



A roadmap for Ocean Accounts for Fiji

March 30th, 2022

Compiled by the Global Ocean Accounts Partnership Secretariat:

Rup Singh, Teerapong Praphotjanaporn, Michael Burnside, Jordan Gacutan



Table of contents

Summary	3
Background.....	4
<i>Ocean Accounts.....</i>	<i>4</i>
<i>Policy alignment and existing commitments.....</i>	<i>4</i>
<i>Ocean Accounts pilot.....</i>	<i>6</i>
<i>Experiences and lessons learnt.....</i>	<i>7</i>
Data availability.....	7
Capacity and expertise within Fiji	7
Roadmap for Ocean Accounts in Fiji	8
<i>Supporting Monitoring, Reporting and Valuation for Fiji’s Blue Bond</i>	<i>8</i>
<i>Continued development of Ocean Accounts within the Fiji</i>	<i>8</i>
Implementation Plan for Ocean Accounts in Fiji	10
<i>Thematic scaling</i>	<i>10</i>
Ocean economic measures	10
Ecosystem accounts	11
Capacity building activities	11



Summary

Ocean accounting is an important framework to produce integrated and policy relevant information related to Ocean and its ecosystems, and the services that they provide. The ocean underpins the health and wellbeing of Fijians and supports the development of its maritime economy. The Global Ocean Accounts Partnership (GOAP) is implementing a global programme funded by the UK Blue Planet Fund (DEFRA-UK) to pilot and assess the implementation and uptake of Ocean Accounts, supporting pilot activities within Fiji.

The Fiji pilot represents one of the first in the Pacific region and focused on mangrove accounts, in line with national policies (e.g., national ocean policy) and previous commitments to produce national ocean accounts by 2025. The experiences and lessons learnt informs future directions, identified within this roadmap, which draws a plan of actions to progress further work on ecosystem accounting for Fiji, in consultation with the existing Fiji pilot outcomes, key national aspirations and relevant stakeholder needs.

Through experiences with the initial Ocean Accounting pilot, we propose a thematic approach to:

- consolidate existing works on mangrove ecosystem and satellite accounts,
- update input-out tables in support of future satellite accounting,
- identifies future ecosystems in line with stakeholder and policy demand.

Future implementation is also outlined through a description of activities, such as capacity building and training, in line with Fiji's existing commitment to produce national Ocean Accounts by 2025.



Background

Ocean Accounts

Ocean accounts provide framework to guide the systematic and standardized compilation of data across environmental, economic and social domains, to better understand relationships between ocean ecosystems, society and the economy. The framework is an extension of international statistical standards, including the System of Environmental-Economic Accounting (SEEA) and System of National Accounts (SNA), that organism the complex ocean system into natural and produced stocks and flows. The integration of diverse information provides novel insights, informing management and decision-making of the ocean domain. Fiji, as a Small Island Developing State, recognizes the importance of the ocean in underpinning its economy and supporting the health and wellbeing of all Fijians.

Policy alignment and existing commitments

Fiji contains several international and domestic commitments that have shaped national strategies and policies. Through country membership to the High-Level Panel for a Sustainable Ocean Economy, Fiji has committed to the compilation of national Ocean Accounts by 2025. Other national instruments provide a blueprint for ocean management, in achieving sustainable growth and prosperity, weighed against the considerations of ecosystem health, inclusivity and equitability. Relevant policies within Fiji include:

- National Climate Change Policy (2018 – 2030).
- Five-year and 20-year National Development Plans,
- Fiji National Biodiversity Strategy and Action Plan 2020-2025,

Several of the policies, concerning challenges with sustainable development, food and energy security, and environmental conservation, are synthesized within the **National Ocean Policy (NOP, 2020 - 2030)**, which provides a point of reference for strategic planning and management of Fiji's sovereign waters. There is also growing awareness of the role Ocean Accounts may fulfil in informing and evaluating progress towards the NOP, which concern goals on cooperation (goal 1), sustainability (goal 2), security (goal 3), people (goal 4), development (goal 5) and knowledge (goal 6), with links identified in Table 1.

Through country membership to the High-Level Panel for a Sustainable Ocean Economy, Fiji has committed to the compilation of national Ocean Accounts by 2025.



Table 1. Description of Ocean Accounting pilot aims and alignment with Fiji's National Ocean Policy (NOP).

Aim	Description	NOP aims
1	Strengthen Fiji's capacity to better account for its Ocean resources (mangroves and other biotic and abiotic marine resources). This supports the Government's priority to mitigate immediate threats to incomes and livelihoods of local communities due to climate change effects.	1, 2, 3, 4 & 5
2	Develop information on a range of Ocean ecosystem services (starting with those of mangrove ecosystems) to assist Ocean Accounting in Fiji.	1, 3, 4 & 5
3	Promote development and/or adoption of better technologies and assessment tools for dealing with biodiversity losses, pollution and destruction of marine ecosystems and unsustainable use of marine resources.	4 & 5
4	Assist Fiji with development of evidence-based policies, legislative mechanisms, and advanced monitoring platforms.	2, 3, 4, 5 & 6
5	Provide an outline of available or potential data sources for constructing mangroves accounts in Fiji and highlight the current limitations to creating an ocean account for mangroves in Fiji.	6
6	Provide recommendations for improving the quality of accounts and scaling nationally.	6



Ocean Accounts pilot

To further Fiji's capacity and experience with the development of Ocean Accounts, a pilot was initiated, funded by the UK Blue Planet Fund and coordinated by the Global Ocean Accounts Partnership (GOAP) Secretariat. In its first year, the Ocean Accounts pilot:

1. Performed a diagnostic to identify relevant policies, stakeholders and their priorities,
2. Identified available data and literature, and
3. Produce accounts within the context of travel and operational limitations.

Environmental statistics within Fiji are still a developing field, with limited expertise in SEEA and OA. The Fiji Bureau of Statistics has experience with a few elements of SEEA (waste, water and energy) accounts, although maintained useful datasets on subsistence and informal fishing and aquaculture GVA, population GIS maps, and a tourism satellite account.

After scoping, mangroves were chosen to develop thematic accounts regarding:

- Extent and condition (aligned with SEEA Ecosystem Accounting), and
- Mangrove Satellite Accounts, in estimating the GVA provided by mangroves to specific economic sectors.

Mangroves were chosen due alignment with policy goals, their importance to Fiji, data availability and a proof-of-concept to extend to other ecosystems in following years.

The initial pilot produced:

- An account of the extent of mangroves in 10 of Fiji's 14 provinces,
- Compiled measures of mangrove condition, including tree height, above ground biomass and soil carbon, in support of future ecosystem service analyses,
- Mangrove satellite accounts, which estimate the economic benefits provided by activities performed amongst or dependent on mangrove products.

The pilot performed early and frequent engagement with relevant stakeholders from government and industry to identify priorities and ensure utility with end-users. This included engagement with the Fiji Bureau of Statistics, Ministry of Environment, Ministry of Economy, and two international NGOs. The team also shared findings across several national and international dialogues and meetings.



Experiences and lessons learnt

The pilot identified several opportunities and barriers to the development of ocean accounts. Opportunities were clear, in the alignment of the role accounts fulfil to inform policies and measure progress towards targets (e.g., NOP). Several barriers were identified, including data availability and overcoming issues in capacity.

Data availability

A data inventory was an important initial step to identify the feasibility of accounts, where the pilot efforts relied on global datasets for mangrove extent and condition, due to limited open-access domestic data. Further, time-series were difficult to acquire and monitoring is needed to ground truth global datasets to improve data quality.

It was also difficult to align environmental with economic data, due to differences in reporting years. The Input-Output tables of Fiji were from 2012, which did not capture the change reflected in the ecosystem accounts. The future pilot will therefore require on-ground sampling to directly inform accounts, which could be achieved through partnerships with academic institutions.

Capacity and expertise within Fiji

Due to the novelty of the framework and interdisciplinary expertise needed, the pilot was a partnership between a local expert within Fiji and several members of the GOAP Secretariat, that provided policy, GIS, remote sensing and ecological expertise on mangroves. Capacity building was a key priority for future works within Fiji and the wider Pacific region.



Roadmap for Ocean Accounts in Fiji

The roadmap explores four key themes that lend to the production of Ocean Accounts, related to (i) support for the blue bond, and (ii) continued development and capacity building to compile and maintain robust ocean accounts.

Supporting Monitoring, Reporting and Valuation for Fiji's Blue Bond

During COP 26, Mr Aiyaz Sayed-Khaiyum, the Fiji Minister for Economy, announced Fiji's intention for the first blue bond in the Pacific, to be released in 2022.¹ The program aligns with NOP and the National Climate Change Policy in raising funds for sustainable ocean-oriented projects that aim to accelerate the ocean economy's transition to net-zero and build increased climate resilience. The bond is under development through collaboration with the United Kingdom (UK), UN Development Programme (UNDP) and the UN Capital Development Fund (UNCDF).

Ocean Accounts provide a means to **monitor, report and evaluate on the effectiveness of investments** (such as Fiji's proposed **Blue Bond**) at the project level, in line with statistics and indicators that capture aspects of ecosystems, society and the economy. Ocean sustainability indicators could be derived from ocean accounts, in both physical and monetized values. These include indicators on ocean product (i.e., ocean GDP), sustainable development goal (SDGs) indicators captured within account, and others.

Continued development of Ocean Accounts within the Fiji

Initial engagement and consultation with government end-users within Fiji suggests significant interest, although limited government capacity to engage in a novel and highly technical and interdisciplinary process. Engagement with stakeholders identified next steps and priority areas, including:

- Seagrass and coral ecosystem accounts,
- Extension of ecosystem accounts to cover ecosystem services, and
- Update input-output tables in support of economic analyses.

In support of Fiji's existing commitment to compile national ocean accounts, we expect continued engagement with Fiji Bureau of Statistics, Ministry of Economy and Ministry of Environment. Capacity building could be performed with representatives from each of these institutions. We envision **frequent and sustained engagement with other High Level Panel members and GOAP member countries** to share experiences and lessons learnt, through dialogues, in addition to direct support through capacity building and training activities.

¹ UNCDF (2021) COP26: United Kingdom, UN Agencies Welcome Fiji's Plans to Issue Sovereign Blue Bonds in 2022, access: <https://www.uncdf.org/article/7298/cop26-united-kingdom-un-agencies-welcome-fijis-plans-to-issue-sovereign-blue-bonds-in-2022>





Implementation Plan for Ocean Accounts in Fiji

Thematic scaling

The continued scaling of Ocean Accounts for Fiji builds on the experiences and lessons learnt from the first year of implementation, which identified opportunities and barriers for further development. A particular lesson was the selection and iterative development of specific accounts, rather than attempting the entire framework (Figure 1). Scaling could be performed across two themes, in (i) advancing disaggregation of economic measures related to ocean ecosystems and (ii) extending present efforts to capture other priority ocean ecosystems.

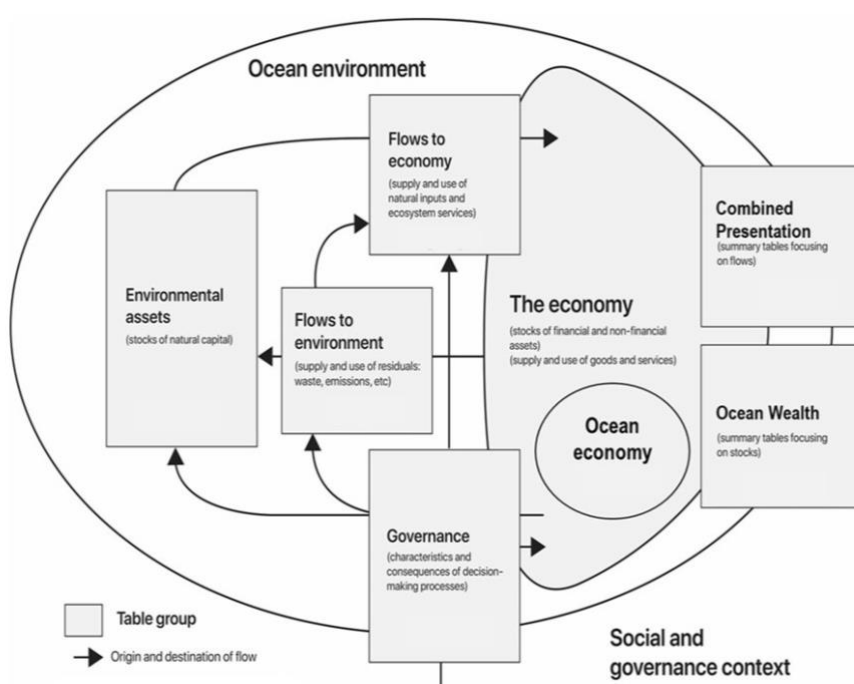


Figure 1. General structure of the Ocean Accounts Framework adapted from the Technical Guidance on Ocean Accounting (GOAP 2021a), evidencing the Table groups of stocks and flows relevant to the framework.

Ocean economic measures

Fiji would benefit from updated supply use and Input-Output (I-O) tables, which were last updated in 2012 and were identified as a priority by the Fiji Bureau of Statistics. IO tables would facilitate the production of satellite accounts concerning specific ecosystems (mangroves, seagrass, corals etc.). The IO tables could also be useful in measuring the size and nature of the ocean economy once ocean-related sectors have been identified.



Ecosystem accounts

Experiences from the pilot demonstrated the need for further engagement with research institutions and ground-truthing exercises to improve data quality and reliability of initial estimates. It also provides an opportunity to extend analyses to 'ecosystem services', especially those related to non-use or non-material services of mangroves and other ecosystems.

Beginning with mangroves, this could include engagement with academic institutions both within and external to Fiji, including:

- The University of the South Pacific
- The University of Queensland, Australia, and
- Relevant non-government organisations.

Engagement with the Ministry of Environment identified interest in producing accounts for seagrass (extent, cover and services) as a next step beyond mangroves. This would require further consultation and stakeholder engagement related to seagrass.

Capacity building activities

The pilot and the Fiji Bureau of Statistics identified the need to build capacity in natural capital and environmental accounting approaches generally, especially those related to fisheries. The future pilot could engage GOAP and other HLP member countries to provide training and capacity building to both relevant government officials and professionals, to build expertise within Fiji. Future activities could also coordinate with the wider Pacific Community (SPC) and SPREP to build regional awareness and engagement.

As an interdisciplinary exercise, training could concern:

- Alignment with university courses and education programs,
- Alignment with higher degree research courses (masters, PhD),
- Include technical aspects such as GIS and remote sensing, data manipulation and visualization, and national accounting.

Table 2. Identified institutions and entities that *could* be engaged to extend Fiji Ocean Accounts.

Institution / Entity	Acronym	Role of and further opportunities for the institution in the project
Government Agencies and Authorities		
Ministry of Economy		Data holder and data user.
Ministry of Rural and Maritime Development		Data holder and data user.
Ministry of Waterways and Environment		Data holder and data user.
Fiji Bureau of Statistics		Data holder and data user. Existing engagement involving mangrove satellite accounting.
Ministry of Fisheries		Data holder and data user.
Academic Institutions and Research Centres		
University of the South Pacific	USP	Not yet a collaborator. Draw on expertise on ecosystems and GIS.
University of Queensland, Australia	UQ	Not yet a collaborator. Data holder of ecosystems within Fiji, draw on expertise of ecosystems.
Intergovernmental (IGO) and Nongovernmental organizations (NGO), Foundations and Associations		
UN Economic Social Commission for Asia and the Pacific	UN ESCAP	Collaborator, will initiate works on mangroves in Fiji.
The Pacific Community	SPC	Data holder and data user.
Pacific Regional Environment Programme	SPREP	Data holder and data user.
Conservation International		Not yet a collaborator. Data holder of ecosystems within Fiji

Table 3. Implementation Plan for Ocean Account Development in Fiji

Component/Activity	Output	Year				
		1	2	3	4	5
Ocean Accounts scoping	Diagnostic to identify relevant policies					
	Definition of priority accounts and accounting areas					
	Identification of key actors and stakeholders					
Development of ocean accounts	Ecosystem Accounts (Mangroves)					
	Ecosystem Accounts (Seagrass)					
	Ecosystem Accounts (Corals)					
	Blue Carbon Accounts					
	Tourism Accounts					
	Pressure Accounts					
Institutional and governance strengthening	New and / or improved policy to support operational level					
	Stakeholder workshops					
Stakeholder consultation (national and local levels)	Input, comments, and recommendations to improve data, guidelines, and relevant policy and programs					



Capacity building	Awareness-raising					
	National and local staff, including key stakeholders are trained in ocean accounts conceptual approach and practice					
	Natural Capital Accounting training (i.e., SEEA)					
Survey, data gathering	Compilation of primary and secondary data					
Data analysis and presentation	Identification of trends, development of indicators, scenario analysis					
Development of guidelines (for data collection, analysis and presentation)	Publication of a guidance for ocean accounts in Fiji					