

IMPROVING THE AVAILABILITY OF MARITIME TRANSPORT COST DATA IN THE PACIFIC REGION

Tuvalu Country Report



Pacific Maritime Technology Cooperation Centre (MTCC Pacific)

Acronyms

ADB Asia Development Bank

ASYCUDA Automated System for Customs Data

DMPS Department of Marine and Ports Services

CIF Cost, Insurance and Freight price

CSD Central Statistics Division

DMPS Department of Marine and Ports Services

IMTS International Merchandise Trade Statistics

IMO International Maritime Organization

GDP Gross Domestic Product

GHG Greenhouse Gases

LDCs Least Developed Countries

MEPC Marine Environment Protection Committee

MTET Ministry of Transport, Energy and Tourism

MTCC Pacific Pacific Maritime Technology Cooperation Centre

NPDL Neptune Pacific Direct Line

PDL Pacific Direct Line

SIDS Small Island Developing States

SPC The Pacific Community

SPREP Secretariat of the Pacific Regional Environmental Program

SPS Sanitary Phytosanitary

TC Technical Co-Operation Committee

TRCD Tuvalu Revenue and Customs Department

UNCTAD United Nations Conference on Trade and Development

WB World Bank

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BACKGROUND

In an ever interdependent and globalized world, countries share not only in growth and prosperity but also in crises and challenges. One such challenge is climate change, and its implications for economies and societies developed and developing alike. Like other economic sectors, maritime transport is at the forefront of the climate change challenge.

With climate change being a global challenge and maritime transport an inherently international industry, the International Maritime Organization (IMO) has led efforts to set clear goals, milestones, and regulations with a view to reducing Greenhouse-Gas (GHG) emissions in shipping.

The 2023 IMO GHG Strategy on reduction of GHG emissions from ships acknowledges that impacts on countries of candidate GHG reduction measures should be assessed and considered as appropriate before their adoption, paying particular attention to the needs of developing countries, especially Small Island Developing States (SIDS) and Least Developed Countries (LDCs).

The Comprehensive Impact Assessment of the IMO short-term GHG reduction measure (MEPC 76/7/13), adopted at the 76th session of the IMO's Marine Environment Protection Committee (MEPC 76) identified several data gaps on maritime transport costs and the economics of shipping, especially in the Pacific region. To this, the IMO has initiated a project on improving the availability of maritime transport costs data in the Pacific region, funded through the IMO's GHG TC Trust Fund.

In line with discussions in both the IMO's MEPC and the Technical Co-Operation Committee (TC), the Pacific Maritime Transport Cost project is implemented by The Pacific Community (SPC) and the Secretariat of the Pacific Regional Environmental Program (SPREP), as hosts of the Pacific Maritime Technology Cooperation Centre (MTCC Pacific), building upon their presence in the region and established contacts with stakeholders throughout the Pacific region on matters related to the reduction of GHG emissions from ships.

The project focuses on nine Pacific countries, namely: Cook Islands, Fiji, Kiribati, Marshall Islands, Nauru, Solomon Islands, Tuvalu, Tonga, and Vanuatu, and aims to improve the availability of relevant maritime transport costs data in the Pacific region, including with the view to facilitating future assessments of impacts of candidate IMO GHG reduction measures in that region.

This country summary report results from desktop reviews and a fact-finding country mission by the MTCC Pacific team to Funafuti, Tuvalu between 17-21 January 2023. This report documents the stakeholders that were consulted and maps the agencies, entities, and processes currently in place that collect, use, and store maritime transport costs data, and maps the availability of relevant data in Tuvalu.

COUNTRY PROFILE

Tuvalu is located on the southern Pacific Ocean which consist of its nine islands comprise small, thinly populated atolls and reef islands with palm-fringed beaches. The current population of Tuvalu is **12,189**¹. The GDP per capita US\$1,600. Tuvalu is recognized internationally as one of the most climate-vulnerable states on earth. Its islands, which have a surface area of only 26 square kilometers and an average height above sea level of less than 3 meters. Not only is Tuvalu being threaten by sea-level rise, but it must also contend with extreme exposure to tropical cyclones.

Trade Summary

In 2021, Tuvalu recorded total **imports** of US\$29.8m and total **exports** of US\$0.3m. Compared to the previous year, this is a decrease of imports of 7% and an increase in exports of 533%. **GDP** of Tuvalu was US\$42.3m in 2021. Tuvalu's **trade deficit** stands at 247% as of end of 2022 fuelled by its heavy reliance on imported products.

Tuvalu Central Statistics Division

Tuvalu's economy is highly dependent on external aid and employment opportunities are limited. Issues of poverty and deprivation have persisted in Tuvalu. Tuvalu is characterized by high levels of inequality as measured by consumption levels in an assessment by the World Bank (WB).² Despite a rich natural environment, tourism is small and underdeveloped in Tuvalu, but with a large potential to grow into a thriving sector.

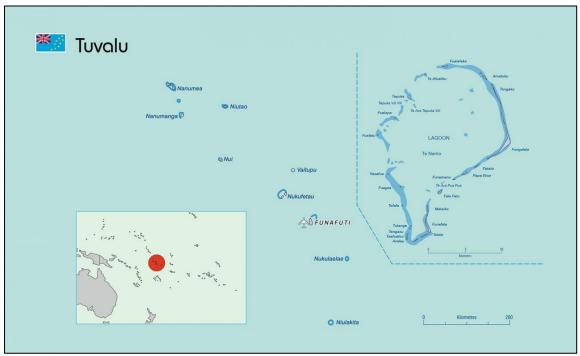


Figure 1: Map of Tuvalu (Source: https://www.spc.int/our-members/tuvalu/details accessed 19 September 2023)

¹ Nito L (2023, March 28) *Tuvalu Country Presentation* (Power point slides) Department of Marine and Port Services.

² World Bank (2015). Hardship and vulnerability in the Pacific Island countries. Feature Story. [27 March, 2014]. URL https://www.worldbank.org/en/news/feature/2014/03/27/hardship-and-vulnerability-in-the-pacific-island-countries

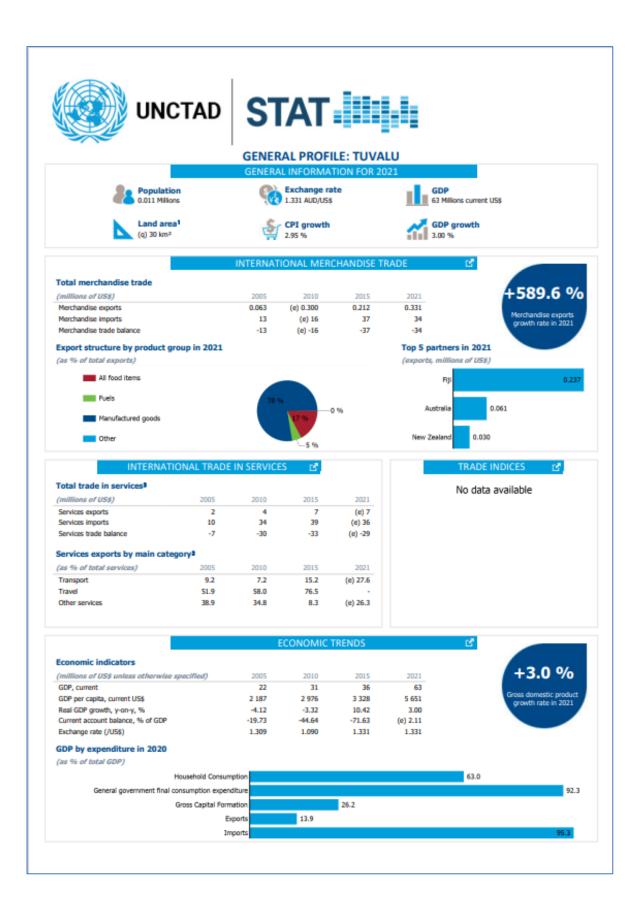
Marine resources have been central to Tuvalu's economy. Fishing and fishing licenses provide 42% of national revenue, with other income sources made up of its internet domain, the national trust fund, and remittances from family members abroad. In recent years Tuvalu has seen migration from the outer islands to its capital, Funafuti. Additionally, United Nations research estimates that around 15% of the population of Tuvalu left the country between 2005–2015. The country has a significant diaspora in New Zealand, Australia, Fiji, and other Pacific Island countries. In 2012, the largest diaspora group was estimated to be 3,500 people in New Zealand.

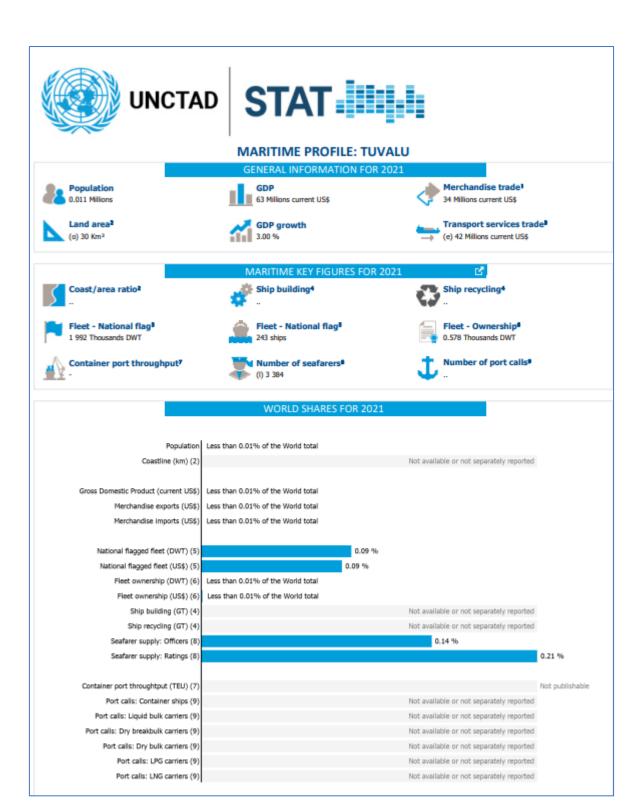
The following pages provide the United Nations Conference on Trade and Development's (UNCTAD) General statistics³ and Maritime profile⁴ for Tuvalu.

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³ UNCTADstat. *General Profile: Tuvalu*. https://unctadstat.unctad.org/countryprofile/generalprofile/engb/798/index.html. accessed 14 September 2023.

⁴ UNCTADstat. *Maritime Profile: Tuvalu*. https://unctadstat.unctad.org/countryprofile/MaritimeProfile/en-gb/798/index.html, accessed 14 September 2023.





INSTITUTIONAL ARRANGEMENT FOR MARITIME TRANSPORT COST DATA

Maritime Administrations

The maritime sector in Tuvalu is overseen by the Department of Marine and Ports Services (DMPS), which is part of the Ministry of Transport, Energy and Tourism (MTET).

The DMPS is responsible for administrative matters, management and operations of the ports and management of domestic shipping vessels, including maintenances responsibilities, domestic registration of ships. The DMPS' organisation structure is shown in Figure 2 below.

One main international port which is Funafuti Port, receiving one container vessel every month with an average of 80 containers per voyage. Four vessels managed and operating under the Marine department.

DMPS takes coverage of the regulatory data i.e., ship registration, annual surveyor reports, employee details, seafarers' certificate of competence, notices to mariner and port users including pilotage dues and services for aids to navigation. With a small unit situated in the office, documents and files are saved in office computers and hard copies maintain in traditional arch files.

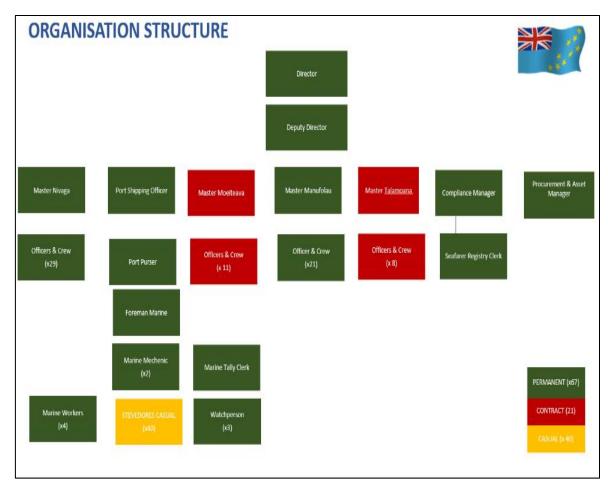


Figure 2: Organisation Structure of DMPS

Port Authority (Stevedoring and Storage)

The Tuvalu Port Authority is based out of a single office situated in the port area, where its role is primary to plan, manage, monitor, and report the operation of the port terminal in Funafuti. Collection and recording of data i.e., port calls, cargo manifest, cargo handling including clearance is done manually here and then entered into an excel spreadsheet by the port shipping officer for reporting purposes to the DMPS.

Aside from entering the port data manually, the port shipping officer is required to manage the scheduling of the port assets including forklifts, storage warehouse and stacking of empty containers within the port area.

Dedicated functions in terms of data for ports and shipping largely is the responsibility of the port shipping officer as mentioned above. The Tuvalu Port Authority has the staff positions for the key roles including:

- 1. Director DMPS
- 2. Deputy Director DMPS
- 3. Port Shipping Officer
- 4. Port Purser
- 5. Compliance Manager
- 6. Procurement and Asset Manager
- 7. Marine Tally Check
- 8. Seafarers Registry Clerk

The small size of the port means that loading and unloading can be conducted relatively easily. A forklift and tractor donated by Dai Nippon – a Japanese construction company, are used to unload vessels, and no crane is required.

Domestic ships visit from the islands around once or twice a month, and the Nivaga II docks from international destinations approximately once or twice a year. Storage facilities, including refrigerated storage, are in good condition, although space is limited. Discussions are underway with the Japanese government to build a new wharf, constructing a separate platform on which dangerous goods can be stored to separate them from other items.

When questioned as to why the relative high cost of moving cargo, the manager of the Port Authority attributed the high cost of maintaining the port's forklift. To address this and the ports' wider corporate inefficiencies, the government has proposed corporatisation under public enterprise reforms.

Cargo operations at the port are often affected by inefficient equipment and manpower. The cost of moving a container from wharf to storage shed (a journey or approximately 50 metres) is now AUD\$117, a figure which many businesses struggle to cope with. When questioned as to what could be the reason for the high cost of moving cargo, the manager of the Port Authority attributed the cost of maintaining the port's forklift. He explained that they procure about six new tyres per year, costing A\$3,500. To address this and the ports' wider inefficiencies, the government has proposed improvements under its public enterprise reforms programme.

Notably, there are currently four major projects in progress. (**Project 1 – 4**)



Project 1 – The Outer Island Maritime Infrastructure Project will rehabilitate and improve maritime infrastructure in the outer islands. The project will improve safety, efficiency, and sustainability of maritime transport among Funafuti, the capital and outer islands. The Asia Development Bank (ADB) is funding Nukulaelae, Niutao and Niu (USD\$15M). World Bank is funding Nanumea, Nanumaga and Nukufetau (USD\$46.5 million) this includes capacity building.

Figure 3: Funafuti Port

Project 2 — Replacement of MV Manu Folau. To maintain outer island shipping services, Tuvalu's domestic shipping service requires a ship of suitable capacity, fitted with safe workboats to transfer people and cargo to shore, that is reliable, has a high level of availability, and can be maintained in a remote locality. It should be certified for international voyages carrying passengers, and suitable for a pattern of regular ocean voyages of several days' duration to destinations as far as Fiji and our nearby neighbouring countries. The project is in the level of designing and building. New designs twin prop high capacity for travellers and cargoes. Expected to deliver on December 2023 or early 2024. ADB budget allocation of USD\$30 million.

Project 3 – Paving of the Container Terminal at Funafuti. The paving of an area of 6,000 square metres at the Funafuti container yard. Improvements to the existing warehouse to address flooding issues and redesign the interior to allow for a maintenance and operational improvements. Upgrading and yard and internal lighting to LED, installation of yard lighting. Total budgets allocate is USD\$3.5 million.

Project 4 – Installation of Aluminium workboats for Nivaga III and Manu Folau. Improvements to the transportation of cargoes and passengers from ship to shore and vice versa. Department of Maritime and Ports Services introducing work barges to each outer islands as an approach of minimising carrying of large workboat on boat vessels. Total grant of USD\$191,579.

National Statistics Office

The Central Statistics Division (CSD) is the official Statistic agency for Tuvalu. Its day-to-day operations are governed by its Statistic Act of 1978. CSD takes lead in the collection, compiling and processing in close cooperation with the relevant Government departments and agencies as well as semi-government agencies, banking institutions and non-profit institutions.

Data coverage includes Economics, Population and Social and other related statistics. Under Economic data sets for Consumer Price Index, National Accounts, Government Finance, Labour Force Statistics, and international trade. During the country visit collected data on GDP, inflation rates and International Merchandise Trade Statistics (IMTS).

In the space of maritime transport costs data, CSD receives raw customs data from Tuvalu Revenue and Customs Department as provisioned under the Statistic Act of 1978 which it then consolidates into its merchant trade datasets.

CSD shared the most recent IMTS Release Report, Third Quarter 2022 with the project team. The report's key takeaway is that Tuvalu's imports remain relatively high since September 2022 largely because of their dependency of imports for their daily sustainability.

This signals high reliance on reliable and efficient transport services. Additionally, Tuvalu's export remains fractionally low compared to Tuvalu's imports due to the limited resources available in the country and thus Tuvaluans are highly dependent on imported products and resources. One of the major influences on the total value of exports is aviation fuel recorded as re-exports but is essentially the re-fuelling of Fiji Airways planes that service Nadi-Funafuti-Nadi. Tuvalu's major import source markets include its neighbouring countries of Australia, Fiji, and Singapore whilst its major export market is Fiji.

Customs Administrations

The newly amalgamated Tuvalu Revenue and Customs Department (TRCD) uses Automated System for Customs Data (ASYCUDA) — a customs management system designed by United Nations Conference on Trade and Development (UNCTAD) to capture their customs data. At the time of project visit, Custom officer informed that the department was undergoing major changes related to updating their system of digitalising trade data for Tuvalu Customs. The ASYCUDA software captures imports and exports, landed cost of items including freight cost, determining bulk vs container shipments, and streamlining ships at port duration.

The move to ASYCUDA is seen as progress and an improvement compared to the existing system, in that it is expected to facilitate better coordination of data across government agencies and offices. The system is expected to grant access to CSD to up to date trade data via a portal.

As the project to transition to ASYCUDA commenced only in 2021, the data that had been digitized by Customs has been only for 2021 and 2022 which is what was made available with MTCC Pacific. The raw data provided in excel format includes imports from the years 2010 – 2018.

Shipping Agents

Tuvalu has one shipping agents, Neptune Pacific Direct Line (NPDL) formerly known as Pacific Direct Line (PDL) whilst Pacific Energy is the energy company that brings fuel in on its own tankers. When contacted the shipping agent expressed initial willingness to share their data, however, due to the nature and sensitiveness of commercial data they were later reluctant and as such MTCC Pacific was unable to map the key data trends of freight and transport costs in details.

⁵ Tuvalu Central Statistics Division, (2022), International Merchandise Trade Statistics (IMTS) Release, Third Quarter 2022, Ministry of Finance, Government of Tuvalu.

Other Stakeholders

The Department of Quarantine, based within the Ministry of Agriculture, has three staff based near the port in Funafuti. The department's main activities include issuing Sanitary Phytosanitary measures (SPS) certificates for importers and individuals travelling overseas. Equipment is minimal, and the department has no laboratory, instead inspecting incoming cargo visually. Staff members have requested training. Tuvalu has no serious pest-related issues, partly a result of its small size, lack of biodiversity and limited agricultural production, although there have been outbreaks of coconut scale and fruit fly infestation, both of which originated in the outer islands. Imported soil also often contains foreign weeds and the Department has no means of detecting this problem.

STATUS OF DATA COLLECTION

Commodity Data

TRCD was able to provide raw customs data for all imports and exports for the year 2010-2018, detailing FOB, duty tax, levies paid, value added tax and cost, insurance and freight (CIF) value across all entries. Regarding International Merchandise Trade Statistics, data is available for the years 2010-2021 and may be accessed through the IMO Secretariat. Data that was collected is shown in the data tracker below.

Trade Data

International

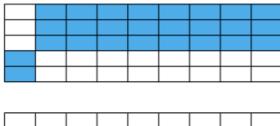
Annual exports by item (HS Code), country, quanity (kg), & value Annual imports by item (HS Code), country, quanity (kg), & value Annual Re-exports by item (HS Code), country, quanity (kg), & value Importers - transport costs

Exporters - transport costs

Domestic

Annual exports by item (HS Code), country, quanity (kg), & value

2022 2021 2020 2019 2018 2017 2016 2015 2014



National Macroeconomic Data

CSD was able to provide currently available GDP tables that track real GDP, for the years 2016-2021. It also shows quarterly consumer price index rates across six expenditure groups for the years 2017-2022. Despite this, the ADB has key indicators for Tuvalu available online that details real GDP, by per capita and sector for years 2000-2021. There were no employment statistics provided as there weren't any regular labour survey. The most recent data was from the 2012 census.

Macro Economic Data

GDP - real, per capita, by sector Consumer price index, by month and year Employment statistics 2022 2021 2020 2019 2018 2017 2016 2015 2014

⁶ Asian Development Bank. Tuvalu Key Indicators. Accessed on 15 July 2023 at https://data.adb.org/dataset/tuvalu-key-indicators

Trade Routes

Tuvalu's major import source markets include its neighbouring countries of Australia, Fiji, and Singapore while its major export destination is Fiji. There is only one container company carrying cargo in and out of Tuvalu — Neptune Pacific Direct Line (NPDL), with its operations mainly out of Suva. The vessel that services this route *MV Capitaine Wallis*, is considered to be one of the smaller ships to service this route compared to other ships in the past.

The shipping agent reported that COVID-19 related measures included a 5-day quarantine that started in 2020 and reduced to 3 days in 2021 and lifted altogether in 2022. The quarantine periods had significant impacts on perishable cargoes, expected ship call times, time at port, and staff turnaround time.

Port Calls and Ship Characteristics

The one main international port which is Funafuti Port, receives one container vessel every month via Neptune Pacific Direct Line's central Pacific route, where an average of 80 containers is received per voyage. The port and shipping officer provided a database of vessel calls for the years 2018-2022. It characterised ships according to type of vessels, these include: Container vessels, Oil Tankers, Reefers (Carriers) Persiennes, Long liners, and other fishing vessels (less than 300GT) Vessels. Oil Tankers make up more than half of port calls during the years 2018-2022 mainly coming from Pacific Energy's Vuda Terminal in Fiji.

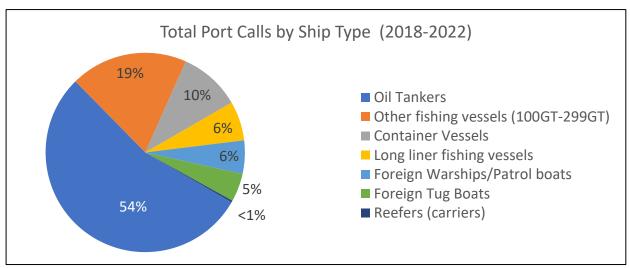


Figure 4: Total Port Calls by Ship Type from 2018-2022

Port Data

Vessel call data by port, IMO, date, time, etc. (no IMO & times)
Fees & Charges, by type, unit of measure, rate
Ports' container throughput, by port, by type

2022 2021 2020 2019 2018 2017 2016 2015 2014

Annex 1 provides a high-level data mapping illustration for Tuvalu.

ISSUES AND CHALLENGES

Collecting maritime transport cost data can be challenging due to various factors, including:

Limited resources: Often lack the necessary resources, both financial and human resources, to collect and analyse data on maritime transport costs effectively.

Lack of data infrastructure: Data collection systems may be rudimentary or non-existent in some regions and require significant investment to establish or improve.

Complexity of data: In some cases, it can be challenging to collect data on the full range of costs associated with maritime transport, including fuel prices, insurance costs, maintenance costs, customs fees, etc. This is amplified by the lack of sharing of freight costs by the shipping line operating in Tuvalu.

Coordination challenges: There may be coordination challenges in collecting data from many different stakeholders, including shipping companies, ports, and national governments, which may have different data collection systems and requirements. UNCTAD ASYCUDA platform signals a promising harmonised system.

Lack of capacity: There may be limited capacity among national governments to collect, analyse, and utilize data effectively, making it challenging to develop and implement effective policies to improve the maritime sector's efficiency. At the time of mission visit, the port shipping officer shared the challenges of manually entering data can be time-consuming, arduous and requires additional staff with proficiency in spreadsheets to assist in populating, verifying, and reporting to the main office in an efficient manner.

SUMMARY AND CONCLUSION

The in-country mission provided opportunity to meet in person and explain the purpose of the visit to the relevant stakeholders from the Ministry of Foreign Affairs and Trade, Marine and Ports Division, National Statistic Office, Customs and Revenue Office, Shipping Agents.

Setting up virtual meetings and/or email correspondences providing the project background and objectives of the in-country mission proved useful in-country. It shortened the time in meetings to explain the project at length and discussions on where and what type of data to map was the key points of discussion with stakeholders.

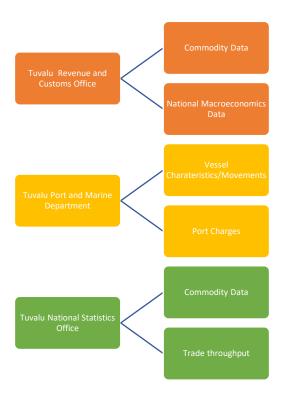
Tuvalu Ports faces significant issues and challenges with data capture, data storage, data analysis and data quality assurance and control (monitoring). Aside from manually entering port calls data and the vessel type in an excel sheet, the documentation proved tedious to analyse.

It is also evident that Tuvalu Customs faces similar issues with data capture, data storage, data analysis, and data monitoring. However, efforts to work through the UNCTAD ASYCUDA platform since 2021 are promising.

Addressing these challenges requires a coordinated approach involving governments, industry stakeholders, development partners, and international organizations to build the necessary infrastructure and capacity for effective data collection and analysis.

A tracker (summary) of available data by data category and year is provided in Annex 2. Data may be made available for further analysis by contacting the IMO Secretariat but remains the property of relevant data providers. Additional information such as contact details of focal points in relevant organizations from Tuvalu can be provided upon request.

ANNEX 1: Data Mapping



ANNEX 2: Data Collection Summary

Macro Economic Data

GDP - real, per capita, by sector Consumer price index, by month and year Employment statistics

Trade Data

International

Annual exports by item (HS Code), country, quanity (kg), & value Annual imports by item (HS Code), country, quanity (kg), & value Annual Re-exports by item (HS Code), country, quanity (kg), & value Importers - transport costs

Exporters - transport costs

Domestic

Annual exports by item (HS Code), country, quanity (kg), & value

Fleet Data

Vessel call data by port, IMO, date, time, etc. Vessel characteristics by name, by type

Port Data

Vessel call data by port, IMO, date, time, etc. (no IMO & times) Fees & Charges, by type, unit of measure, rate Ports' container throughput, by port, by type

Data Mapping

Data providers, organizations, positions, contact info, etc. Commodity/Essential Goods data mapping Commodity/Essential Goods economic data mapping Trade route mapping Data mapping

Macro economic data Trade data Fleet data Port data

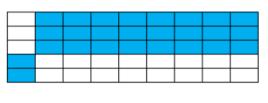
Notes

Import data 2010-2018, with transport costs, fees, surcharges, & taxes in xlsx form price data for fuels 2017
Q3 IMTS report in pdf & release tables in excel
ADB Tuvalu Key Indicators 2023

2022 2021 2020 2019 2018 2017 2016 2015 2014

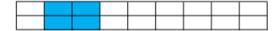
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2022 2021 2020 2019 2018 2017 2016 2015 2014





2022 2021 2020 2019 2018 2017 2016 2015 2014



2022 2021 2020 2019 2018 2017 2016 2015 2014

