Structures	Annual corporate and individual surveys
		Harbor development, coastal works against erosion and flooding, construction of offshore wind farms	
5	TRANSPORTATIO N AND STORAGE	Ocean passenger transport	Annual corporate and individual surveys
		Interisland water passenger transport	
		Renting of ship with operator	
		Ocean freight transport	
		Interisland water freight transport	
		Towing and pushing services on coastal and transoceanic waters	
		Service activities incidental to water transportation	
		Cargo handling auxiliary activity to water transport	
		Customs brokerage (ship and aircraft)	
		Renting of pleasure boats, canoes, sailboats	
6	PUBLIC ADMINISTRATION AND DEFENSE	Quang Ninh Sub-Department of Seas and Islands	Statistical reporting and statistical investigation mode
		Maritime Administration of Quang Ninh, Vietnam Maritime Administration	
		Quang Ninh Province Marine Heritage Management Board	
7	HOTELS, ACCOMMODATIO NS AND RECREATION	Wyndham Legend Halong Hotel, Vinpearl Resort & Spa Ha Long, FLC Halong Bay Golf Club & Luxury Resort, Orchid Ha Long Cruise, Paradise Luxury Cruise…	Annual corporate and individual surveys

Table 3: Ecosystem type and condition

Ecosystem type and service	**How to measure and Data availability**
Ecosystem: Mangrove Service	Compare 2010 and 2018 mangrove forest map **Key dataset** Mangrove map 2010 - 2018, harmonized and comparable. Source National Forest Inventory **Mangrove vegetation index >> Mangrove spatial Integration Index: calculate from satellite data.** *#Vietnam NFI Map 2010,2018* ***#Carbon stock**: standard stock available from Vietnam REL report to UNFCCC*
Ecosystem: Seagrass	Some data on seagrass extends. Lack of data on current condition *Try to map from satellite: ESRI 30cm, SecureWatch ...* ***Key dataset*** *# Seagrass map IUCN* *#Baseline research for coastal marine zoning and management - KC.09.27/06-10*
Ecosystem Coral	Only have a location map with indicative extent. No detailed map available with actual area, coral health and condition, species. Some report available on condition but rather outdated *Color bleaching >> link with water temperature data.* *Coral damage: link to researcher at marine institute* **Key dataset** *# Coral map IUCN* *#Nguyễn Huy Yết, Lăng Văn Kẻn, Nguyễn Đăng Ngải: Status and degradation of coral ecosystem of Vietnam.* ***Report of the KC.09.27/06-10 program 2009)***
Ecosystem: Open Ocean	Condition ● Water quality **(station monitoring**): Ammonia and Oil ● Sea surface temperature ● Water quality index (remote sensing) ● Chlorophyll-a and Primary productivity (Remote sensing) **Key dataset** - Marine Ecosystem & Biodiversity *#Quan, Nguyen Van. "Coral reef fishes in the marine area of Ba Mun Island, Quang Ninh Province." (2006).* *#Strong, E. E., et al. "THE SPECIES COMPOSITION OF THE CROAKER FISH (FAMILY SCIAENIDAE) IN THE COASTAL ZONE OF QUANG NINH AND HAI PHONG*

	PROVINCES." COASTAL MARINE BIODIVERSITY AND BIORESOURCES OF VIETNAM AND ADJACENT AREAS TO THE SOUTH CHINA SEA: 90. - Water quality: *#Tuan D.H, Đánh giá diễn biến chất lượng nước biển Vịnh Hạ Long, tỉnh Quảng Ninh và xác định các thông số trọng yếu cần giám sát (2020).* *#IUCN, Phân tích hiện trạng chất lượng nước Vịnh Hạ Long, tỉnh Quảng Ninh, Việt Nam (2015).* *#MONRE, Published Environmental Statistics [internet]* http://thongke.monre.gov.vn/ds-cong-bo.html

Table 4: Environmental quality data

Environment pollution	**How to measure and data availability**
Solid waste: - Coal mining and power generation - Tourism - Sea port and marine transportation - Urbanization and infrastructure development. - Aquaculture and nearshore/offshore fishing???	1. MONRE Environmental Statistics Portal: http://thongke.monre.gov.vn/ds-cong-bo.html Included some useful data from 2019-2021, on no. of approved coal mining licences in Quang Ninh (in estimated of reserved metric tons, no data on actual production 2. Quang Ninh Government Portal: https://www.quangninh.gov.vn/Trang/Default.aspx Following data and reports are found through this portal: *2.1. 2015_Quang Ninh Solid Waste Management Planning to 2030, vision 2050; and Narrative Report (could be useful for baseline)* - Data of household waste collection at district level available for 2015, and estimated tons/year. - List of existing/developing (2015) landfills areas, waste incineration, and waste collection companies/facilities in Quang Ninh. - Existing fee for households (per month??) for waste collection, transport and treatment at different cities and districts in Quang Ninh. - Construction solid waste data for 2015 (estimated). - Dredging data (from 2007-2015, metric tons/year) ***2.1.*** *2014_Quang Ninh Environmental Planning to 2020, Vision*

	2030 and Narrative Report: Old, but could be useful for baseline. ***2.2.*** *2021_2030 Quang Ninh Province Master Planning (Drafted_Aug 2021_Maps and reports)* Seems to be a good source for having an overview of current and future development strategies/policies and spatial planning (both inland and at sea) of the province. Included some interesting analysis and reflection of major strategies/plan implementation for the last 5 year (2015-2020). These included the 2015-2020 1. solid waste management plan, 2. provincial environmental plan and biodiversity conservation plan.
Water emissions - From industry zones - From major urban areas - From marine transportation, tourism and sea ports activities.	*#Tuan D.H, Đánh giá diễn biến chất lượng nước biển Vịnh Hạ Long, tỉnh Quảng Ninh và xác định các thông số trọng yếu cần giám sát (2020).* *#IUCN, Phân tích hiện trạng chất lượng nước Vịnh Hạ Long, tỉnh Quảng Ninh, Việt Nam (2015).* *#MONRE, Published Environmental Statistics [internet]* http://thongke.monre.gov.vn/ds-cong-bo.html

5. Workplan

The study will be conducted from October 2020 to March 2021. It is expected that the following deliverables will be achieved after completing the assignment:

1. Host a dialogue with relevant stakeholders, line ministries, international organisations and UK diplomatic mission, where appropriate, to discuss and assess priorities for implementing Ocean Accounts in Viet Nam (stakeholders workshop I)
2. Produce a final scoping assessment and the country implementation plan which will be shared via the GOAP Secretariat
3. Produce draft pilot report (accounts report)
4. Develop an Ocean Accounts implementation proposal as part of Viet Nam's Blue Economy Model (to 2030 with the vision until 2045)
5. Host a dialogue with relevant stakeholders, line ministries, international organisations and UK diplomatic mission, where appropriate, to review and discuss initial pilot accounts and the Ocean Accounts implementation proposal (stakeholders workshop II)
6. Produce final pilot report (accounts report and Ocean Accounts implementation proposal), which will be published via the GOAP Secretariat
7. Document all expenses and ensure verifiability for the duration of the project for audit purposes.

Please see details of the overall work plan is below:

Activities	Timeline
1. Host a dialogue with relevant stakeholders, line ministries, international organisations and UK diplomatic mission, where appropriate, to discuss and assess priorities for implementing Ocean Accounts in Viet Nam (stakeholders workshop I)	5th November
2. Produce a final scoping assessment and the country implementation plan which will be shared via the GOAP Secretariat	30th October
3. Produce draft pilot report (accounts report)	30th December
4. Develop an Ocean Accounts implementation proposal as part of Viet Nam's Blue Economy Model (to 2030 with the vision until 2045)	22nd January 2022
5. Host a dialogue with relevant stakeholders, line ministries, international organisations and UK diplomatic mission, where appropriate, to review and discuss initial pilot accounts and the Ocean Accounts implementation proposal (stakeholders workshop II)	22nd January 2022
6. Produce final pilot report (accounts report and Ocean Accounts implementation proposal), which will be published via the GOAP Secretariat	27th February 2022