The United Nations Micronesia Marshall Islands National Study 2024/25

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United Nations publication

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Abbreviations and Acronyms

ADB	Asian Development Bank
BlueEARTH	Blue-economy, education, aid, eemittance, tourism and health
CBDC	Central bank digital currency
CCP	Changed circumstances petition
CEDAW	United Nations Convention on the Elimination of All Forms of Discrimination against Women
CIP	Country Implementation Plan
CNMI	Commonwealth of Northern Mariana Islands
CoFA	Compact of Free Association
COP 19	19th Conference of Parties
CROP	Council of Regional Organisations of the Pacific
CSIRO	Commonwealth Scientific and Industrial Research Organization
CSO	Civil society organization
DOE	United States Department of energy
DRR	Disaster risk reduction
DWT	Deadweight tonnage
EEZ	Exclusive economic zone
ERI	Enterprise Research Institute
ESCAP	Economic and Social Commission for Asia and the Pacific
EU	European Union
FAO	Food and Agriculture Organization
FAS	Freely associated states
FDI	Foreign direct investment
FFA	(Pacific Islands) Forum Fisheries Agency
FIPIC	Forum for India—Pacific Islands Cooperation
FSM	Federated States of Micronesia
GAO	United States General Accounting Office
GEF	Global Environment Facility
GDP	Gross domestic product
GHG	Greenhouse gas
GNI	Gross national income
HDI	Human Development Index
HDR	Human Development Report
IAEA	International Atomic Energy Agency
ICT	Information and communication technology
ILO	International Labour Organization
IMF	International Monetary Fund
IOM	International Organization for Migration
ITC	International Trade Centre
ITLOS	International Tribunal for the Law of the Sea
IUCN	International Union for Conservation of Nature
IYCF	Infant and young child feeding
KBE	Bikini-Kili-Ejit

LED	Light emitting diode
LNOB	Leave no one behind
M&E	Monitoring and evaluation
MCO	Multi-Country Office
MDB	Multilateral development bank
MIF	Micronesia Islands Forum
MIRAB	Migration, remittance, foreign aid and public bureaucracy
MPS	Micronesian Presidents' Summit
MVI	Multidimensional vulnerability index
NbS	Nature-based solution
NCD	Non-communicable disease
NGO	Non-governmental organization
NHRI	National human rights institution
ODA	Official development assistance
OHCHR	Office of the United Nations High Commissioner for Human Rights
OIOP	One Island One Product
PALM	Pacific Islands Leaders Meeting
PBP	Partners in the Blue Pacific
PICTs	Pacific island countries and territories
PIDF	Pacific Islands Development Forum
PIF	Pacific Islands Forum
PIFS	Pacific Islands Forum Secretariat
PINA	Pacific Islands News Association
PNA	Parties to the Nauru Agreement
PPP	Post-Pandemic Palau
PROFIT	People, resources, overseas engagement, finance and transport
PSDCF	Pacific Sustainable Development Cooperation Framework
PWD	People with disabilities
SAMOA	SIDS Accelerated Modalities of Action
SDGs	Sustainable Development Goals
SRH	Sexual and reproductive health
SIDS	Small island developing State
SITE	Small island tourism economy
SME	Small- and medium-sized enterprise
SOP	Standard operating procedure
SPC	The Pacific Community
SPREP	Secretariat of the Regional Environment Programme
STI	Sexually transmitted infection
TEU	Twenty-foot equivalent unit
TOURAB	Tourism, remittance, aid and bureaucracy
TTPI	Trust Territory of the Pacific Islands
TVET	Technical and vocational education and training
UNCT	United Nations Country Team
UNCTAD	United Nations Conference on Trade and Development

UNDG	United Nations Development Group
UNSDG	United Nations Sustainable Development Group
UNDP	United Nations Development Programme
UNDRR	United Nations Office for Disaster Risk Reduction
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commissioner for Refugees
UNHRC	United Nations Human Rights Council
UNICEF	United Nations Children's Fund
UNOP	United Nations Office for Partnerships
UN-OHRLLS	United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States
UNPS	United Nations Pacific Strategy
UNWOMEN	United Nations Entity for Gender Equality and the Empowerment of Women
US	The United States of America
USP	University of the South Pacific
VDS	Vessel Day Scheme
WFP	World Food Programme
WHO	World Health Organization
WW II	World War Two
5Ps	Five pillars

Executive Summary

The national study of Marshall Islands is intended to be an up-to-date source of information on the development situation and challenges in the country, thereby serving as a decision-making tool. This study contributes towards achieving the 2030 Agenda and the Sustainable Development Goals in the country.

As a structural basis for this national study, the five pillars (or 5Ps) of the 2030 Agenda have been used, namely: people, prosperity, planet, peace and partnerships. The study concludes by identifying the most likely and damaging risks to the development process and discussing key challenges and opportunities that are likely to have the most impact on achieving the SDGs in Marshall Islands.

Marshall Islands is a small island developing State in the Pacific, with an economy primarily dependent on foreign aid and the government's economic activities, predominantly in the services sector. The island nation is among the countries with the highest standards of living in the Pacific, and classified as an upper-middle-income country. In particular, Marshall Islands benefits from grants issued under the Compact of Free Association (CoFA) with the United States, which was most recently renewed in October 2023.

Marshall Islands' challenges are intrinsically intertwined and overlapping in various fields. For example, addressing health and NCD issues are largely related to diet and a high dependency on imported foods, but addressing these issues necessitates interventions on the economic and socio-cultural fronts. Thus, this study recommends a holistic development approach rather than a silo approach. From this standpoint, some of the key gaps and challenges identified in the study can be summarised as follows.

The government of Marshall Islands has pursued sustainable human development, providing inclusive services to the population and modernizing various systems, with the aim of refraining citizens from abandoning the country. Low nutritional imported foods have led to widely-spreading NCDs in the islands. Violence against women is a complex and unwelcome reality in the islands, exacerbated further by women´s discrimination at work, in society, public offices and in businesses. Poor education and healthcare outcomes, coupled with frequent natural hazards, have pressured Marshallese communities to consider their future with more attractive options, including emigration to the United States under the CoFA. There is a resulting need to develop a dedicated migration and mobility policy, mitigate food security shocks, empower and protect women and other underprivileged groups, and enhance the quality of education to create a prosperous future for the islands' youth.

Marshall Islands are exposed to a range of exogenous factors and forces that can deleteriously impact the country, its economy and its people (e.g., a heavy dependency on essential goods imports and exposure to global commodity price hikes). Some of those risks can be mitigated by developing a more resilient economy, based on the development of greater private sector activities, a more robust infrastructural platform of service provision, and the adoption of digitalization. In the private sector, activities relating to fisheries and tourism probably hold the greatest potential. Investment in fisheries and aquaculture enterprises is proposed from the perspective of long-term nutrition, livelihoods and sustainability benefits. In this vein, enhancing regional cooperation, including the Nauru Agreement, for sustainability in fisheries; and reducing illegal, unreported and unregulated fishing are also suggested. With regard to the tourism sector, developing a coherent and realistic sustainable tourism strategy, including ecotourism, is suggested, with deliberate and concerted protection of pristine and nuclear legacy zones, introducing favourable foreign labour policies in the near term, while making greater strides around TVET in the longer term. The utilization of private sector funds through public-private partnerships and blended finance is recommended, also highlighting the importance of FDI

inputs. In terms of service provision, adequate access to electricity, water, transportation and ICT connectivity merit close attention.

The future of Marshall Islands, a global advocate for climate action, is inevitably linked to international agreements on climate, and the possibility to tap into climate finance to help build resilience. The islands require development partners' support to protect against the existential threat posed by climate change, increase its strength to face climate risks, de-risk investments and build infrastructure better. Another suite of opportunities is covered by the term "Blue Economy", encompassing fisheries, tourism, aquaculture, other oceanic resources exploitation and the production of seafoods as part of an improved food security system for the country. Improved international commitments to climate justice is required since the island nation is not a significant polluter or emitter of greenhouse gas emissions, and yet is increasingly suffering the consequences of climate change. Greater efforts to maintain ecology, biodiversity and marine resources are called for, as are measures relating to disaster risk reduction and circular economy, because climate change and its intensifying impacts – such as rising sea levels, high temperatures and extreme weather events – indicate a clear need to develop various initiatives in adaptation, mitigation and resilience.

Marshall Islands have been tormented by international power dynamics, caused by the nation's remote and yet strategic location in the Pacific, since before it achieved statehood in 1979 and became independent in 1986. Such geopolitical dynamics have shaped the development trajectory of Marshall Islands, which the nation cannot fully control, but has instead tried to find the best possible options for its people. In particular, the nuclear legacy left by 67 nuclear weapons tests conducted by the United States from 1946 to 1958 is the most serious and sensitive issue in Marshall Islands. One of the most important determinants of Marshallese' future lies in negotiations with the United States to revitalize a long-term settlement on the issues stemming from the nuclear legacy. In addition, technical assistance and outreach support by the United Nations, including IAEA, need to address the impact of radiation on biological and ecological systems, forced relocations and land loss. In the context of ever-changing geopolitical dynamics in the Pacific, Marshall Islands' location has become increasingly important to regional and global powers. To overcome many of the issues and challenges in the country, Marshall Islands requires continuous support from its strategic partners, such as the United States and its allies, both in and outside the Pacific.

The final section of this national study proposes a new development model, "BlueEARTH", as a means to navigate a sustainable future for Marshall Islands. The model emphasizes multiple revenue sources for Marshall Islands, spanning fisheries, foreign development assistance, international remittances and blue ocean tourism. It also identifies the key enablers, spanning: improved education and healthcare, a more dynamic private sector, environmental preservation, a circular economy, greater international cooperation, improved bureaucracy, and more inclusive economic growth advances to be derived from increased digitalization. This framework can provide the basis for national and international development cooperation with various stakeholders and development partners. Mainstreaming environment sustainability, in the pursuit of a robust domestic blue economy, offers the prospect of genuine sustainability for Marshall Islands.

1. Introduction

The national study of Marshall Islands is both an assessment of the current situation and an analysis of gaps, challenges and opportunities in a member State for sustainable, inclusive resilient development. It is an impartial, collective and independent analysis to determine the United Nations' priorities in realizing the country's development vision and achieving the 2030 Agenda for Sustainable Development or Sustainable Development Goals (SDGs).[1] The national study ensures that the United Nations' support to the host government is relevant to national development priorities, as well as within its normative role, as mandated by the United Nations Development Group (UNDG) and as guided by the United Nations member States.[2]

In this national study of Marshall Islands, the five pillars (or 5Ps) of the 2030 Agenda for Sustainable Development, congruent with the PSDCF and CIP, are used as the basic structure for the analysis. The 5Ps span: people, prosperity, planet, peace and partnership. And within these five pillars, the 17 SDGs are posited (see figure 1 below).

Figure 1 The SDGs and their five pillars

Source: The United Nations in the Pacific (2017). *United Nations Pacific Strategy 2018-2022: A Multi-Country Sustainable Development Framework in the Pacific Region*. Suva, Fiji and Tuana'imato, Samoa: The United Nations.

[1] United Nations Department of Economic and Social Affairs (DESA) (2015). *Transforming our world: the 2030 Agenda for Sustainable Development*, see: https://sdgs.un.org/2030agenda.

[2] UNSDG, previously the United Nations Development Group, established in 2008, unites 31 United Nations funds, programmes, specialized agencies, departments and offices that promote change and innovation, to deliver together on sustainable development.

2. Regional and Country Contexts

Before assessing the detailed status of the 5Ps in Marshall Islands, this section highlights some key contextual issues pertaining to the country's sustainable development. Both regional and domestic issues are discussed, including demographical, developmental, historical, geopolitical and socioeconomic reviews. They are crucial to better understanding Marshall Islands' present and emerging development challenges and opportunities.

2.1 The Pacific island countries and territories

The 14 SIDS that comprise the PICTs –see figure 2 below – have a cumulative population of slightly less than 2.5 million people: less than 0.03 per cent of the global population.[3] However, they possess territories cumulatively span 15 per cent of the world's surface. While the specific profiles of the 14 PICTs, including Marshall Islands, vary considerably, they also share some common denominators, including relative remoteness, limited landmasses, small populations, modest sizes of their economies and high exposure and vulnerability to external environmental and economic shocks.[4] They have also typically depended on marine resources, tourism, remittances, development partner assistance, and high levels of imported food and other commodities, albeit to varying degrees.[5] This broad depiction of PICTs is also pertinent to Marshall Islands.

Figure 2 Pacific island countries and territories

Source: The United Nations in the Pacific (2022).

Notwithstanding their large offshore territories, PICTs possess a narrow resource base and host small domestic markets, which deprive them of benefits stemming from economies of scale (although they

[3] World Bank Group (2023). *DataBank: World Development Indicators*. See: https://databank.worldbank.org/.

[4] United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) (2022). *Asia-Pacific Countries with Special Needs Development Report 2022: Financing a Sustainable Recovery from COVID-19 and Beyond*. Bangkok: The United Nations.

[5] Tisdell, C. A. (2016). "Models of the International Economic Dependence of Pacific Microstates: A Critical Review with Important Implications for International Policies and Relations", *Journal of Self-Governance and Management Economics*, 4(2), 7–27.

significantly contribute to a few global food supply chains, such as tuna and copra).[6] They face a combination of being far from export markets and import resources and must cope with low and sometimes irregular international traffic volumes of many essential inputs.[7] This, in turn, translates into high energy, infrastructure, transportation and communication costs (particularly per capita). Moreover, most of them tend to rely on exporting a few primary commodities and attracting tourists, making them highly vulnerable to external economic shocks, as they lack some of the resilience that comes from having a more diverse array of income sources. As a cumulative result, there are limited, relatively niche, opportunities for private sector development in PICTs, and which tend to experience pronounced volatility in their economic growth patterns.[8] This partly explains why PICTs suffer from a vicious cycle of low productivity and sparse investment. All these characteristics act as further structural impediments to their long-term development.

PICTs also face numerous other challenges, such as high non-communicable diseases (NCDs), vulnerable food systems, inadequate education opportunities and perils posed by climate change (e.g., erratic and extreme weather-related events and sea-level rise), all of which impact adversely on livelihoods.[9] The impact of the COVID-19 pandemic (2020-2023) – and various policy measures taken to restrict its spread – were pronounced for all PICTs, including Marshall Islands, leading to a near total economic paralysis for the region and far-reaching ramifications for food security.[10]

2.2 Pacific development strategies and models

Scholars have proposed numerous development strategies and socioeconomic models to overcome the challenges PICTs face.[11] Earlier, some strategies were proposed to enhance PICTs' self-sufficiency (e.g., securing external funds or earning adequate incomes to sustain lifeline and luxurious imports and develop the provision of modern infrastructure), as they are too small to capture economies of scale in their domestic markets.[12] Some others suggested diversifying PICTs' revenue sources to enhance their long-term sustainability (e.g., tourism incomes and private sector activities and investments). More recently, models have pivoted to address sustainability issues (e.g., dealing with climate change impacts and maintaining maritime ecosystems), in line with the implementation of the SDGs.[13]

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[6] Although almost no cereals are grown in PICTs, wheat-based foods and rice play a significant role in the diets of their populations, substituting for traditional staple foods like taro, breadfruit and cassava.

[7] United Nations Conference on Trade and Development (UNCTAD) (2022a). *Review of Maritime Transport 2022: Navigating Stormy Waters*. Geneva: The United Nations.

[8] ESCAP (2022).

[9] Ibid.

[10] Food and Agriculture Organization (FAO) and World Food Programme (WFP) (2022). *Pacific Island countries: Impact of rising costs of food, feed, fuel, fertilizer and finance Bulletin*, November 2022, Issue #1., see: https://www.fao.org/3/cc3304en/cc3304en.pdf.

[11] Tisdell (2016).

[12] Baldacchino, G. (2006). "Managing the hinterland beyond: Two ideal-type strategies of economic development for small island territories", *Asia Pacific Viewpoint*, 47(1), 45–60.

[13] United Nations Conference on Trade and Development (UNCTAD) (2022b). *Note by the UNCTAD secretariat, TD/B/C.II/EM.6/2*, at the Expert Meeting on Revisiting Development Strategies for Small Island Developing States in the Post-Pandemic Competitive Landscape, Trade and Development Board, Investment, Enterprise and Development Commission, Geneva.

Perhaps the most oft-recounted model is the so-called MIRAB, proposed in the 1980s, which has four main components: migration (MI); remittance (R); foreign aid (A); and public bureaucracy (B).[14] The MIRAB model proposes two distinct revenue sources. The first source depends on the provision of foreign aid, mainly used to fund the government bureaucracy, leading to a local multiplier effect on incomes and employment. The second revenue source involves remittances from emigrants to people remaining at home, again leading to the multiplier effect. However, the import leakage from these effects is typically high, so the multiplier effect may not be archived as desired. In the mid-1990s, the TOURAB (tourism, remittance, aid and bureaucracy) model focused on tourism for revenues, supplemented with aid and remittance inflows. There has also been the ROT (remittance, official development assistance (ODA) and tourism), SITE (small island tourism economies) and PROFIT (people-resources-overseas management-finance-transport) models.[15] There have also been attempts to generate economic revenues from providing offshore services, such as offshore private banking, vessel registration, digital residency and so on.[16] Table 1 summarizes these development models for PICTs.

Table 1 Taxonomy of development models for PICTs

Models	Key elements	Income sources	Enablers	Past studies
MIRAB	[MI]gration [R]emittance [A]id [B]ureaucracy	International remittances and foreign aids	Migration and public bureaucracy	Bertram and Watters (1985 and 1986)[17]
TOURAB	[TOU]rism [R]emittance [A]id [B]ureacracy	Tourist receipts, international remittances and foreign aids	Tourism specialization, dynamic private sector, migration and public bureaucracy	Guthunz and von Krosigk (1996)[18]
ROT	[R]emittance [O]DA [T]ourism	International remittances, foreign aid and tourist receipts	Migration, public bureaucracy, tourism	Kakazu (2019)[19]
SITEs	[S]mall (warm water) [I]sland [T]ourist [E]conomie[s]	Tourist receipts	Tourism specialization and foreign direct investment	McElroy (2006); Oberst and

[14] Tisdell (2016).

[15] Ibid; and Kakazu, H. (2019). *Nissology*. Tokyo: Kokin Publishing.

[16] Refer to various IMF Article IV Staff Reports. Visit: https://www.imf.org/en/Publications/SPROLLs/Article-iv-staff-reports#sort=%40imfdate%20descending.

[17] Bertram, I. G. and Watters, R. F. (1985). "The MIRAB Economy in South Pacific Microstates", *Pacific Viewpoint*, 26(3), 497-519; Bertram, I. G. and Watters, R. F. (1986). "The MIRAB Process: Earlier Analyses in Context," *Pacific Viewpoint*, 27(1), 47-59.

[18] Guthunz, U. and von Krosigh, F. (1996). "Tourism Development in Small Island States: From 'MIRAB' to 'TOURAB'", in Briguglio, L., Archer, B., Jafari, J., Wall, G., Harrison, D. and Filho, W. L. (eds.*), Sustainable Tourism in Islands and Small States: Issues and Policies*. London: Pinter, 18–35.

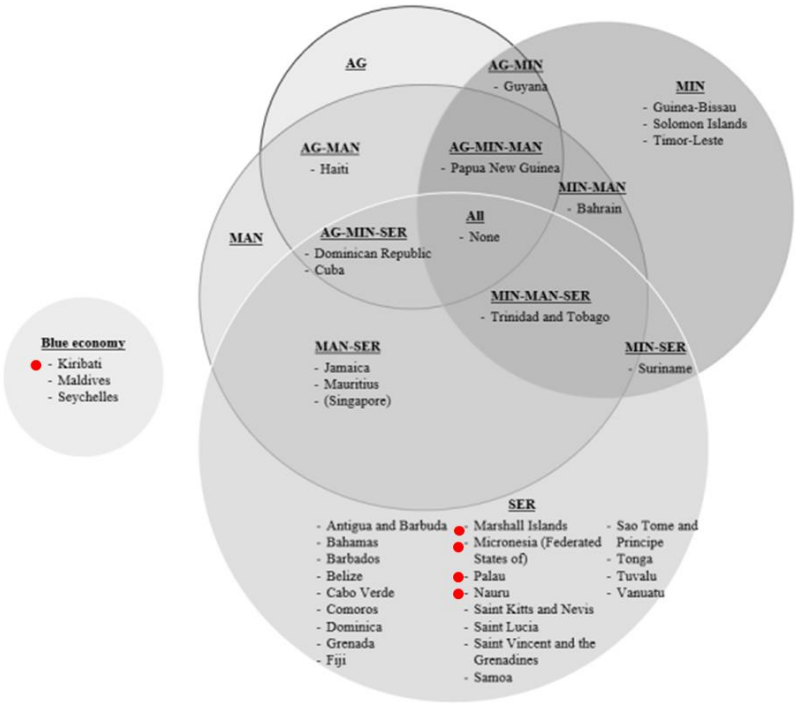
[19] Kakazu (2019).

				McElroy (2007)[20]
PROFIT	[P]eople (migration) [R]esources [O]verseas management (diplomacy) [FI]nance [T]ransport	Various	Enabling domestic policy framework, dynamic private sector and strategic diversification	Baldacchino (2006)[21]

Sources: Various sources, as indicated in the right-hand column of the table.

Moving to multilateral development agencies, the United Nations Conference on Trade and Development (UNCTAD) broadly categorizes development strategies for SIDS, which include all the PICTs, in terms of: (i) agriculture-led development; (ii) manufacturing-led industrialization; (iii) extraction-led development; and (iv) service-led development.[22] The organization argues that SIDS can take one or more development strategies to fit well with their geographic and demographic endowment structure. Figure 3 depicts an overview of these development strategies among SIDS. Marshall Islands, Palau, Federated States of Micronesia (FSM) and Nauru are all grouped into service-led development states while Kiribati is a "blue economy."[23]

Figure 3 Development strategies for small island developing states



Source: UNCTAD (2022b).
Note: AG, natural resource-led strategy, agriculture variant; MAN, manufacturing-led industrialization; MIN, natural resource-led strategy, minerals variant; and SER, service-led development.

[20] McElroy, J. L. (2006). "Small Island Economies across the Life Cycle", *Asia Pacific Viewpoint*, 47(1), 61–77; Ashley Oberst, A. and McElroy, J. L. (2007)." Contrasting Socio-Economic and Demographic Profiles of Two, Small Island, Economic Species: MIRAB versus PROFIT/SITE," *Island Studies Journal*, 2(2), 163-176.

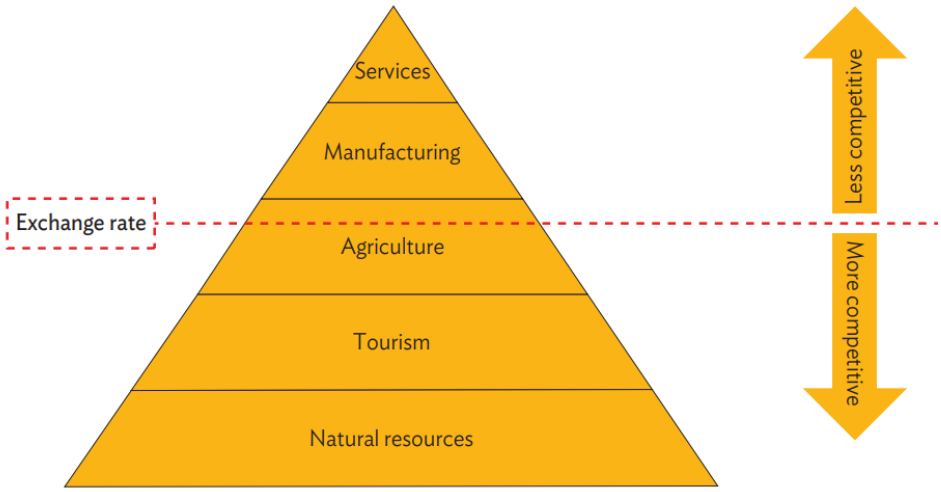
[21] Baldacchino (2006).

[22] UNCTAD (2022b).

[23] UNCTAD (2022b) does not elaborate on the blue economy, populated with SIDS with high fish capture that would otherwise appear in the services-led development bubble.

Based on the comparative advantage theory, the International Monetary Fund (IMF) has proposed a PICT development strategy, as depicted in the "Pacific Pyramid" (figure 4).[24] The strategy implies PICTs' comparative advantage in their trade patterns and performances, intrinsically linked to their small size and remoteness. PICTs lack economies of scale and exhibit high-cost structures, significantly disadvantaging some industries like manufacturing. The pyramid suggests that a descending degree of comparative advantage exists from the (non-tourism) "services" sector to the "natural resources" sector (e.g., minerals, hydrocarbon, fisheries and forestry). PICTs also enjoy a strong comparative advantage in the tourism sector due to such factors as tropical climate, sandy beaches, pristine water and distinctive cultures. Agriculture ranks third in the pyramid, where land and water resources are relatively abundant with a tropical climate, although distance to major markets and high transportation costs lessen this advantage.

Figure 4 Pacific Pyramid



Source: Chen, *et al.* (2014).

Finally, the "blue economy" is a development concept that aims to achieve socioeconomic progress simultaneously with ocean environmental protection and sustainable maritime resource extraction.[25] It spans: fisheries, eco-tourism, ocean transport, aquaculture, seabed extractive activities, marine biotechnology and bioprospecting. It is a relatively new term and broadly adopts the "green economy" concept in the maritime context.[26] The blue economy's greatest challenge is reconciling two competing interests, namely: (i) opportunities for local development and growth; and (ii) protection of vulnerable and threatened spaces.[27]

In recent years, numerous PICT governments and agencies have been increasingly dedicated to promoting the blue economy and implementing various proactive policies and programmes.[28] As a

[24] Chen, H., Rauqeuqe, L., Singh, S. R., Wu, Y. and Yang. Y. (2014). "Pacific Island Countries: In Search of a Trade Strategy", *IMF Working Paper WP/14/158*. Washington, D.C.: International Monetary Fund (IMF).

[25] Srinivasan, M., Kaullysing, D., Bhagooli, R. and Pratt, S. (2022). "Marine tourism and the blue economy: Perspectives from the Mascarene and Pacific Islands", in Urban, E. R. and Ittekot, V. (eds.), *Blue Economy*, 153-189. Singapore: Springer.

[26] For details, visit: https://www.theblueeconomy.org/en/the-blue-economy/.

[27] Srinivasan, *et al.* (2022); Lee, K., Noh, J. and Khim, J. S. (2020). "The Blue Economy and the United Nation's sustainable development goals: Challenges and opportunities", *Environment International*, 137, 105528.

[28] Pacific Islands Forum Secretariat (PIFS) (2022). *2050 Strategy for the Blue Pacific Continent*. Suva.

major step to such a trajectory, the *2050 Strategy for the Blue Pacific Continent* was endorsed by 18 countries and territories at the Pacific Islands Forum (PIF) in 2022.[29] The strategy consists of seven themes:

i) Political leadership and regionalism;
ii) Resources and economic development;
iii) Climate change;
iv) Oceans and natural environment;
v) People-centred development;
vi) Technology and connectivity; and
vii) Peace and security.

The strategy is intended to guide how the countries of the Pacific navigate various challenges confronting the region (including the impacts of climate change, slow economic growth, poor health and education outcomes and significant ocean and land-based environmental degradation) and leverage their collective strengths (including cultures and traditions, a youthful population and important island and ocean resources). The ocean and its resources are critical for Marshall Islands, accounting for the substantial economic value of marine and coastal products and services, including fisheries, tourism and carbon storage.[30]

As noted above, numerous development strategies and models have been proposed for PICTs, including Marshall Islands. However, any one strategy or model is unlikely to effectively cover all countries' needs due to their diversified and distinct characteristics. Here, policymakers may need to combine select policy options from different strategies and models, congruent with the specificities of their own country, while continuously searching for new and innovative development approaches to suit PICTs under changing conditions. Table 2 provides a statistical overview of PICTs' positions regarding the above-summarized development strategies and models. It shows the diversified profiles of the development of PICTs, including Marshall Islands.

The data indicates that Marshall Islands is an upper middle-income country which heavily relies on foreign aid and the government's economic activities, predominantly in the services sector, without many tourist receipts but a sizable fishery income. This profile suggests that Marshall Islands is a conforms to the MIRAB model, while also applying the blue economy development strategy.

[29] The 18 countries and territories comprise: Australia, Cook Islands, FSM, Fiji, French Polynesia, Kiribati, Nauru, New Caledonia, New Zealand, Niue, Palau, Papua New Guinea, Marshall Islands, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu (PIFS, 2022).

[30] Rouatu, I., Leport, G., Pascal, N., Wendt, H., Abeta, R., Brander, L., Fernandes, L., Seidl, A. and Salcone. J. (2017). *National Marine Ecosystem Service Valuation: Kiribati.* Suva, Fiji: MACBIO (GIZ/IUCN/SPREP).

Table 2 A statistical overview of PICTs' development

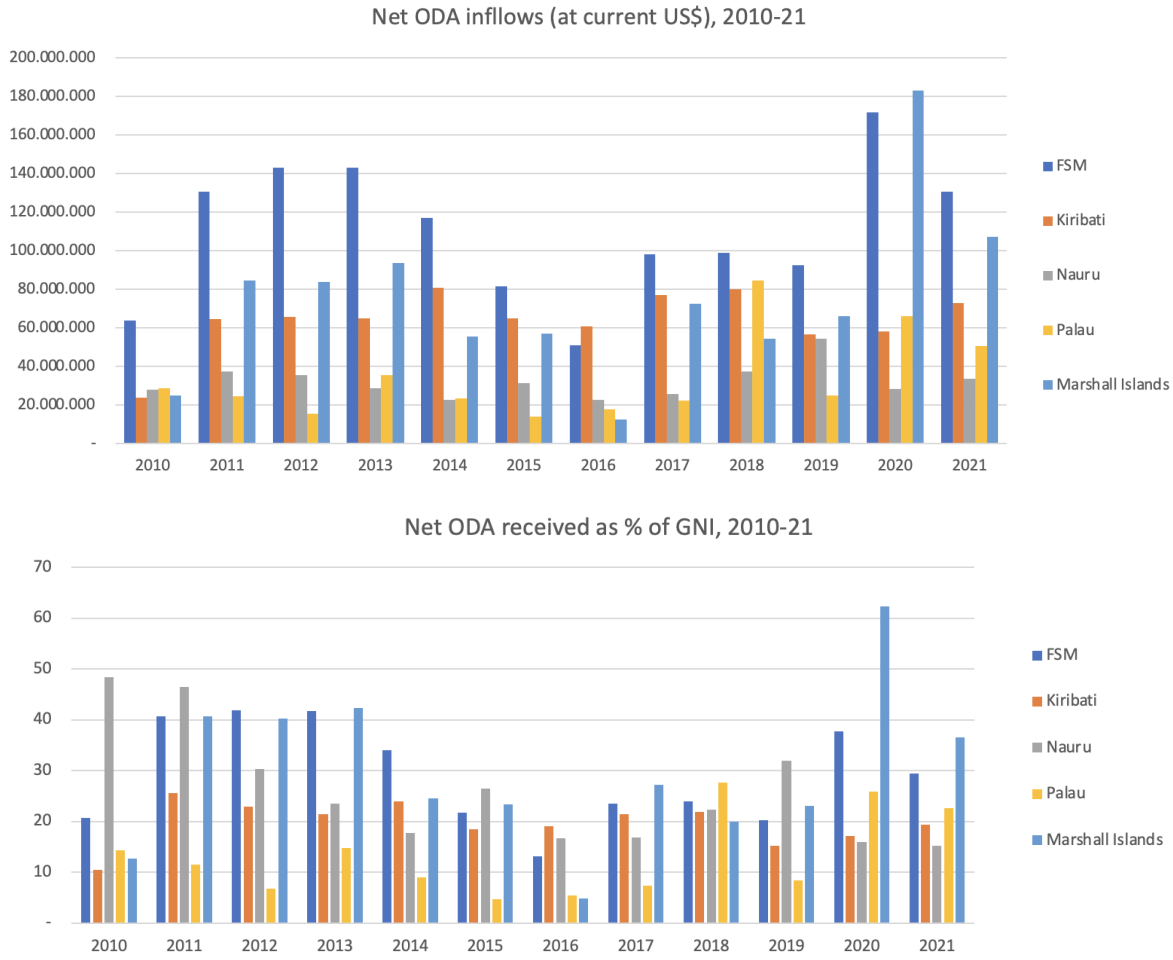
Country	Population 2022 data (Niue: 2019, Cook Island: 2020, Tokelau: 2019)	Migration stock (% of population) Indicates what percentage of the population is represented by immigrants who entered (immigrant) and left (emigrant) the country. (2020 data) |1-2| >=15%		GDP (US$ million)		GNI/capita (Atlas method US$)		Remittance (%) Indicates the percentage of GDP overseas remittances represent Remittance>= 15%		Aid (%) Indicates what percentage of the government budget the amount of foreign aid corresponds to. Aid>=35%		Bureaucracy It shows how many times GDP is the national budget. The higher this number, the larger the private sector. Bureaucracy<3 %		Tourism It shows how many times the number of tourists per year is compared to the country's population. Tourism>=1		Composition of GDP by sector of origin (%) Agriculture>=15% Industry >=20% Service >=70%				EEZ sizes (square KMs)	Tuna fisheries (catch by national waters) (US$ million 2021 data)
		Immigrant	Emigrant		Year		Year		Year		Year		Year		Year	Agriculture	Industry	Services	Year		
Papua New Guinea	10,142,619	0.35	0.68	30,633	2022	2,730	2022	0.01	2022	12.64	2019	4.82	2019	0.00	2021	22.1	42.9	35	2017	2,396,575	791
Fiji	929,766	1.91	15.20	4,943	2022	5,270	2022	9.28	2022	12.79	2020	2.96	2020	0.03	2021	13.5	17.4	69.1	2017	1,281,703	31
Solomon Islands	724,273	1.39	0.63	1,595	2022	2,220	2022	5.09	2022	41.69	2019	3.02	2019	0.00	2021	34.3	7.6	58.1	2017	1,596,464	212
Vanuatu	326,740	0.67	3.33	984	2022	3,560	2022	15.25	2022	36.79	2019	2.64	2019	0.07	2020	27.3	11.8	60.8	2017	827,626	10
Samoa	222,382	3.08	53.23	832	2022	3,630	2022	33.63	2022	63.41	2020	3.30	2020	0.01	2021	10.4	23.6	66.0	2017	131,535	5
Kiribati	131,232	2.23	12.56	223	2022	3,280	2022	6.72	2022	37.63	2017	0.92	2017	0.01	2020	23.0	7.0	70.0	2016	3,437,132	534
FSM	114,164	2.76	13.45	427	2022	4,130	2022	5.46	2022	74.58	2012	1.70	2012	0.16	2019	26.3	18.9	54.8	2013	2,992,415	212
Tonga	106,858	1.53	43.61	469	2021	4,930	2021	46.22	2021	55.08	2019	2.61	2019	0.09	2020	19.9	20.3	59.8	2017	664,751	9
Marshall Islands	41,569	2.98	11.00	280	2022	7,920	2022	10.73	2022	43.12	2019	1.52	2019	0.02	2020	4.4	9.9	85.7	2013	1,992,022	128
Palau	18,055	31.82	92.15	218	2021	12,790	2021	1.17	2021	20.62	2019	2.30	2019	1.00	2020	3.0	19.0	78.0	2016	604,253	4
Nauru	12,668	43.69	14.71	151	2022	17,870	2022	4.99	2018	17.88	2020	0.79	2020			6.1	33.0	60.8	2009	308,506	225
Tuvalu	11,312	2.11	35.66	60	2022	7,210	2022	4.14	2022	41.45	2019	0.62	2019	0.09	2020	24.5	5.6	70.0	2012	751,672	119
Cook Islands	8,574	13.53	103.41							1.14	2016			2.92	2020	5.1	12.7	82.1	2010	1,960,027	24
Niue	2,000	18.41	292.29											6.18	2017	23.5	26.9	49.5	2003	316,584	91
Tokelau	1,647									62.74	2017					N/A	N/A	N/A		319,049	13

Sources: World Bank (2023). *DataBank: World Development Indicators*; and various others.

2.3 Foreign development assistance

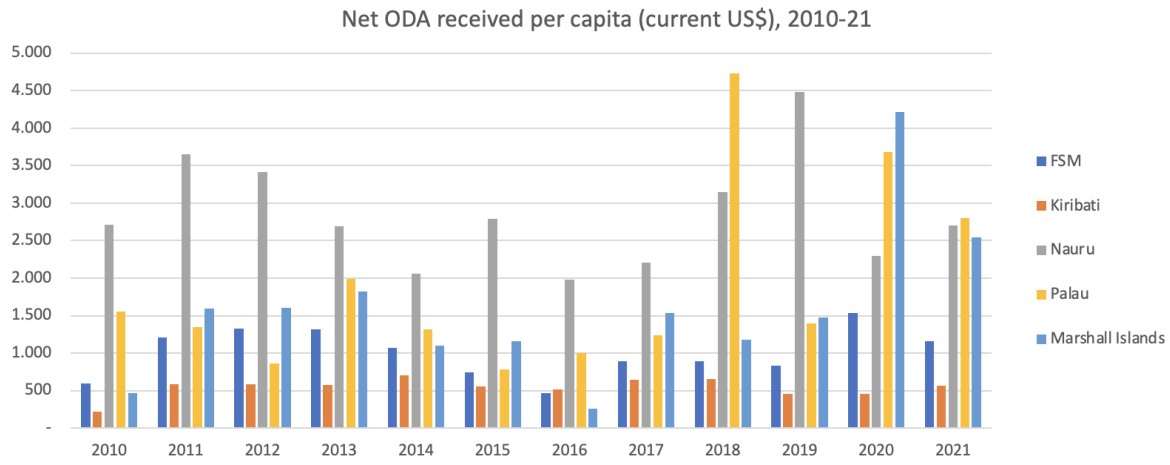
PICTs' small economic base and narrow fiscal space, further compounded by losses caused by external shocks and natural disasters, means that their reliance on ODA is among the highest globally.[31] ODA inflows to PICTs, between 2010 and 2021, held steady or rose for the majority (nine of the 11) countries.[32] For example, flows over that period roughly doubled in Palau, on par with the pace of ODA inflow increases seen in FSM and Tonga, tripled in Kiribati and Tuvalu, and almost quadrupled in Marshall Islands. Also see figure 5 below, which provides the longitudinal statistics of ODA flows to Micronesia (with Marshall Islands in pale blue). The figure suggests significant differences in received ODA amounts and year-by-year fluctuations among the five recipient countries: Palau, FSM, Marshall Islands, Nauru and Kiribati.

Figure 5 ODA inflows to Micronesia



[31] The World Bank (2023).

[32] Ibid.



Source: Based on the World Bank (2023).

In the previous five-year programming cycle (2018-2022), the Pacific United Nations Country Teams (UNCTs) disbursed over $ 700 million to PICTs under the United Nations Pacific Strategy (UNPS) 2018-2022, albeit down from close to one billion US dollars during the 2013-2017 development framework.[33] This relative decline is primarily attributed to the impact of the pandemic on United Nations operations and the capacity of PICTs to continue development investments and absorb funds during major operational restrictions, due to the COVID-19 virus.

Box 1 United Nations Pacific Strategy (UNPS) 2018-22

Preceding the PSDCF 2023-2027, the UNPS 2018-2022 was a five-year strategic framework that outlined the collective response of the United Nations system to the development priorities in the 14 PICTs, including Marshall Islands.[34] The UNPS supported governments and peoples in the Pacific to advance a localized response to the 2030 Agenda. The UNPS complemented the work of regional organizations, in particular the Council of Regional Organisations of the Pacific (CROP), comprising, among others, the Pacific Islands Forum Secretariat (PIFS), the Pacific Community (SPC), the Secretariat of the Regional Environment Programme (SPREP), the Forum Fisheries Agency (FFA) and the University of the South Pacific (USP), in line with their regional priorities.

2.4 Impact of the COVID-19 pandemic and the war in Ukraine

The COVID-19 pandemic (2020-2023) and the war in Ukraine (2022-present) illustrate PICTs' vulnerability to exogenous shocks. The pandemic and conflict disproportionately impacted PICTs, with potentially devastating blows on human lives through the socioeconomic effects of the virus and resulting containment policies, coupled with inflation and supply chain disruption. Inadequate domestic financial reserves, elevated debt levels and fragile health systems present crucial challenges in these economies.[35] Moreover, the health crisis had far-reaching impacts on education, human rights and food security in the near term. The economic impacts of the

[33] United Nations in the Pacific (2017). *United Nations Pacific Strategy 2018-2022: A Multi-Country Sustainable Development Framework in the Pacific Region*. Suva, Fiji and Tuana'imato, Samoa: The United Nations.

[34] Ibid.

[35] ESCAP (2022).

pandemic and Ukraine conflict on PICTs have been substantial, due to their limited capacities and resources, and a heavy dependence on remittance inflows, tourism income and some niche trade as drivers of economic growth.[36] These aspects increase their vulnerability to external shocks, however far away in the world they emanate.

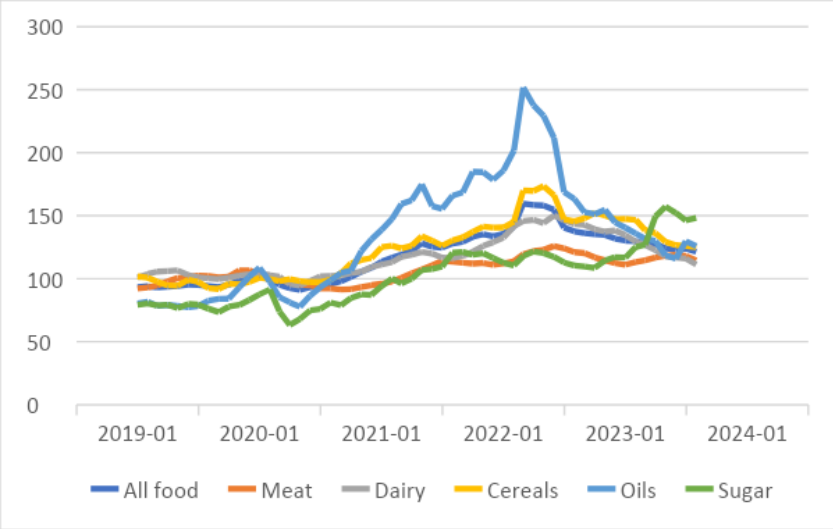
The Micronesian countries had largely returned to standard international travel and transport procedures by the end of 2022. However, inflation caused by increased prices of food, energy and transportation have hampered the countries' full economic recovery, even if it is anticipated that growth will resume in 2023 and beyond (see table 3).[37] A principal concern is the long-term price increase in global food and commodity markets, as the PICTs commonly and heavily rely on imported foods and products (figure 6).

Table 3 GDP growth rates in Micronesia
2018-2024

	2018	2019	2020	2021	2022	2023*	2024*
Palau	-0.1	-1.9	-9.7	-17.1	-1.0	3.8	6.5
FSM	0.1	2.7	–3.6	–1.3	2.0	4.1	0.5
Marshall Islands	4.2	10.8	–1.8	1.1	–0.9	2.2	2.5
Nauru	5.7	1.0	0.7	1.5	1.2	1.6	1.6
Kiribati	5.3	–2.1	–1.4	1.5	1.8	2.3	2.8

Source: Asian Development Bank (ADB) (2023). *Asian Development Outlook September 2023*. Manila: ADB
Note: * indicates forecast figures.

Figure 6 World food prices
2019-2023



Source: FAO (2023). *FAO Food Price Index, World Food Situation*, at: https://www.fao.org/worldfoodsituation/foodpricesindex/en/.

2.5. Country profile

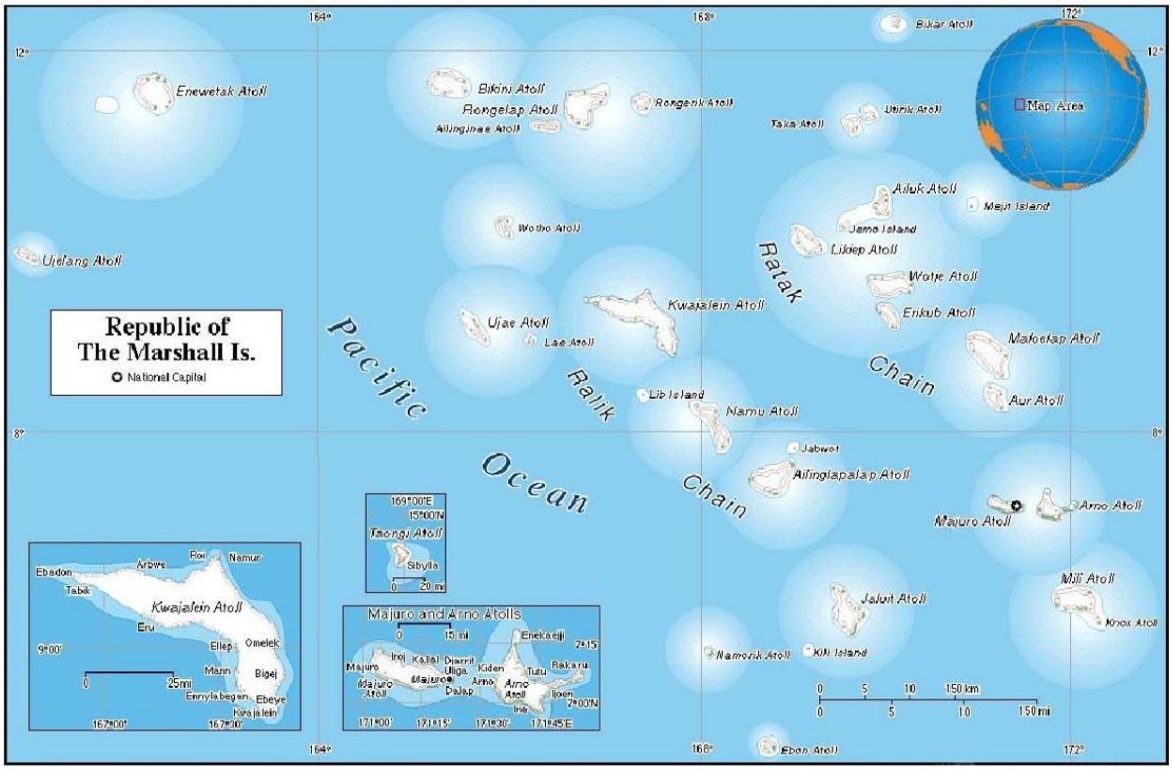
Marshall Islands is a low-lying country with a mere two metres average elevation from sea level. It is located in the eastern part of the larger island group of Micronesia, near the equator in the

[36] Ibid.

[37] Monteiro, A. (2023). "World Bank Cuts 2023 Forecasts and Warns of Global Recession". *Bloomberg: Economics*, 11 January.

North Pacific Ocean and about 3,200 kilometres southwest of Hawaii. About 41,500 people reside in the territories of Marshall Islands, which comprises 29 atolls and five islands. The combined land area is about 181 square kilometres, but these atolls and islands are scattered across about 1,130 kilometres north to south, and about 1,290 kilometres east to west (figure 7).[38] Hence, this country has an immense exclusive economic zone (EEZ) spanning two million square kilometres (see table 2 again). These atolls and islands form two groups: the Ratak (sunrise) and the Ralik (sunset). The capital city, Majuro, is in the Ratak chain, while the secondary urban centre, Ebeye, located on Kwajalein Atoll, is in the Ralik chain. Over two-thirds of the residents of Marshall Islands live in the twin urban centres, while others live in other outer atolls and islands. Approximately 4,300 Marshall Islands natives have relocated to Springdale, Arkansas, in the United States, in the largest concentration of Marshall Islands citizens outside their island home.[39]

Figure 7 Marshall Islands



Source: The Government of Marshall Islands (2023).

Marshall Islands faces many development challenges common to small, insular and remote economies with dispersed populations, and no means of attaining economies of scale. High transport costs exacerbate the costs of trade and constrain the competitiveness of exports of goods and services in world markets. These same factors also increase the cost and complexity of providing public services. Moreover, the country is highly vulnerable to natural disasters and rising sea levels. Natural hazards for Marshall Islands include droughts, rogue waves, wild storms and tsunamis, all of which are threats to those living in the country.

[38] Encyclopaedia Britannica (2023). *Marshall Islands*. See: https://www.britannica.com/search?query=Marshall%20Islands.

[39] Schulte, B. (2012). "For Pacific Islanders, Hopes and Troubles in Arkansas", *The New York Times*, 4 July 2012.

Marshall Islands is in the medium human development category, defined by the United Nations Development Programme (UNDP)´s *Human Development Report (HDR)*, positioning the country at 117 out of 189 nations assessed. Marshall Islands' 2018 Human Development Index (HDI) of 0.698 is above the average of 0.634 for countries in the medium human development group, but below the average of 0.741 for countries in East Asia and the Pacific.[40]

2.6. Marshal Islands' historical development

Micronesian colonists reached Marshall Islands by canoe in the second Millennium BC. Spain claimed the islands in 1592, and the European powers recognized its sovereignty in 1874. Marshall Islands derives its name from Captain John Marshall, a British explorer and naval officer who sailed to the region in 1788. In the 1850s, US Protestant missionaries began arriving on the islands. Germany established a supply station on Jaluit Atoll and subsequently bought Marshall Islands from Spain in 1884, although paramount chiefs continued to rule.[41] After World War I, the League of Nations granted Japan a mandate to administer the archipelago as part of the South Seas Mandate.[42] Japan was obligated to safeguard the interests of the native population and refrain from any military construction or training on the islands. Despite being treated differently by the colonial government, the residents did not strongly oppose or resist the Japanese administration, due to improved social welfare and the maintenance of peace and public order.[43]

The Japanese government encouraged immigration to the islands of Micronesia and prioritized industrial development, especially in the private sector. By 1932, the island had achieved fiscal balance and no longer required aid from Japan, even recording budget surpluses across multiple years, thanks to growing exports to Japan. The Islands' population in 1942 comprised 51,000 native residents and 90,000 Japanese immigrants. Despite the significant difference in population, the local culture did not collapse. The Japanese government incorporated local social leaders and maintained society's traditional systems, customs and manners. The government established 24 schools with Japanese as the language of instruction, later becoming the primary common language in the Islands.[44] As for the Marshall Islands archipelago, Jaluit was the administrative seat of the district, but the number of Japanese settlers was relatively fewer than in other districts (Saipan, Palau, Yap, Truk, and Ponape). After Japan withdrew from the League of Nations in 1933, it began constructing military bases, conducting military drills for residents and introduced forced labour to support their military preparations in Micronesia, including Marshall Islands. In February 1944, the United States took over Marshall Islands after fierce battles.[45]

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[40] United Nations Development Programme (2020). *Overview: Human Development Report 2020, The next frontier, Human development and the Anthropocene*. New York.

[41] Hezel, F. X. (1995). *Strangers in Their Own Land: A Century of Colonial Rule in the Caroline and Marshall Islands*. Honolulu: University of Hawaii Press.

[42] The South Sea Mandate included the range of territories possessed by Germany, which was equal to what the Japanese called *Nanyo Gunto* (the South Sea Islands) and comprised today's Palau, FSM, Marshal Islands and Northern Mariana Islands.

[43] Kobayashi, I. (2021). "The South Sea Islands and Japanese Mandatory Rule over Them"*, Review of Island Studies*, October.

[44] Ibid.

[45] Ibid.

After World War II, the region was placed in the trust of the newly formed United Nations, which granted administrative authority to the United States in 1947 as part of the Trust Territory of the Pacific Islands (TTPI). TTPI allowed the United States to establish naval, military and air bases, employ armed forces and provide volunteer forces, facilities and assistance. Although the US government was obligated to foster regional socioe-conomic development in Micronesia, there was no significant emphasis placed on developing the private sector and infrastructure that could sustain the country's growth and reduce its dependence on foreign aid.[46] The islands were closed to commerce and exports. As a consequence, living standards dropped quickly and significantly.[47]

In its trusteeship agreement, the TTPI was designated a "strategic area," which allowed the United States to conduct nuclear testing in the region. Even though the first two nuclear tests were conducted under military occupation status, subsequent nuclear tests were executed under the clause. Ultimately, the United States conducted 67 nuclear tests at Bikini and Enewetak Atolls between 1946 and 1958, with forced emigration from both Bikini and Enewetak, and also from Ailinginae and Rongelap, due to the radiation levels that rendered all four atolls largely uninhabitable.[48]

From 1964 to 1979, the Congress of Micronesia, which comprised the representatives of the TTPI districts, was established. But only four TTPI districts (Yap, Truck, Ponape and Kusaie) ratified a new Constitution, to become the Federated States of Micronesia. In contrast, Marshall Islands left the Congress in 1978, drafted a Constitution, separate from the rest of the TTPI, and declared independence in 1979 under President Amata Kabua, a paramount chief. Marshall Islands were self-governing from 1979 until 1986 when formal independence was achieved.[49]

In 1986, Marshall Islands signed the Compact of Free Association (CoFA) with the United States, which assumes the Islands' defence and financial assistance (primarily grants) and gives access to US federal services and labour market, in exchange for exclusive rights to establish and operate military bases on the islands. Also under the CoFA, Marshall Island citizens are permitted to enter and reside in the United States without visas for an indefinite period, and a significant proportion of citizens have migrated to the United States for various reasons, such as education, employment, healthcare and the US military services. [50] Marshall Islands was admitted to the United Nations in 1991.[51] In 2000, Kessai Note became the first "commoner" elected President. In 2016, Hilda Heine was elected President; the first woman to assume this role; not only in Marshall Islands but also in the entire Pacific.[52]

An amended CoFA agreement ("Compact II") was inked in 2003 to extend its period from 2004 to 2023, which provided a further $1,204 million in grant funding, trust fund contributions,

[46] Hezel (1995).

[47] Ibid.

[48] According to the 2021 census of Marshall Islands, there are 264 citizens living in Utirik but other three atolls are still uninhabited.

[49] Hezel (1995). Note: the later section on Peace and Partnership provides a comprehensive view of the Marshall Islands' nuclear legacy.

[50] Hezel, F. X. (2013). *Micronesians on the Move: Eastward and Upward Bound*. Honolulu: East-West Center.

[51] Hezel (1995).

[52] Encyclopaedia Britannica (2023).

Kwajalein development fund and audit grants.[53] Compact II expired in 2023. In the same year, the second amended CoFA ("Compact III") was signed between Marshall Islands and the United States. The Compact III is an additional 20-year agreement, to 2043, with over $700 million trust funds to be provided, and earmarked for the needs of people who have suffered because of US nuclear or other military activities, while other assistance – such as the Kwajalein development fund – not yet disclosed.[54] The agreement will be brought into force after formal ratification by both the US Congress and Marshall Island Parliament (Nitijela).[55]

2.7. Progress in attaining the SDGs in Marshall Islands

The *Sustainable Development Report 2023* tracks Marshall Islands' progress across eight of the 17 SDGs.[56] Marshall Islands has not yet achieved any of the SDGs, classified as major challenges or significant challenges. Major challenges are said to exist for four SDGs: (i) zero hunger; (ii) quality education; (iii) industry, innovation and infrastructure; and (iv) life below water. Significant challenges pertain to four SDGs: (v) gender equality; (vi) affordable and clean energy; (vii) reduced inequalities; and (viii) partnerships for the goals. As for the other nine SDGs, results were not reached due to a lack of data. The 2023 report also shows Marshall Islands having the lowest statistical performance of the 12 countries in Oceania (also see figure 8 below).

Figure 8 Marshall Islands' progress in the SDG implementation

Source: Sachs, *et al*. (2023).

[53] United States . Department of State (2003). "Compact of Free Association Agreement between the United States of America and the Marshall Islands: Amending the Agreement of June 25, 1983, concerning the Compact of Free Association, As Amended Signed at Majuro April 30", *Treaties and Other International Acts Series 04-501*.

[54] Marshall Islands Journal (2023). "RMI signs 20-year Compact agreement", 20th October 2023.

[55] United States. Department of States (2023). "The United States and the Republic of the Marshall Islands Sign Three Compact of Free Association-Related Agreement", *Media Note, 17 October*. Washington D.C.: Office of the Sopeksperson.

[56] Sachs, J. D., Lafortune, G., Fuller, G. and Drumm, E. (2023). *Implementing the SDG Stimulus. Sustainable Development: Report 2023*. Paris: SDSN, Dublin: Dublin University Press.

3. People

This section of the study addresses the first SDG pillar: People. It broadly covers seven critical issues, namely: (i) population; (ii) migration; (iii) labour; (iv) education; (v) food and nutrition; (vi) health; and (vii) gender and human rights.

3.1. Population

During the US administration of the TTPI, the population of Palau, FSM and Marshall Islands grew rapidly until the early 2000s. The high birth rate and plummeting death rate contributed to this population growth.[57] This was mainly attributed to the introduction and widespread availability of contemporary medical advancements, healthcare technology and improved dietary practices during the immediate aftermath of World War II. These factors collectively played a pivotal role in managing numerous diseases endured before the war.[58] During this period, NCDs became prevalent in the countries due to changed diets and the dominance of imported low-nutrition foods.[59] Marshall Islands (and other two countries) has significantly reduced its population after achieving a peak in 2002 of approximately 54,500.

According to the latest national census conducted, the total enumerated population in 2021 was 42,418, of which 78 per cent resided in urban areas (Majuro, 23 156 and Kwajalein, 9 789), and the remainder on other atolls and islands (figure 9).[60] Compared with the prior censuses of 2011, the population has declined by 20.2 per cent, while urbanization has increased.[61] This is primarily because of growing cross-border and inter-island emigration for employment, education, healthcare and social services.[62]

[57] Hezel, F. X. (2010). "Disease in Micronesia: A Historical Survey", *Micronesian Seminar Publications, Articles,* (MC #) Health.

[58] Grieco, E. (2003). *The Federated States of Micronesia: The "Push" to Migrate*. Washington, D.C.: Migration Policy Institute.

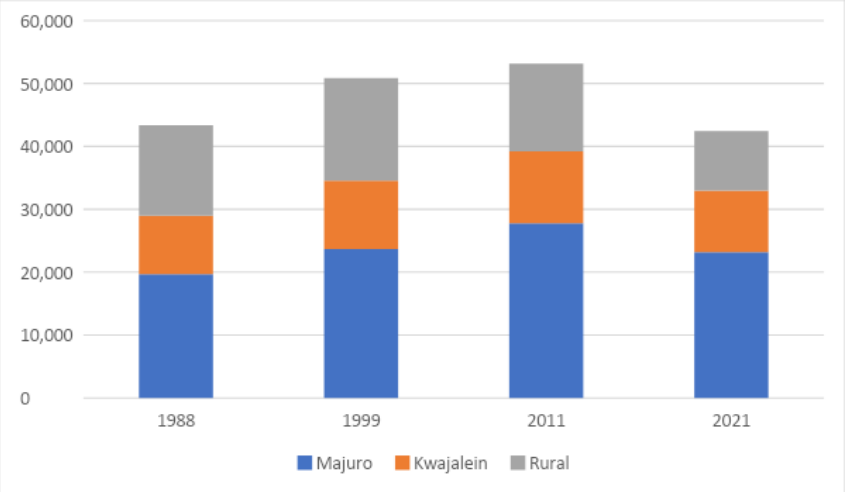
[59] Hezel (2010).

[60] Pacific Community (SPC) and Marshall Islands Economic Policy, Planning and Statistics Office (EPSSO) (2022). *Republic of the Marshall Islands 2021Census report Volume 1: Basic tables and administrative report*. Noumea, New Caledonia: SPC; Majuro, Marshall Islands: EPSSO.

[61] Pacific Community (SPC) and Marshall Islands Economic Policy, Planning and Statistics Office (EPSSO) (2012). *Republic of the Marshall Islands 2011 Census report*. Noumea, New Caledonia: Secretariat of the Pacific Community.

[62] The population decline may have been inflated, to some degree at least, by the COVID-19 border closure, which prevented unrestricted travel to Marshall Islands from March 2020 and through the census counting period at the end of 2021. However, out-migration doubled in the five years from 2017-2021 compared to the 2007-2011 period, the last period for which there is out-migration data. See: Graduate School USA (2022a). *2022 Economic Brief Republic of the Marshall Islands November 2022*. The Economic Monitoring and Analysis Program (EconMAP) of the Graduate School USA.

Figure 9 The population of Marshall Islands



Source: SPC and EPSSO (2022).

A substantial number of citizens have migrated to other countries, mainly the United States, primarily in pursuit of improved livelihoods.[63] Under the terms of the CoFA, citizens are permitted to reside, work and study anywhere in the United States and its territories (including Hawaii, Guam and the Commonwealth of Northern Mariana Islands (CNMI)) without requiring a visa. They can also access US healthcare and other schemes. A lethargic economy with few new jobs in recent years, consistently poor results in public school education and the medical care needs of a population contending with elevated levels of NCDs (e.g., diabetes and obesity) have all combined to spur out-migration to the United States. It is estimated that more than 30,000 Marshallese currently reside in various parts of the United States, such as Hawaii, Arkansas and Washington.[64]

Marshall Islands has a young population which might expect demographic dividends (figure 10), as the islands have one of the highest adolescent fertility rates in the Pacific (21 per cent of live births).[65] According to the latest census, 60 per cent of the entire population is of working age (between 15 and 59 years), with 34 per cent aged under 15 years and just six per cent over 60 years of age. However, the age dependency ratio has decreased from 72 per cent in 2011 to 61 per cent in 2021, due in part to a six per cent decrease in the population aged under 15 years since 2011.[66] As a result, the median age slightly rose from 20.6 years old in 2011 to 22.0 years old in 2021. The reduced birth rate and growing emigration strongly suggest that Marshall Islands will actually miss achieving the demographic dividends hoped for, and gradually becoming an ageing society. The nation should seek to develop a plan to maximize the benefits of the young population, so as to maintain them within the national boundaries and encouraging their socio-economic contributions.

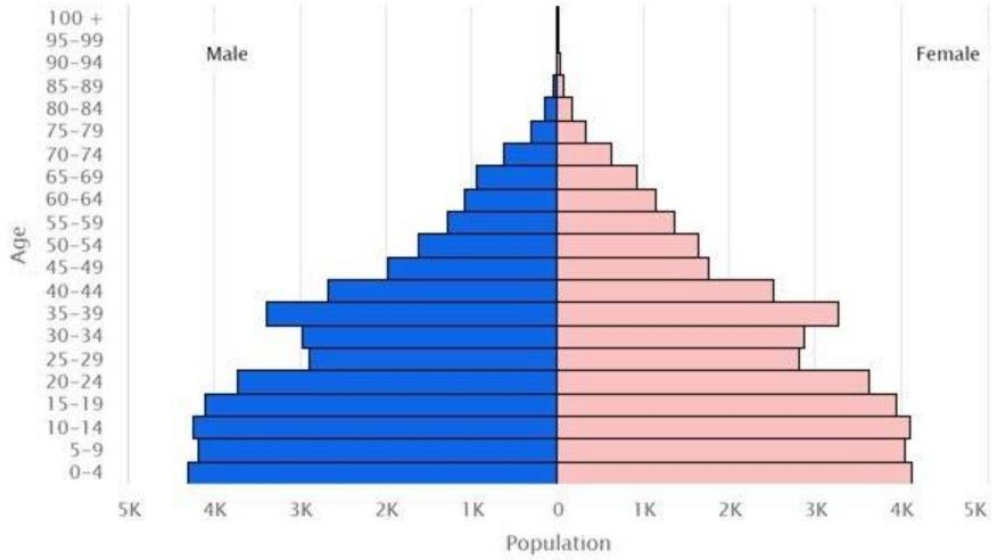
[63] Stangnated economies have encouraged mobility from outer atoll communities to urban areas with persistent reliance on copra and handicraft production, combined with limited opportunity for commercial fishing and farming activities.

[64] van der Geest, K., Burkett, M., Fitzpatrick, J., Stege, M. and Wheeler, B. (2019). *Marshallese migration: The role of climate change and ecosystem services: Summary for policymakers. Policy Brief of the Marshall Islands Climate and Migration Project*. Honolulu: University of Hawaii at Manoa.

[65] SPC and EPSSO (2022).

[66] Ibid.

Figure 10 Marshall Islands' population pyramid, 2022



Source: US Census Bureau (2023). *International Database*.

Many Marshallese households live in poverty, while inequality is less observed.[67] The high level of poverty and hunger is considered the main reason for the most recent migration wave in the islands. The poverty headcount ratio is estimated to be 7.2 per cent, with a 21.2 per cent incidence of poverty in rural areas, but much lower rates in urban agglomerations: 2.3 per cent in Majuro and 3.2 per cent in Kwajalein.[68] Although incomes in female-headed households are higher than those in male-headed households, the poverty rate is higher for persons living in female-headed homes, regardless of location.[69] Rampant poverty is widespread, as 35 per cent of children under five years old are malnourished and evidenced growth stunting. Nearly half of all families worry about not having enough food to eat, while one in three households said they sometimes "go without eating for a whole day."[70] It is unlikely that the pace of out-migration will decline in the near term.

Turning to the impact of climate change, 1,702 households have been affected by drought or irregular rain conditions, 905 by storm surges, 879 by flooding, 686 by "king tides" and 715 by coastal erosion.[71] Marshall Islands had over 1,800 disaster displacements between 2008 and 2018, and a further 200 in 2019. This is in addition to well over 1,000 people displaced by the

[67] Marshall Islands' GINI index was 35.5 in 2019, suggesting moderate inequality. In other findings, 86 per cent of Marshallese households have a flush toilet, 62 per cent own a stove, 56 per cent have a freezer, 53 per cent have a washing machine and 37 per cent have a refrigerator. A total of 42 per cent of the households have an Internet connection. See: the Government of Marshall Islands (2021). *Household Income and Expenditure Survey (HIES). Poverty Assessment Country Chapter*. Majuro: Economic Policy Planning and Statistical Office (EPPSO). Office of the President.

[68] Ibid.

[69] Ibid.

[70] Ibid.

[71] Johnson, G. (2023). "Preliminary census results in the Marshall Islands show poverty worry", *Radio New Zealand*, 21 October, see at https://www.rnz.co.nz/international/pacific-news/477097/preliminary-census-results-in-the-marshall-islands-show-poverty-worry.

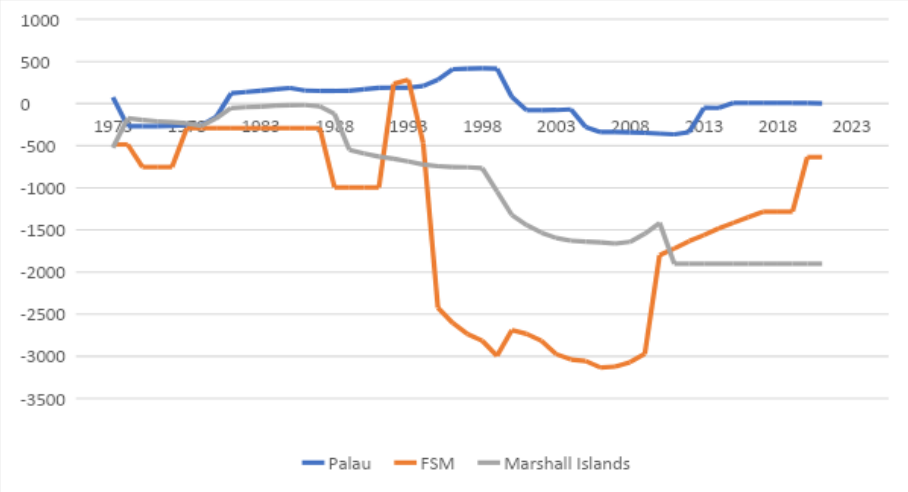
nuclear tests and have not been able to return. In all, at least 3,000 persons remain forcibly displaced in Marshall Islands, representing over five per cent of the population.[72]

3.2. Migration

Given the CoFAs' considerable influence on migration in Micronesia as a whole, this section covers three so-called "Compact countries": Palau, FSM and Marshall Islands. For the past four decades, the out-migration from Micronesia has grown significantly, thereby impacting their small populations. Palau found that 40 per cent of its people – or 8,000 Palauans – left the country and have been partly replaced by foreign labourers since CoFA's inception in 1994.[73] Further, it is estimated that about one in every three born in the Federated States of Micronesia (and first-generation descendants) are outside the islands.[74] As for Marshall Islands, it lost 15 per cent of its population from 2015 to 2021.[75]

Traditionally, Micronesian people did not travel, so there was little emigration. During the TTPI administration, after World War II until independence, relatively Micronesians migrated, while the socio-economic reliance on US money grew.[76] Figure 11 shows such a trend in the three Micronesian countries, from the early 1970s to before their independence in the 1980s and 1990s, experiencing modest net outflows of migrants.

Figure 11 Net migration in Palau, FSM and Marshall Islands, 1973-2021



Source: Developed based on World Bank (2023) data.
Note: Net migration is the number of immigrants, minus the number of emigrants, including citizens and non-citizens.

All three countries experienced their youth's temporal emigration during the 1970s, largely due to US scholarships for college education under the Basic Educational Opportunity Grants or

[72] The Government of Marshall Islands (2020*). Submission of Republic of the Marshall Islands to the Special Rapporteur on the Rights of IDPS*. 25 August

[73] *Pacific Island Times* (2023). *Looking at Palau's approach to the compact negotiation*. 7 February.

[74] International Organization for Migration (IOM) (2016). *Migration in the Federated States of Micronesia: A Country Profile 2015*. Geneva.

[75] Graduate School USA (2022a).

[76] Hezel (1995).

Federal Pell Grants.[77] During this period, most of the graduated Micronesian students returned to their home countries, against the common belief that college graduates tend not to return.[78] But education abroad also created an "over-education" problem in that the number of educated people became larger than the number of formal wage jobs that governments and the private sector could generate within these countries.[79]

A noticeable growth in out-migration occurred after signing the first CoFAs for FSM and Marshall Islands in 1986.[80] In addition to CoFA's free entry migration policy, two US policies were essential in creating this mobility. First, the infusion of US funds to develop a wage economy undermined the subsistence economy that predominated until the 1960s. This increased the importance of wage jobs and encouraged labour mobility, thus emigration under the CoFA. Second, the policy of universal education and the development of the education infrastructure led to an education "explosion" in the 1980s and 1990s, dramatically increasing the number of high school and college students who sought opportunities for jobs and higher education. Thus, although well-intentioned, these two policies helped create a population in the three "Compact countries" that was increasingly wage-dependent, educated, unemployed or under-employed and mobile.[81] Combined with the slow economic development of the countries, these trends created a "surplus population", resulting in difficulties discouraging international emigration.[82]

Toward the 1990s, however, emigration became stable in FSM and Marshall Islands, while Palau received more immigrants needed to service its own tourism boom. During the 1990s, the level of out-migration from Marshall Islands was fewer than 800 per year – except in 1997, when it spiked to 1,415.[83] (FSM's temporal inward migration hike in 1992-1993 was mainly due to the economic slowdown in Guam and CNMI (i.e., fewer visitors and exports in the tourism and garment sectors)).[84] But records then show a substantial increase since 1995 in FSM and after 1999 in Marshall Islands. Over 4,000 people combined left the two countries in the year 2000 when the existing CoFAs were about to mature and people were unsure about the results of the new CoFA negotiations. The 2007-2008 global financial crisis reduced outward migration from FSM and Marshall Islands while maintaining modest emigration in Palau. But 2021 set a new record of 2,515 emigrations from Marshall Islands.[85] [86] Figure 12 presents the emigration stock

[77] Ibid.

[78] Hezel, F. X. (2001). *The New Shape of Old Island Cultures: A Half Century of Social Change in Micronesia*. Honolulu: University of Hawaii Press.

[79] Ibid.

[80] Hezel, F. X. (2013). *Micronesians on the Move: Eastward and Upward Bound*. Honolulu: East-West Center.

[81] Grieco (2003).

[82] Rajaram, P. K. (2018). "Refugees as Surplus Population: Race, Migration and Capitalist Value Regimes", *New Political Economy*, 23(5), 627-639.

[83] Graduate School USA (2022b). *RMI FY22 Economic Statistics (Preliminary)*, available at: https://pitiviti.org/marshall-islands; Johnson, G. (2022). "Heavy out-migration underlines economic conditions in Marshall Islands", *Radio New Zealand*, 22 November.

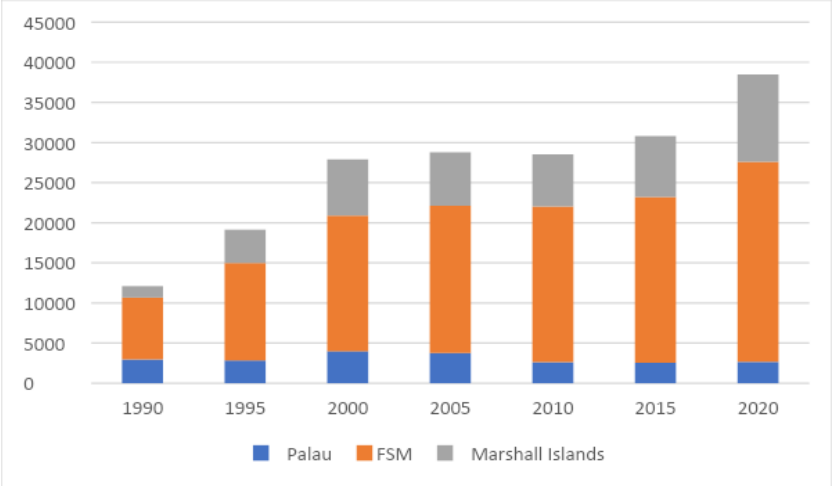
[84] US Government Accountability Office (GAO) (2020). *Compacts of Free Association: Populations in U.S. Areas Have Grown, with Varying Reported Effects, GAO-20-491, 15 June*. Washington D.C.; Laney, L. O. (2008). *Economic Forecast - 2008 Guam-CNMI Edition*. Honolulu: First Hawaiian Bank.

[85] Graduate School USA (2022a).

[86] A survey in 2015 estimated that four per cent of Marshallese aged 25 years and over were college graduates and 75 per cent were high school graduates. Regarding occupation, Marshallese living in

of the three Compact countries, illustrating the gradual growth of their outward migrants since the early 1990s, with a further increase in the last decade.

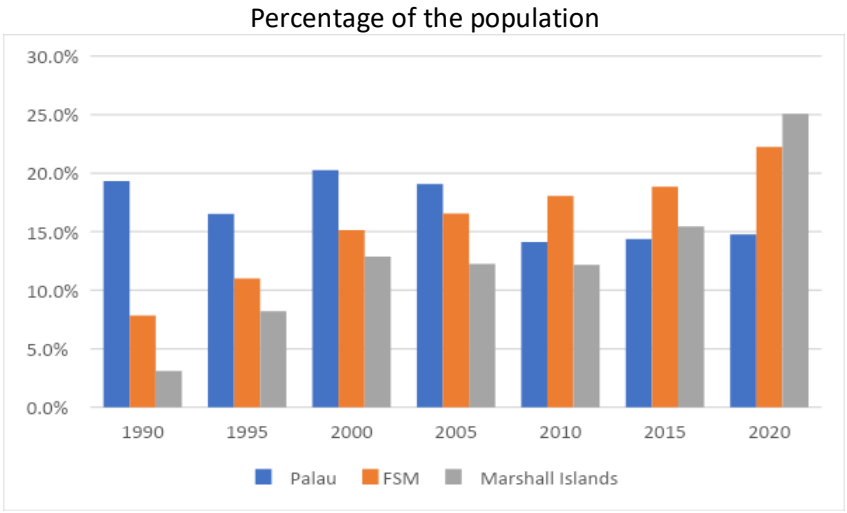
Figure 12 The emigration stocks of the Compact countries



Source: Developed based on the data of the United Nations DESA (2020).

Figure 13 illustrates the significance of outward migration in Micronesia as a share of their population. While Palau gradually decreased its emigration share and maintained it at less than 15 per cent after 2005, FSM and Marshall Islands saw an increase in emigration.

Figure 13 The emigration stocks of Palau, FSM and Marshall Islands



Source: Developed based on the data of the United Nations DESA (2020).

Predominantly, young people migrate. This underscores that many young people aspire to leave the countries, which is particularly worrisome. It has been debated that the "brain drain", or

Arkansas work primarily in food manufacturing (one in every three), whereas Marshallese living in Hawaii work primarily in the recreation and accommodation sectors. Before the COVID-19 pandemic, approximately 41 per cent of Marshallese in the United States in 2015 lived in poverty; about two in every five Marshallese living in Arkansas and more than half in Hawaii. These figures can be attributed to the lack of skills required for higher-level employment. Refer to: Levin, M. J. (2017). *Marshallese Migrants in the United States in 2015: A Statistical Profile Based on the American Community Survey*. PacificWeb, LLC, November.

loss of many of its most productive citizens overseas, may be the most pressing developmental challenge facing the Micronesian countries, including Marshall Islands.[87] [88] However, a look at the profile of Micronesian migrants suggests that this is not a brain drain per se. An estimate for 2017 shows that almost 30 per cent of emigrants held no school diploma, and only 12 per cent held associate's, bachelor's, graduate or professional degrees.[89] Thus, Marshall Islands has lost many low-skilled labourers to the United States.

Owing to regulations that allow CoFA citizens to establish residency in the United States, the latter become a top destination for migration. In 2018, more than 94, 000 migrants from all three countries, and their US-born children and grandchildren younger than 18, lived and worked in the United States and its territories. The three countries' total resident population of that year was about 175,000, so over one-third of Micronesians have lived in the United States.[90]

Historically, many CoFA migrants lived in US territories closer to their countries, such as Hawaii, Guam and CNMI.[91] But this has since changed. In 2018, around half of CoFA migrants are estimated to live on the US mainland.[92] Figure 14 presents the population of CoFA migrants in the states and territories of the United States. Overall, the total number of CoFA migrants in the United States has grown by about 70 per cent in the last decade.[93] Four clusters have emerged: (i) Guam, Hawaii and CNMI; (ii) the Pacific West Coast; (iii) Arkansas and its neighbouring states; and (iv) the continental south-east. Arkansas has attracted nearly 6, 000 Marshallese low-skilled labourers (mainly working in the poultry industry) and their family members.[94]

[87] Grieco (2003).

[88] Brain drains occur when migrants take their skills and initiative to their new countries of residence.

[89] GAO (2020).

[90] US Government Accountability Office (GAO) (2020). *Compacts of Free Association: Populations in U.S. Areas Have Grown, with Varying Reported Effects, GAO-20-491*, 15 June; the World Bank (2023).

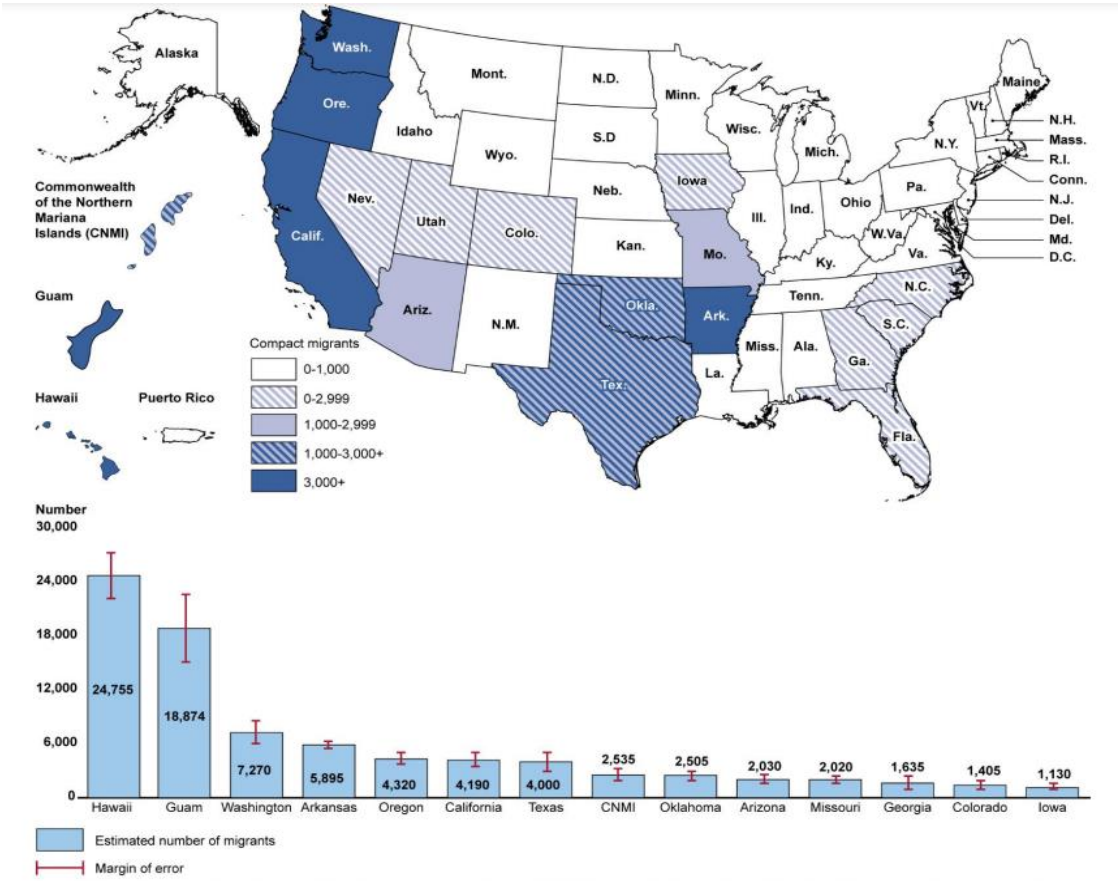
[91] Hezel (2013).

[92] GAO (2020).

[93] Ibid.

[94] Ibid.

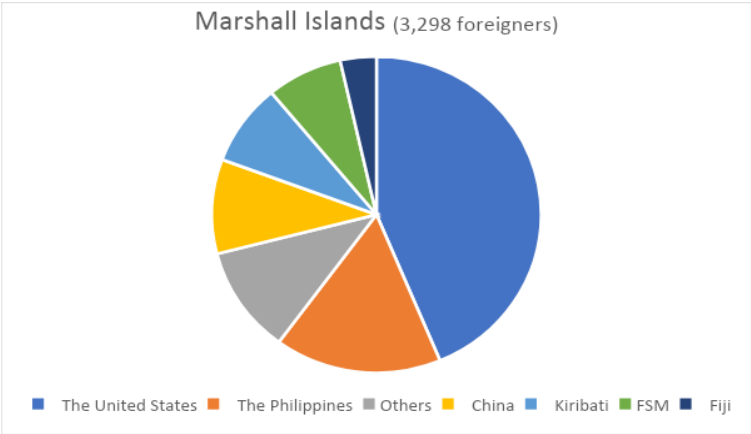
Figure 14 CoFA migrant populations in US areas, 2013-2018



Source: GAO (2020).

The CoFA countries have also received numerous foreign migrants, relative to their micro populations. In 2020, foreigners accounted for nearly a third of Palau's population, of which about two-thirds are Filipinos. FSM has received foreign migrants from various countries, including other "Compact states", neighbouring countries and the United States, but these numbers have gradually declined and show FSM's less reliance on immigrants. Marshall Islands has rapidly increased its dependence on foreign labourers, filling the gap of a reduced native population in the past decades. Americans and Filipinos are the major nationalities, besides Chinese and other neighbouring islanders (see Figure 15).

Figure 15 Foreign immigrants in Marshall Islands, 2020



Source: Developed based on the data of the United Nations DESA (2020).

It is expected that the third CoFA (spanning 2023 to 2043) will maintain the present outward migration trend while increasing the inflows of foreign workers.[95] This is because: (i) the newly agreed Compact assistance will increase the government-related formal wage jobs; (ii) such new jobs will require skilled labourers which cannot be quickly sourced locally; (iii) the Compact assistance (both financial and technical) will not sufficiently impact private sector growth and development, while further expanding the government's role in the economy; and (iv) as a result, CoFA citizens in disadvantaged positions (e.g., people in rural and outer islands and low education attainers) will continuously face relative poverty and widening inequality, which will also drive outward migration. There is clearly pressing need to try and reverse this vicious cycle under the CoFA arrangement.

3.3. Labour

Marshall Islands faces difficulties in creating jobs within its territories. During the 2010s, a small number of jobs were added to the economy, as private-sector employment declined, and government hiring rose steadily. Between 2020 and 2021, there was a total loss of 716 jobs - the largest reduction since the step-down in the initial Compact funding in 1997.[96] Marshall Islands' unemployment rate was 9.8 per cent in 2021, estimated to affect nearly one-quarter of all youth.[97] Most working adults are formally employed, with only six per cent working on their own or in a family business. However, the distribution of employment type varies markedly between urban and rural areas of the country, with formal employees predominant in urban areas (93 per cent versus 49 per cent in rural areas). Approximately 45 per cent of adults aged 15-64 participate in the labour force. Women are less likely to be active in the labour force and to report current employment, with the employment rate only 24 per cent, versus 56 per cent for men.[98]

Marshall Islands' labour market has three distinct characteristics. First, the labour market is a mixture of formal employment (i.e., salary jobs with various benefits and protection), a large informal sector (often part-time or seasonal jobs without benefits and protection), and a persistent subsistence economy (often non-paid family or kinship labour). Such a structure cannot be changed in the short-term as it is based in part on culture, social norms and values. Secondly, there are considerable gender disparities in job opportunities and salaries (e.g., numbers, quality and skill requirements). Again, culture, social norms and values, such as traditional gender roles, household rituals and family responsibilities, have influenced this regard and are long-lived. Thirdly, while the government has been the primary employer for many years, significant sectoral disparities exist among government offices, businesses and

[95] Cf., ADB (2023a). *Economic Impact of the Compact and Renewal for the Federated States of Micronesia*, April; ADB (2023b). *Economic Impact of the Compact and Renewal for the Republic of the Marshall Islands*, April; ADB (2023c). *Economic Impact of the Compact and Renewal on the Republic of Palau*, April.

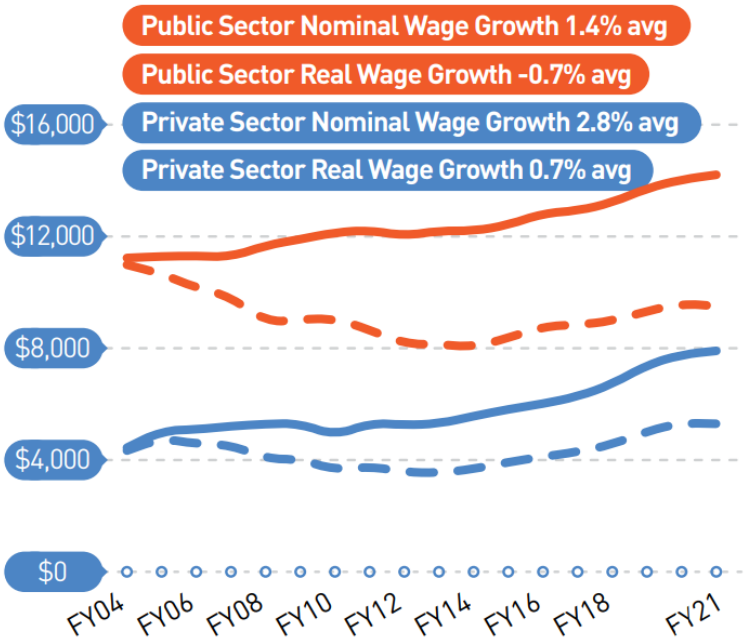
[96] Graduate School USA (2022a); and Graduate School USA (2020). "Assessing the Impact of COVID-19 on Marshall Islands Economy", *Technical note*, May. Economic Monitoring and Analysis Program (EconMAP). Pacific and Virgin Islands Training Initiatives (PITI-VITI).

[97] International Labour Organization (ILO) (2023). *ILOSTAT: Data*, at: https://ilostat.ilo.org/data/#.

[98] Pacific Data Hub (2022). "Marshall Islands Household Income and Expenditure Survey 2019", 25 May 2022 Version 01, at https://pacificdata.org/data/dataset/spc_mhl_2019_hies_v01_m_v01_a_puf.

others (e.g., NGOs and CSOs). The government's pay is estimated to be two to three times higher than that of the private sector, given the abundant Compact money (figure 16).[99]

Figure 16 Wages in the public and private sectors in Marshall Islands



Sources: Graduate School USA (2022a).

High unemployment and under-employment have also encouraged people to migrate outward. In 2021, Marshall Islands' unemployment rate was ten per cent.[100] Because of difficulties with finding satisfactory salaried work, Marshallese reported taking the opportunity to search for more reliable jobs and higher wages in the United States.[101] Weak job growth in the private sector has pushed Marshallese to migrate.

3.4. Education

Marshall Islands' education system, which follows the American academic curriculum, faces various challenges that have resulted in sub-par academic achievements and constrain individuals' future opportunities. Under the Islands' universal education system, most Marshallese attend school. Boys and girls also attain nearly equal enrolment rates in public and private elementary and secondary schools.[102] In 2020, Marshall Islands' expenditure on education amounted to nearly 14 per cent of GDP, the highest in Micronesia (figure 17). However, many do not complete primary level and very few complete secondary or higher education, as attendance rates decline noticeably from 14 years of age onwards. Achieving education for all children, especially those girls who drop out due to adolescent pregnancy,

[99] In the United States, federal workers earned 24.1 per cent less on average than private sector workers in similar jobs in 2022. See: Friedman, D. (2022). "Advocacy groups raise concerns about federal pay system amid growing wage gap", *Federal News Network*, 3 November.

[100] Graduate School USA (2020).

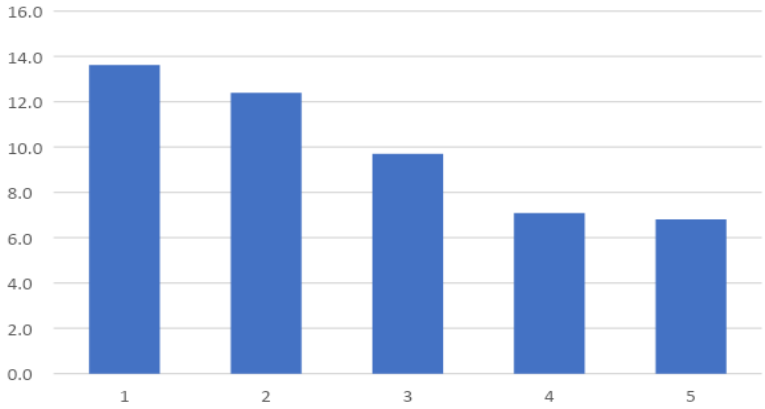
[101] GAO (2020).

[102] The Ministry of Education of Marshall Islands (2014). *Education for All 2015 National Review Report: Marshall Islands*. June. Majuro: The Government of Marshall Islands.

represents a significant policy challenge.[103] Employment opportunities become more limited for those who do not graduate, the likelihood of a healthy adult union is reduced, and they are at higher risk of maternal morbidity and mortality. Poor education delivery has been a considerable concern, although the government has invested much in the education system.

Figure 17 Education expenditure

Percentage of GDP, latest years



Source: Developed based on the World Bank (2023).

Public schools tend to exhibit lower academic performance than private schools, leading to a significant discrepancy in the quality of education offered.[104] While Marshall Islands has some teachers with higher qualifications, they comprise a relatively small percentage of the teaching population. Attaining a minimum proficiency level in numeracy and literacy presents a formidable challenge for island students. Test outcomes from both primary and secondary schools consistently underscore the limited knowledge and skills of the students in these crucial areas.[105] This situation suggests that the United States has accepted those Marshallese migrants mainly for entry into unskilled and low-paid labour jobs, which neither require an academic diploma nor vocational training. Some Marshallese families also move to the United States in order that their children can access better education than their home country is able to provide.[106]

Children on remote atolls are sometimes taken out of school to assist their families with fishing, agriculture and other subsistence activities, thereby reducing educational outcomes. Key challenges include: i) logistics, given the geographic dispersion of the islands and transportation and shipping delays, affecting the delivery of school materials promptly; ii) school disruptions due to deteriorating weather conditions; and iii) the difficulty of attracting qualified teachers from urban schools to teach on outer islands. More interventions, such as solar panel installation

[103] The United Nations Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) (2018). *Concluding observations on the combined initial to third periodic reports of the Marshall Islands*, *CEDAW/C/MHL/CO/1-3,* 14 March.

[104] The Ministry of Education of Marshall Islands (2014). *Education for All 2015 National Review Report: Marshall Islands*. Majuro: The Government of Maeshall islands.

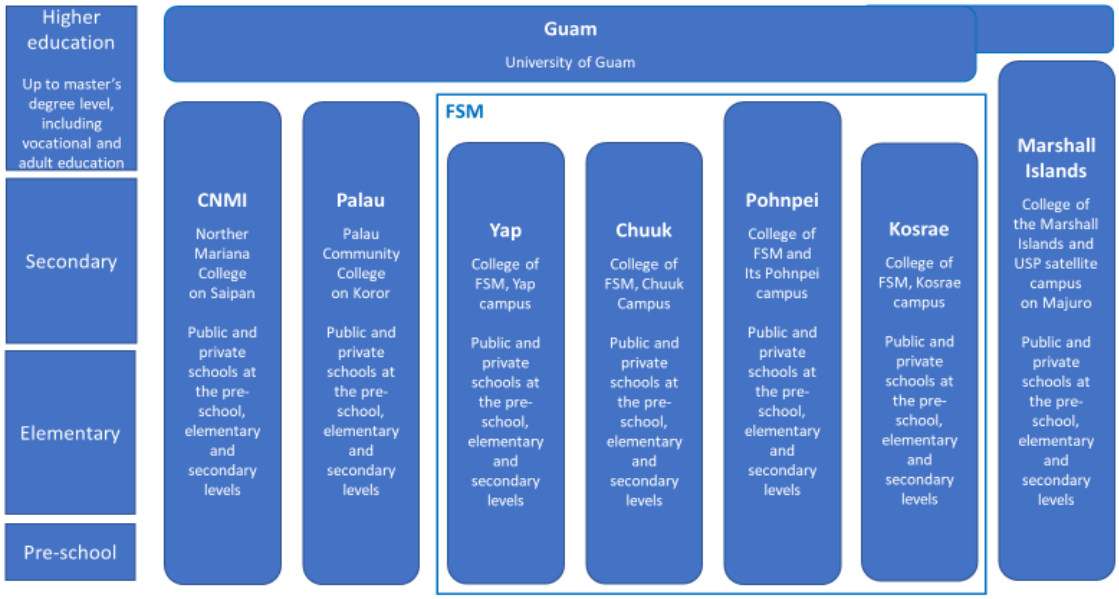
[105] SPC (2019). *Pacific Islands Literacy and Numeracy Assessment 2018 Regional Report, Educational Quality and Assessment Division (EQAP): Pacific Community*. Suva, Fiji: SPC's Suva Regional Office.

[106] GAO (2020).

and improved Internet connectivity are needed to improve access to education for students in the outer islands.[107]

Figure 18 illustrates the present overview of the education structure of the seven former TTPI districts (i.e., Northern Mariana Islands, Palau, Yap, Truck (now Chuuk), Ponape (Pohnpei), Kusaie (Kosrae) and Marshall Islands) and Guam under the US administration. Marshall Islands provides higher education through two institutions on Majuro: the College of Marshall Islands (CMI) and a satellite campus of the University of the South Pacific (USP). CMI, the islands' solo post-secondary community college, offers associate degrees while USP, a Fijian university, provides bachelor's courses mainly online. Although CMI was established in 1993, it originated from TTPI's three higher education programmes on nursing, education and agriculture/home economics based on the structure designed and implemented during the TTPI era.[108] The University of Guam, a US public school established in 1952, has been a focal point as the regional university in Micronesia, while various community colleges in Micronesia, including CMI, have sent their best performing students to Guam and other US territories.

Figure 18 The education structure of the former TTPI districts and Guam, as of 2023



Source: Developed by the authors based on various sources.

Notes: In this figure, Guam only covers its four-year public college, the University of Guam, which offers limited undergraduate and graduate degrees. Two other small colleges in Guam, Guam Community College and Pacific Islands Bible College, are excluded. The University of Guam neither has professional schools (e.g., medicine and law) nor offers doctorate degrees, for which students must attend schools in Hawaii and the mainland United States. For more information, visit the website of the University of Guam. USP stands for the University of the South Pacific.

Marshallese students also have numerous opportunities to study in US territories with various federal and private scholarships.[109] With the limited programmes offered by the colleges in

[107] SPC (2020). *Beijing Plus 25: Review of Progress in Implementing the Beijing Platform for Action in Pacific Island States and Territories*. Noumea, New Caledonia: The Pacific Community.

[108] College of the Marshall Islands (undated). "History", *About CMI*, at: https://www.cmi.edu/history/.

[109] The Ministry of Education of Marshall Islands, (2019). *Education Sector Plan, Republic of the Marshall Islands, 2020-2023*.

Marshall Islands, wealthier students often choose to study abroad, usually at universities in Guam, Hawaii or the mainland United States. Various bilateral and private scholarships and training programmes are also supported by Australia, Japan, New Zealand, the Republic of Korea, the United States, the Taiwan Province of China and others.[110]

3.5. Food and nutrition

The challenges related to Marshall Islands' food systems are multi-faceted and require changes to both improve access to fresh and nutritious food, and increase its affordability. Healthy diet education and awareness raising are also considered a society-wide lifelong issue that touches all ages, genders and social groups, and is central to changing food consumption patterns. The COVID-19 pandemic further disrupted food supplies, requiring the enhancement of food security for Marshall Islands.

Marshall Islands' distinct challenges to make the country less vulnerable to food insecurity include:[111]

(i) Limited land mass and lack of arable land under a complex traditional system, fragile natural environments, a narrow resource base and heavy reliance on its ocean resources;
(ii) High dependence on food imports (more than 80 per cent of which is processed food); and
(iii) The "triple-burden" of malnutrition (i.e., under-nutrition, micronutrient deficiencies), elevated levels of overweight and obesity, and increasing rates of diet-related NCDs.[112]

Marshal Islands' traditional crops are coconut and breadfruit. They and varieties of other species like pandanus, taro, dwarf banana, as well as sources of traditional medicines, are now endangered. The major challenge is protecting the genetic diversity of the crops and species from pests and diseases, and the effects of extreme weather events like droughts and severe cyclones. The most serious of these include insect pests such as the breadfruit mealybug, coconut scale and spiralling whitefly, which could cause severe damage to food crops and seriously affect productivity and food security. The loss of traditional knowledge and conservation practices is a concern as Marshallese move to live in urban centres, away from their conventional agroforestry systems, and are losing an understanding of how to manage them.

The recent and substantial rise in imported food prices in the post-pandemic recovery period and the war in Ukraine, while unwelcome, does present an opportunity to strengthen food system pathways and rejuvenate traditional agri-food systems that can both alleviate nutritional

[110] While these students can choose to stay and work abroad after graduation, the number of such students has been not as high as people believe unless other factors are considered, such as family reasons (e.g., group migration and healthcare needs) and marriages. See: Hezel, F. X. (2001). *The New Shape of Old Island Cultures: A Half Century of Social Change in Micronesia*. Honolulu: University of Hawaii Press.

[111] Government of Marshall Islands (2021). "Transforming the Marshall Islands Food System by 2030", *Technical Note*, September, the United Nations Food Systems Summit.

[112] Blankenship, J. L., Rudert, C. and Aguayo, V. M. (2020). "Triple trouble: Understanding the burden of child undernutrition, micronutrient deficiencies, and overweight in East Asia and the Pacific", *Matern Child Nutr*, 16(2), e12950.

deficiencies and counteract the substantial prevalence of NCDs in Marshall Islands. In the near term, the priority focus will need to be on the mitigation of food security shocks, by boosting production and market-oriented initiatives, ensuring that:

(i) Both food producers and consumers have equitable access to improving their food security and livelihoods;
(ii) Increases in productivity are not achieved at the expense of the environment; and
(iii) Food import substitutions are taken, where possible, as the first option, considering healthcare-related cost implications.

In the medium to long term, to support resilient agri-food systems, Marshall Islands needs to pursue agro-ecosystem diversity, sustain agri-food system transition, and strengthen necessary food price and supply monitoring tools that are critical in raising the alarm of pending food shocks or crises, to be combined with anticipatory actions and preventative measures that strengthen food systems in advance.

Yes, there is much that Marshall Islands can do to expand its agricultural sector on an environmentally sustainable basis, including focused efforts and interventions around contract farming, atoll fishing, aquaculture and agri- and aqua-tech, and by participating more actively in a range of innovations intended to bring about a carbon neutral agriculture, forestry and fisheries sector. There is also a need to invest in the necessary supporting "soft" and "hard" infrastructure of domestic markets for the sale and consumption of local produce. Land ownership reform necessary to free up more land for onshore agriculture and other food-related activities merits more greater effort. If the right policies and economic incentives are pursued, possible interventions may include local farming, pastoral, fishing and food preservation based on traditional knowledge and practices. The government could also consider strengthening anti-poverty crop subsidy schemes, especially for copras.[113]

Box 2 Copra subsidy

The subsidy scheme for copra can apply to food security, anti-poverty and industrial policy, increasing its production and promoting light manufacturing, such as crude coconut oil and copra meat. The scheme transfers the revenues of fishing licenses and international vessel registrations and foreign aid to outer island communities where the subsistence economy still dominates, and multiplier effects are expected from cash income distribution. However, the long-run sustainability of the copra subsidy has been questioned.[114] The scheme accumulated large deficits, and the copra exports have widely fluctuated in global markets, from 0.2 per cent of the islands' total exports in 2013 to 7.8 per cent in 2019. Its exports accounted for 6.2 per cent in 2022.[115] If the price tag continues to be raised, the incentive may also deteriorate the quality of copra and export competitiveness, while discouraging other valuable activities.[116] Several problems have been observed: (i) the weight-based subsidy has encouraged the focus on quantity

[113] The United Nations Educational, Scientific and Cultural Organization (UNESCO) (2003). *Convention for the Safeguarding of the Intangible Cultural Heritage*, 17 October.

[114] The Enterprise Research Institute (ERI) (2003). *Republic of the Marshall Islands – A Private Sector Assessment: Promoting Growth Through Reform*, May.

[115] International Trade Centre (2023). *Trade Map*, at: https://www.trademap.org/.

[116] Radio New Zealand (2023). *Marshalls' copra production to soar on back of subsidy*, 2 October 2019, at: https://www.rnz.co.nz/international/pacific-news/400067/marshalls-copra-production-to-soar-on-back-of-subsidy.

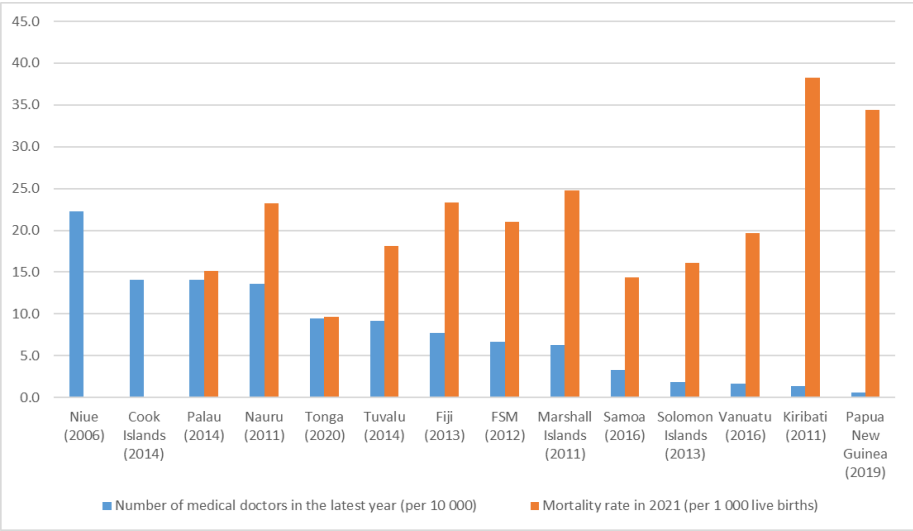
instead of quality; (ii) the quick hike of copra production often exceeded the processing capacity, resulting in excess and unprocessed copra on Majuro and outer atolls; and (iii) the copra subsidies have also impacted on fiscal management with increased programme and logistics costs. The current scheme has also introduced distortions into the commercial and labour markets, while undermining the viability of other uses for coconuts.[117]

The above notwithstanding, it is not realistic to terminate this long-standing and potentially effective policy. The government is therefore recommended to improve this scheme's efficiency by fine-tuning the scheme's entire supply chain and moving up to more value-added processes.

3.6. Health

In Marshall Islands, a shortage of funds to implement programmes, combined with the low absorption capacity of development assistance, contributes to the fragmentation of health service delivery. The islands' healthcare system comprises two hospitals, one in Majuro and one in Ebeye, and 56 healthcare centres in the outer atolls.[118] They require considerable upgrading and renovations with more space and new equipment. Medical supplies are always constrained due to the islands' remoteness, high logistical costs and lack of infrastructure, such as cold storage warehouses and specialized transportation. Isolated outer islands and atolls also escalate the difficulties of the issues as their extra remoteness poses a significant challenge to accessing hospitals and other healthcare service providers (e.g., pharmacies). Figure 19 illustrates the level of Marshall Islands' healthcare services, compared with other PICTs, in terms of the number of medical doctors and the mortality rate. A challenge is setting priorities for developing and implementing programmes to address critical health issues, given the considerable financial, technical and human resource constraints.[119]

Figure 19 The status of healthcare services in the Pacific



[117] Ibid.

[118] Pacific Basin Telehealth Resource Center (2023). *Republic of the Marshall Islands Resources. University of Hawaii at Mānoa*. At: https://www.pbtrc.org/resources/republic-of-the-marshall-islands-resources/

[119] Green Climate Fund and World Health Organization (WHO) (2021). "Enhancing the resilience of the health systems to climate change and emerging pandemics in the Republic of Marshall Islands", *Readiness Proposal, December*. GCF Readiness and Preparatory Support Programme.

Source: Developed based on World Bank (2023).
Note: The years of data are 2021 or the latest available.

Marshallese citizens struggle with one of the highest world obesity levels, leading to NCDs and premature deaths. Within the adult population, the rate of overweight and obesity, leading to tuberculosis, diabetes and hypertension, was 72 per cent in 2018; one of the highest in the world.[120] Citizens often seek healthcare services in Fiji, Hawaii and Australia, depending on their illnesses, budgets, convenience and, most importantly, access to public health insurance, for example, under the US Patient Protection and Affordable Care Act.[121] Some medical procedures, such as dialysis or some specialist care, are available only outside Marshall Islands.

There are still significant gaps in administrative, clinical and support services to address the NCDs.[122] No procedural NCD manual is available for hospitals or public health clinics, so little communication, coordination or collaboration between the medical and public health staff is observed. There is also no functional data system that allows for the identification, registry or tracking of patients with NCDs. To respond to the expansion of NCDs, Marshall Islands adopted tobacco taxation measures and increased taxation on alcohol products.[123] It also has legislation to create smoke-free public places and for health warnings on tobacco packaging, restricted advertising, sales and licensing. Imported under-nutritious food also places a high risk on people's health, and the government could consider imposing sales taxes and duties on sweet, salty and fatty foods to discourage their high consumption.[124] Here, Marshall Islands could strengthen the healthcare system with additional revenues from taxes and duties and promote healthier substitutes that are more readily available.

Despite the cessation of nuclear bomb testing over six decades ago, its population still grapples with abnormally high incidences of thyroid disorders, birth defects and cancer. Life expectancy in Marshall Islands is approximately five years lower than in the other two CoFA countries – Palau and FSM.[125]

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[120] The Government of the Marshall Islands(2018). *Republic of the Marshall Islands Hybrid Survey Final Report*. Majuro.

[121] Ng Kamstra, J. S , Molina, T. and Halliday, T. (2021). "Compact for care: how the Affordable Care Act marketplaces fell short for a vulnerable population in Hawaii", *BMJ Global Health*, 6(e007701), 1-6.

[122] Henry, I., deBrum, I. *et al*. (2013). *An Assessment of Non-Communicable Diseases, Diabetes, and Related Risk Factors in the Republic of the Marshall Islands, Majuro Atoll: A Systems Perspective*. May. Hawaii J Med Public Health.

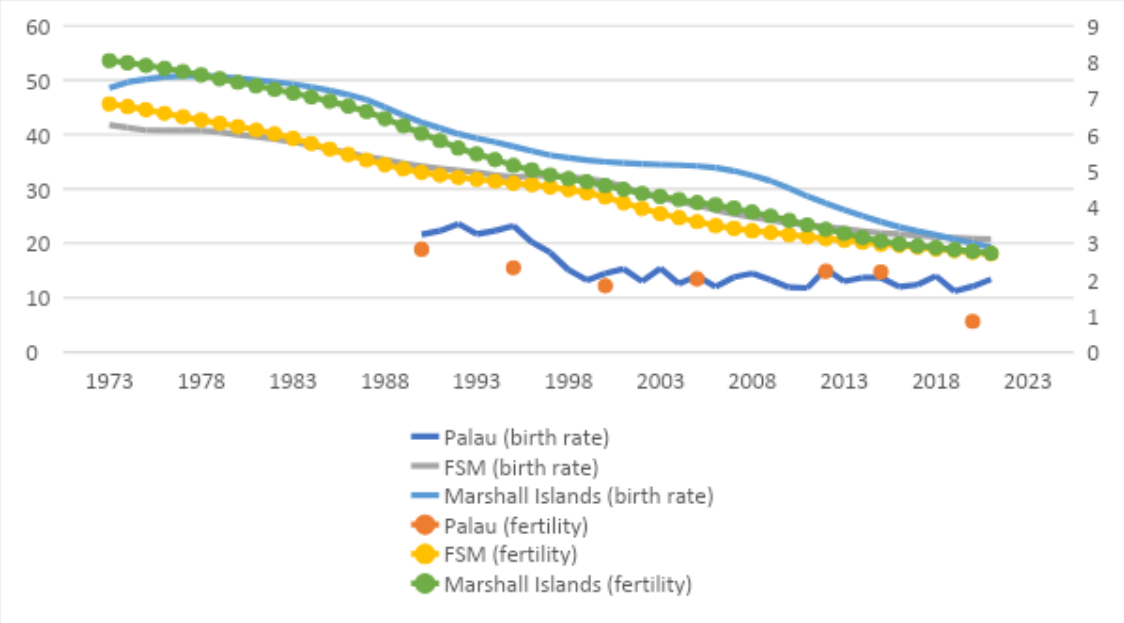
[123] Radio New Zealand (2004). *Marshall Islands government raises "sin" taxes*. September, at: https://www.rnz.co.nz/international/pacific-news/150830/marshall-islands-government-raises-sin-taxes.

[124] The primary purpose of such taxation was traditionally to generate additional government income. Many governments, such as Norway, Denmark and Finland, and some cities in the United States, Mexico and Tonga, have realized this could be a powerful tool to promote desired (e.g., healthy) behaviour. FAO and WHO have promoted nutrition-related taxation for years. For more information on nutrition-related taxation, see: FAO (2014). *Policy measures to increase local food supply and improve food security in the Federated States of Micronesia*, November; Jensen, J. and Smed, S. (2018). "State-of-the-art for food taxes to promote public health," *Proceedings of the Nutrition Society*, 77(2), 100-105; WHO (2004) *Global Strategy on Diet, Physical Activity and Health*. Geneva.

[125] Duke, M. R. (2014). *Marshall Islanders: Migration Patterns and Health-Care Challenges*. Washington D.C.: Migration Policy Institute (MPI).

Both birth and fertility rates are decreasing gradually and steadily (figure 20). However, the country has still one of the highest adolescent fertility rates, of 58 per 1,000 in 2021, compared to the world average of 43 per 1,000, and the second-highest teenage pregnancy rates in the region.[126] The significant number of adolescent girls giving birth impacts these figures. Additionally, although the HIV rate in Marshall Islands is low, with only 32 cumulative cases since the first case was identified in 1984 (as of 2016), sexually transmitted infection (STI) rates, especially chlamydia and syphilis, are relatively high.[127] [128] This highlights the importance of sexual and reproductive health (SRH) education, as noted earlier.

Figure 20 Birth and fertility rates in Micronesia



Source: Developed based on World Bank (2023).
Note: The birth rate is per 1,000 people, and the fertility rate is the number of births per woman.

Marshall Islands has the highest rate of childhood stunting among PICTs at 35.3 per cent in 2017, while the prevalence of children (under age five) that were underweight and wasting was estimated to be 11.7 per cent and 3.6 per cent, respectively, in the same year.[129] Anaemia represents a severe public health issue, affecting almost 40 per cent of under-five years old and

[126] Johnson, G. (2022). "Marshalls teen pregnancy rate second highest in Pacific", *Radio New Zealand*, 31 January.

[127] Ministry of Health of Marshall Islands (2018*). Global AIDS Progress Report 2016, Republic of the Marshall Islands* Majuro: Republic of the Marshall Islands.

[128] EPPSO, SPC and Macro International Inc. (2008). *Republic of the Marshall Islands Demographic and Health Survey 2007*. Mjuro: The Government of Marshall Islands.

[129] Ministry of Health and Human Services (MHHS) of Marshall Islands, EPPSO and the United Nations Children's Fund UNICEF (2017). *Republic of the Marshall Islands Integrated Child Health and Nutrition Survey 2017, Final Report*. Majuro; Jumo, M. C. (2022). "Shifting the dial on child malnutrition in the Pacific and Timor-Leste", 7 September, *The Devpolicy Blog*, at the Development Policy Centre, Crawford School of Public Policy, College of Asia and the Pacific, The Australian National University: https://devpolicy.org/shifting-the-dial-on-child-malnutrition-in-pacific-timor-leste-20220907/#:~:text=The%202021%20Global%20Nutrition%20Report,%25)%20and%20Vanuatu%20(28.90%25).

31 per cent of women of reproductive age in 2019.[130] Infant and young child feeding (IYCF) practices and overall dietary practices are weak, with more than a quarter of children aged 0-23 months fed nutrient-poor foods, and only 30 per cent receiving the minimum acceptable diet in 2017.[131]

3.7. Gender and human rights

Marshall Islands' Constitution affords women formal equality before the law, but this has yet to transpire. Discrimination against women is grounded in customs and traditions that have not evolved with society, and additional reinforcing misogyny denies women and girls their rights. Women have no legal recourse where customs infringe on the enjoyment of their rights and freedoms.[132] Violence against women and girls (VAWG), child marriages and adolescent birth clearly illustrate the issues women often face in the islands. Furthermore, outer island women and other underprivileged groups are at risk of not accessing public services or facing provisions with considerably lesser quality and frequency. The absence of a comprehensive social protection system that effectively targets those most in need, such as those in rural areas, old age and unemployment, is also a significant risk.[133]

Marshallese women face multiple barriers that prevent them from enjoying a life free from violence and coercion in a society where they can access equal opportunities and enjoy equal rights. Teenage pregnancy, violence against women and girls, vulnerable employment conditions, unemployment and limited access to justice and protection were noted as priority areas in the context of inequalities and related consequences that are imposed on women and girls.[134] One severe and pervasive problem is VAWG. Over half of ever-partnered Marshallese women experience physical and/or sexual violence in their lifetime, even though domestic violence is a crime on the islands.[135] The majority of women do not report their experiences with violence. Very few men use condoms, which puts them at high risk of sexually transmitted infections and mistimed pregnancies. Resources available to support women on outer islands are almost non-existent, and further complicated by often limited and expensive travel to urban centres.[136] Same-sex sexual activity was decriminalized in 2005, and discrimination based on

[130] Global Nutrition Report: Country Nutrition Profiles. Bristol, UK: Development Initiatives. https://globalnutritionreport.org/resources/nutrition-profiles/methodology/#5; WHO-"Global Health Observatory (GHO)."https://www.who.int/data/gho/data/indicators/indicators-index.

[131] MHHS, EPPSO and UNICEF (2017).

[132] Government of Marshall Islands (2018). *Gender Equality. Where do we stand? Republic of the Marshall Islands*. Community Development Division. Ministry of Culture and Internal Affairs and the Economic Policy, Planning and Statistics Office, Office of the President.

[133] Ibid.

[134] Ibid.

[135] Ministry of Internal Affairs of Marshall Islands (2014). *Republic of the Marshall Islands National Study on Family Health and Safety*. Majuro: Republic of the Marshall Islands.

[136] Ibid.

sexual orientation and gender identity was also prohibited by the Gender Equality Act in 2019.[137] [138]

Many women in Marshall Islands are significantly under-employed.[139] Informality and vulnerable jobs affect more women than men, as three in ten women work as own-account operators, unpaid workers in family enterprises, or producing goods for their consumption or sale, compared to one in five men.[140] Women are less likely to work for wages or salaries and more likely to work producing goods for sale than men, with 30 per cent of women working in craft and related occupations, compared to 23 per cent of men.[141]

More could also be done in terms of the protection and promotion of human rights by either instituting a Paris Principles-compliant national human rights institution (NHRI), or broadening the mandate and strengthening the resources available to the existing human rights committee. In particular, reaching out to civil society and work on women´s rights, child protection and furtherance of the status of people with disabilities (PWD).[142] Marshall Islands has a mixed legal system of the US and English common laws, customary laws and local statutes.[143] The Constitution guarantees judicial independence, and the judiciary comprises the Supreme Court, the High Court, a traditional rights court (which hears matters of traditional land rights and customary law), district courts and community courts. But the islands have yet to establish a Paris Principles-compliant national human rights institution; meanwhile, human rights matters (e.g., women's and children's rights) are dealt with by the human rights committee, established under the Human Rights Committee Act and by the relevant government departments.[144]

CoFA allows the US military to operate in the country in exchange for the defence of the territory and development assistance. Internal security is assured by the national police, local police forces and the maritime police. Authorities are considered to observe legal safeguards against arbitrary arrest and detention generally. Conditions in the country's few prisons and jail facilities are reportedly below international standards. Women generally receive equal treatment under the law and are often held under house arrest due to the lack of facilities for women in jails. There are no separate facilities for juvenile offenders.

The government operates under a semi-presidential system, as set out in its 1979 Constitution. Elections are held every four years in universal suffrage of all citizens above 18, with each of the

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[137] Itaborahy, L. P. and Zhu, J. (2013). *State-sponsored Homophobia A world survey of laws prohibiting same sex activity between consenting adults*. International Lesbian Gay Bisexual Trans and Intersex Association (ILGA)

[138]Government of Marshall Islands(2019). *Gender Equality Act 2019.* Nitijera of the Republic of the Marshall Islands.

[139] SPC and EPSSO (2022).

[140] Ibid.

[141] Ibid.

[142] Refer to: https://natlex.ilo.org/dyn/natlex2/r/natlex/fe/details?p3_isn=102769&cs=10KXfj-SjZaIcFe4TiT75dGQJnl6fxI4BBZ-6_xpLrTVbf_JSNiAsNCJ84VPEQ4ajZ0Ne-4zXGciyEHzb3RQzsA.

[143] University of Hawaii at Mānoa (2023). *Laws of South Pacific Island Nations: Republic of the Marshall Islands (RMI)*, updated on 13 July, at: https://law-hawaii.libguides.com/pacificislands/RMI.

[144] UN Human Rights Council (2020). *National report submitted in accordance with paragraph 5 of the annex to Human Rights Council resolution 16/21 Marshall Islands*. February, Working Group on the Universal Periodic Review Thirty-sixth session.

twenty-four constituencies electing one or more representatives (senators) to the lower house of Marshall Islands' legislature, the Nitijela. The twenty-four electoral districts into which the country is divided correspond to the inhabited islands and atolls. The President of Marshall Islands is elected by the 33 senators of the Nitijela. Legislative power lies with the lower house. The upper house of parliament, called the Council of Iroij, is an advisory body comprising twelve paramount chiefs. The executive branch consists of the President and the Presidential Cabinet, on which ten ministers serve. There is currently only one female minister in the cabinet and one female senator (out of 33) in the Nitijela.[145] It is noteworthy that Hilda Heine became the first female President in the entire Pacific in January 2016 (until January 2020).

[145] Encyclopedia Britannica (2023).

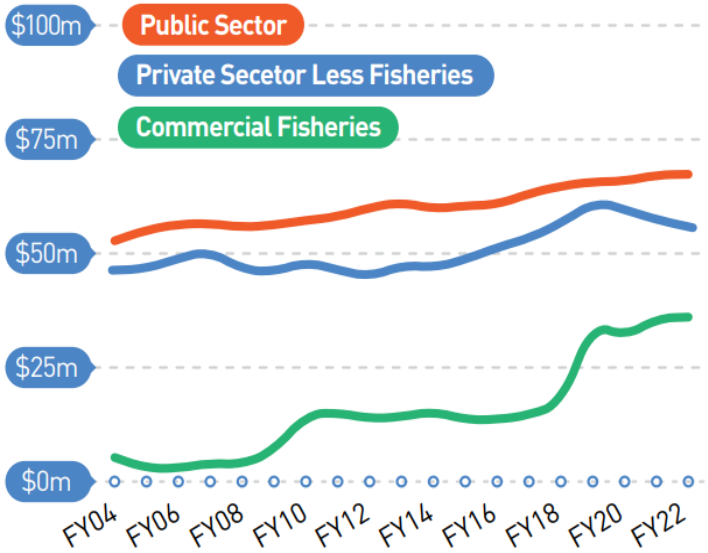
4. Prosperity

Marshall Islands has faced multiple challenges in strengthening its economy. The islands' persistent structural challenges include a narrow economic base, geographical remoteness, near-total dependence on imported foods and fuels, limited sources of revenue (e.g., fishery licenses and vessel registrations) and poor infrastructure. These challenges, coupled with the nascent private sector, make Marshall Islands heavily dependent on external aid, predominantly the United States' CoFA funds. The islands' economic development is also constrained by a shortage of skilled workers, overcrowding of the capital Majuro and Ebeye, and growing vulnerability to climate change. This section addresses Marshall Islands' unique challenges for fostering its economy in sustainable, inclusive and resilient ways. It focuses on eight key topics, namely: (i) macroeconomic overview; (ii) trade and investment; (iii) remittance; (iv) agriculture; (v) fisheries; (vi) transport; (vii) tourism; and (viii) infrastructure and digitalization.

4.1. Macroeconomic overview

Marshall Islands is an upper-middle-income economy and a medium human development country.[146] Marshall Islands' economy depends heavily on foreign assistance, fisheries and vessel registration for public and private sector revenues (see figure 21). However, these income sources can be volatile, as well as subject to negotiations with other nations and foreign private sector operators.

Figure 21 Sectoral contributions to the Marshallese economy



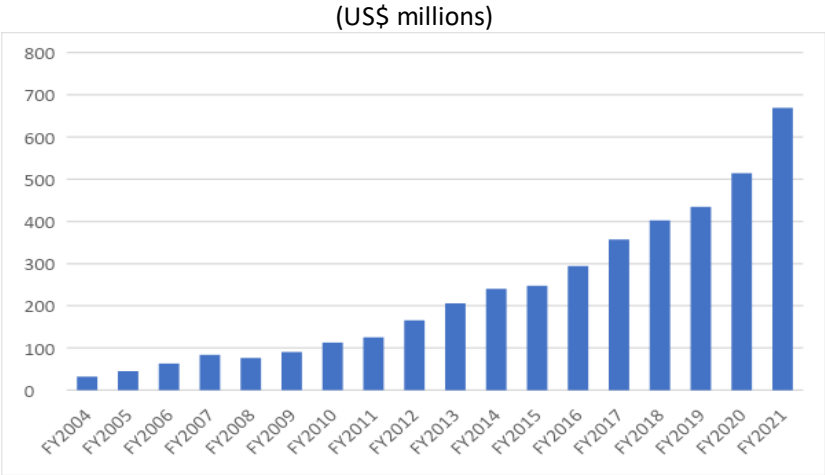
Source: Graduate School USA (2022a).

The country receives ample, long-term assistance from the United States, under the CoFA, which secures the island nation's defence and provides financial assistance and access to US federal services and labour markets. Marshall Islands also provides the United States exclusive rights to operate military bases in its territories. The loss of the islands' fiscal management would be only partially compensated by disbursements from the Compact trust fund set up for this purpose. The nation would face substantial budget deficits if it did not adopt offsetting policy measures, although the trust fund has steadily grown in the past two decades (see figure 22). The

[146] UNDP (2023); World Bank (2023).

government is the largest employer of the workforce, while the services and banking sectors are relatively well-developed and represent about half of the country's real GDP. The government is attempting to develop the country's marine resources (fishing and aquaculture), as well as tourism. Marshall Islands also plays a vital role in the international shipping industry as a flag of convenience for commercial vessels.[147]

Figure 22 Growing Compact trust fund



Source: Developed based on the Graduate School USA (2022a).

Before the pandemic, Marshall Islands recorded five consecutive years of growth; the most extended period of sustained economic expansion since 2003, driven by solid fishery and construction activities.[148] In March 2020, the islands closed its borders, which resulted in GDP contracting by 1.8 per cent in 2020 and just 1.1 per cent and -0.9 per cent growth in 2021 and 2022, respectively, mainly due to the loss of fishing license revenues and some shift in the supply of remittances. The ADB forecasts 2.2 per cent and 2.5 per cent GDP growth in 2023 and 2024, respectively.[149] Marshall Islands' debt-to-GDP ratio was moderate at 27.5 per cent in 2020, and is expected to decrease to slightly over 20 per cent in the next few years, thanks to grant assistance from development partners (international aid contributes over half of the state budget), along with the government's funds from domestic resource mobilization and reprioritization of expenditures.[150] Public debt levels are lower than the regional average, but the country's budget deficit is expected to increase in the long term under current policies.

The island nation did a commendable job in keeping COVID-19 under control, and in responding with a solid social protection and economic stimulus package. The government introduced a comprehensive fiscal support package to mitigate the socio-economic impact of the measures taken to control the COVID-19 pandemic. The size of the "COVID-19 Response Plan for FY2020–21" was augmented, from US$42 million (18 per cent of GDP) in June 2020 to about US$63

[147] International Registries, Inc. (Undated). *Maritime Vessel Registration*, available at: https://www.register-iri.com/maritime/vessel-registration/.

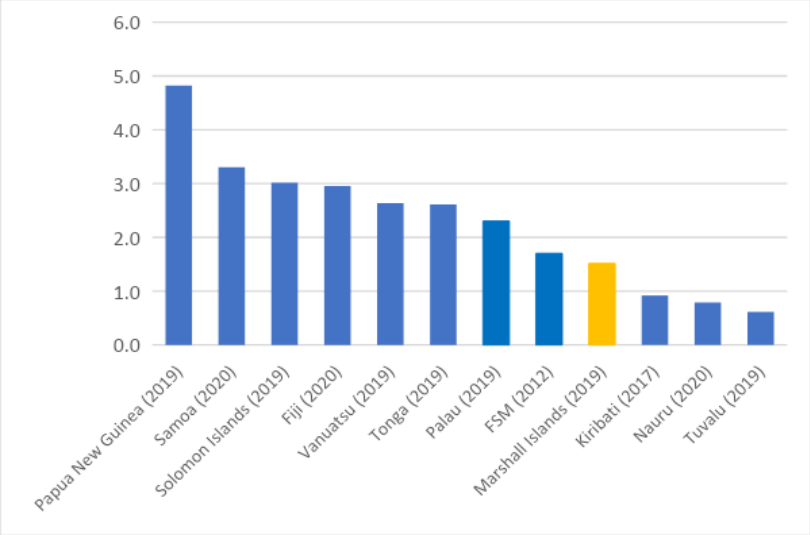
[148] International Monetary Fund (IMF) (2021). *Republic of the Marshall Islands Staff Report for the 2021 Article IV Consultation*. 6 May. Washington DC: IMF.

[149] ADB (2023).

[150] International Monetary Fund (IMF) (2023). *Republic of the Marshall Islands Staff Report for the 2023 Article IV Consultation*. 30 August. Washington DC: IMF.

million (27 per cent of GDP) in 2021.[151] In the post-pandemic period, Marshall Islands needs a gradual fiscal consolidation to reduce a fiscal cliff risk in volatile income patterns, protect long-term revenues, and build fiscal buffers to meet rising financing needs in infrastructure and human resource development and institutional capacity building. Figure 23 illustrates that trend by comparing the government's contribution to the economy with the neighbouring countries in the Pacific. While the private sector in Marshall Islands is more active than some neighbouring countries, such as Kiribati, Nauru and Tuvalu, the government plays a more dominant role than many others, including Palau and FSM

Figure 23 Government's contribution to the economy, compared



Source: Calculated based on the data of World Bank (2023).
Note: The figure shows how many times GDP is the national budget. The higher this number, the larger the private sector.

4.2. Trade and investment

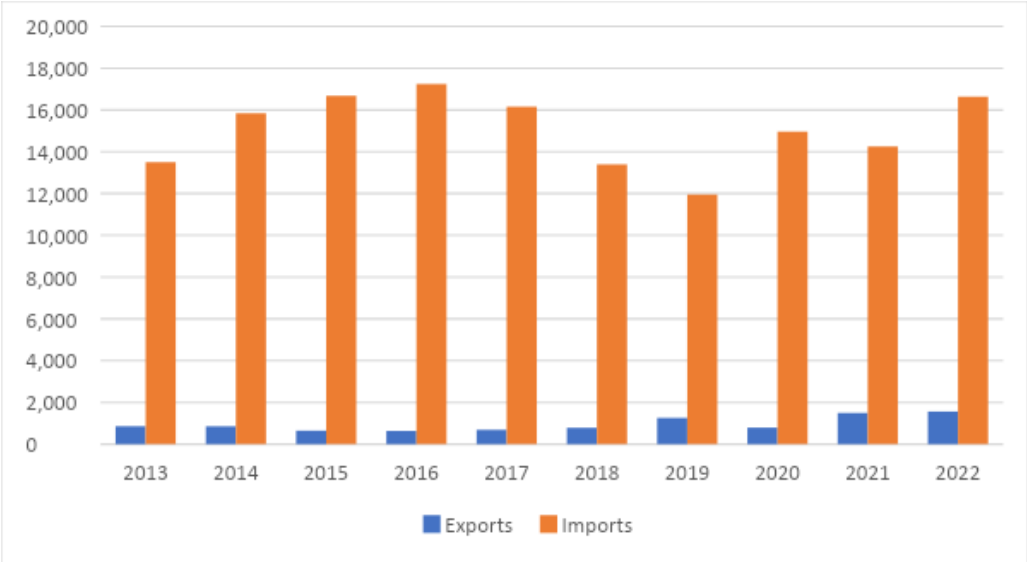
Given it heavy reliance on imported foods, goods and fuels, Marshall Islands has experienced large trade deficits in goods (see figure 24). Despite recent export growth, thanks to increased demands on ships and boats in the European Union (EU), the nation will maintain a significant imbalance between imports and exports. The export of vessels accounted for 89 per cent of Marshall Islands' total exports in 2022. Its other main exports include copra oil and fish. Ships, boats and floating structures also comprised more than 45 per cent of the imported value in 2022. Due to its focus on international ship registrations, Marshall Islands' top three export markets in 2022 were the Netherlands (25 per cent), Germany (23 per cent) and Denmark (11 per cent), while the top three import markets were Singapore (33 per cent), China (21 per cent) and the Republic of Korea (20 per cent).[152] Frozen fish and boats provide the most significant export potential for Marshall Islands.

[151] IMF (2021).

[152] International Trade Centre (ITC) (2023). *Trade Map*, at: https://www.trademap.org/Index.aspx.

Figure 24 Trade balance in goods

in US$ millions



Source: Developed based on ITC (2023).

Marshall Islands has attracted little foreign direct investment (FDI).[153] The islands' FDI regulation prohibits foreigners' entrance into specific business sectors, such as agriculture, mariculture, bakeries and motor garages, protected solely for local citizens' operations.[154] Its small and widely scattered markets with traditional landownership and other obstacles (e.g., lack of skilled labour and affordable business services) have discouraged investors' serious consideration of Marshall Islands as an investment destination. However, foreign entities in any sector, except for insurance, trust or banking services, can register as a "non-resident domestic corporation".[155] This means that Marshall Islands can function as a "tax haven" for some foreign companies, while contributing little to the domestic economy.[156]

4.3. Remittances

In Marshall Islands, remittances are a widespread source of income for households, with about half of rural families receiving inward remittances, compared with one-third in Majuro and two-thirds in Kwajalein.[157] Inward remittances to resident Marshallese is the highest in Micronesia, at nearly 11 per cent of GDP in 2022 (see figure 25). However, it is incompatible with those in the South Pacific. For example, Tonga received remittances as high as 46.2 per cent of GDP in 2021, while Samoa and Vanuatu experienced inflows of 33.6 per cent and 15.3 per cent, respectively, also in 2022. All three South Pacific nations participate in labour mobility schemes with Australia and New Zealand. The adverse impact of COVID-19 on Marshallese migrant workers abroad was apparent, as well as a rise in unemployment among the diaspora

[153] UNCTAD (2023). *World Investment Report 2023: Investing in Sustainable Energy for All*. Geneva: The United Nations.

[154] Marshall Islands (2000). *Foreign Investment Business License Regulations 2000, Amended*.

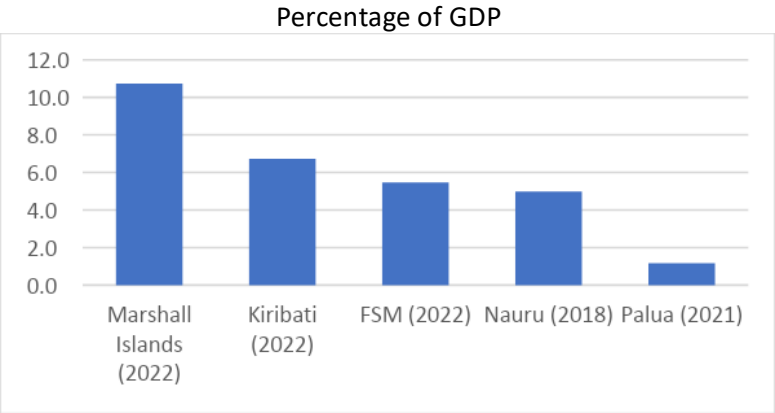
[155] Marshall Islands (1990). *Business Corporations Act 1990*.

[156] JICA and QUNIE Corporation (2022). *Information collection and fact check research on economic and major sectors for sustainable economic growth in the Pacific*, March.

[157] SPC and EPSSO (2022).

community in the United States has been noted, possibly affecting remittances back to the home islands.

Figure 25 Remittance inflows in Marshall Islands and other countries in Micronesia



Source: Developed based on the World Bank (2023).

4.4. Agriculture

Agricultural production represents a small proportion of the Marshallese economy, accounting for around four per cent of GDP.[158] It is generally small-scale and for subsistence only, constrained by relatively infertile soil and poor growing conditions, as well as a lack of investment, and transport and market access challenges.[159] A small proportion of the labour force is engaged in agriculture or forestry as their leading economic activity.

Coconuts provide livelihoods for many Marshallese, with coconut oil and copra being the country's leading commodity exports.[160] Handicrafts made from wood from coastal trees also offer opportunities for modest export businesses. Pandanus is widely used to make products ranging from food and juice to handicrafts, furniture, roofing thatch, building poles and wall panels. The growth of the agriculture sector could help to develop the private sector, and reduce the reliance on imported food that often lacks nutritional value and could pose health risks.[161] Innovative approaches to agriculture, such as hydroponics and vertical gardening, could efficiently produce nutrient-dense foods, but more innovation is needed.

Box 3 Vertical farming in an atoll nation

As an atoll nation, Marshall Islands could develop vertical farms to address erratic weather events, poor food security, heavy dependence on imported foods, growing urban population and arable land shortages. Vertical farming could solve these intensifying issues by achieving healthy food production and supply, regardless of the atolls' soil fertility.

[158] The Government of Marshall Islands (2021). *Republic of the Marshall Islands Voluntary National Review (VNR).*

[159] Food and Agriculture Organisation (FAO) (2014). *Policy Options for Improved Food Security in the Republic of Marshall Islands.*

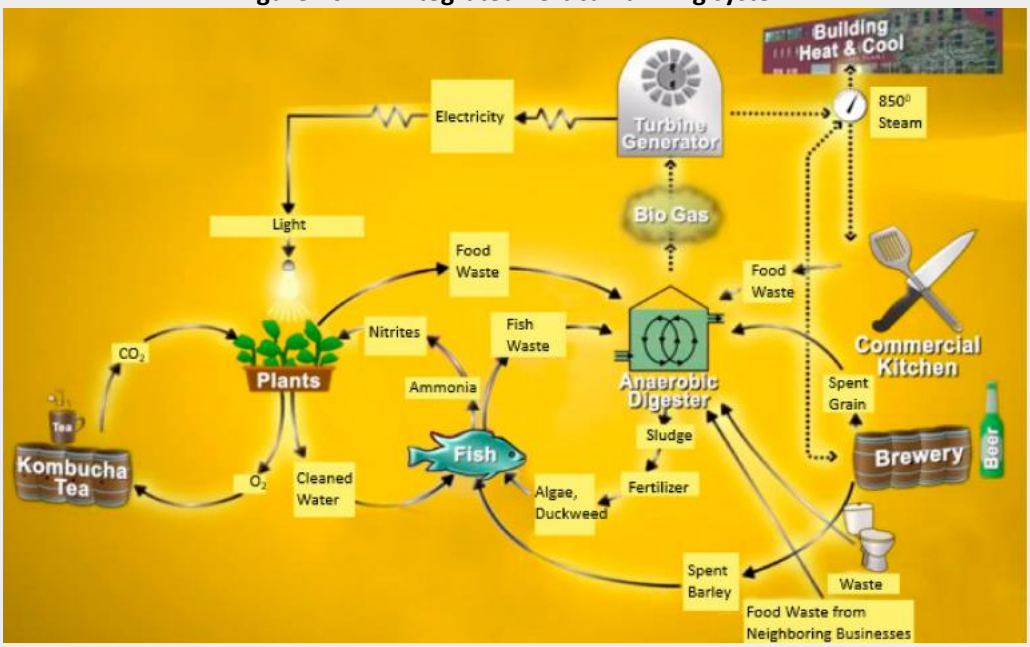
[160] ITC (2023).

[161] Government of Marshall Islands (2021). *DRAFT Food Systems Pathway: Transforming the Marshall Islands Food System by 2030*.

Numerous urban planners and agricultural leaders in developed countries have proposed the concept of vertical farming to alleviate various socioeconomic and environmental issues driven by urbanization and associated greenhouse gas (CO2) emissions.[162] Vertical farming is categorized into several types: (i) a farming in tall structures with several levels of growing beds often lined with artificial lights; (ii) a farm on the rooftops of old and new buildings; and (iii) an integrated farm producing crops, foods and meats at the same premise.[163] This agricultural concept aims to meet growing urban demands and solve the lack of local food supplies, while reducing costs, waste and pollution, and offering affordable food substitutes.

Recent advances in hydroponics, aeroponics and aquaponics can provide technologies necessary for the success of vertical farming (see figure 26 as an example). In this vein, UNDP and IOM have jointly implemented a crop farming pilot project on solar-run vertical aeroponic gardens on Mejatto Island, part of Kwajalein Atoll.[164] For its future endeavour, however, Marshall Islands will need to address commercial sustainability, regulations and a lack of expertise and funds as significant obstacles in implementing vertical farming on its atolls.

Figure 26 An integrated vertical farming system



Source: US Environmental Protection Agency (undated). *AgSTAR: Biogas Recovery in the Agriculture Sector,* at: https://www.epa.gov/agstar.

4.5. Fisheries

The post-pandemic recovery gives Marshall Islands a renewed opportunity to reboot its economy to be more resilient, diversified and sustainable around its leading sector – fisheries. However, as Marshall Islands does not have a sufficient fishing fleet to fish the abundant tuna

[162] Al-Kodmany, K. (2018). "The Vertical Farm: A Review of Developments and Implications for the Vertical City", *Buildings*, 8(2), 24.

[163] Ibid.

[164] UNDP and IOM (undated). *Solar-run vertical aeroponic Towers: Pilot Project Description*, available at: https://www.undp.org/sites/g/files/zskgke326/files/migration/pacific/pilot-initiative-briefs-marshall-islands.pdf.

resources in its EEZ, the country has sold fishing rights to various foreign interests. Promoting more significant private sector investment, whether from domestic or foreign sources, could do much to innovate, invigorate and inspire new elements of Marshall Islands' future fishery sector.

With a transhipment system operating since the late 1990s, Majuro has been the world's leading tuna transhipment port. Transhipments generate considerable revenues for the government and create jobs related to transhipment-related services, particularly since the implementation of the Vessel Day Scheme (VDS) of the Palau Arrangement for the Management of the Western Pacific Fishery, under the Nauru Agreement of 2010.[165] The Majuro port also collects pilotage, anchorage and wharfage fees. Fishing fees increased markedly, from less than one per cent of GDP in 2004 to 12 per cent in 2020.[166] The average annual tuna access fees for 2015-2018 was US$31 million, equivalent to 48 per cent of total government revenues.[167] Fisheries also provide the largest private sector source of employment, equivalent to 7.5 per cent of jobs in 2016.[168] However, increases in tuna catches have not been matched by increases in locally-based post-harvest and processing capacity, as only one processing facility is operational. If onshore processing facilities are expanded, more jobs and income opportunities could be created locally, including processing, cold storage and containerization.[169] (It is worth noting that the COVID-19 pandemic and associated port entry controls in early 2020 resulted in a 60 per cent decline in transhipment activities.[170]

4.6. Shipping

Marshall Islands is ranked third worldwide in foreign ship registrations, after Liberia and Panama.[171] The three countries, which account for one-third of shipping's global carbon emissions, must enforce low-carbon shipping standards (figure 27). But the onus for investing in alternative fuels, bunkering facilities and greener ships falls largely on ship owners, ports and the energy-producing industry.[172] The shipping industry's greenhouse gas emissions, which account for three per cent of the global total, have increased by 20 per cent over the last decade.[173]

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[165] The Palau Arrangement's VDS is the largest and most complex fishery management arrangement ever to be put in place, at least in terms of the value of the fishery, the area covered and the multi-national nature of the fishery.

[166] UNDP (2019*). Development Finance Assessment for Republic of The Marshall Islands: Leveraging Finance for Sustainable Development*.

[167] Bell, J. D., *et al*. (2021). "Pathways to sustaining tuna-dependent Pacific Island economies during climate change", *Nature Sustainability*, 4, 900–10.

[168] Ibid.

[169] Government of Marshall Islands (2021). *The purse seine tuna fishery value chain in the Republic of the Marshall Islands: Phase 1 project design*. August.

[170] Johnson, G. (2021). "Tuna transshipment in Majuro shows first sign of rebound. In the wake of the Marshall Islands government dropping its 14-day quarantine period for fishing boats to enter Majuro lagoon, tuna transshipment activity leaped during May, doubling the totals of the previous four months", *Radio New Zealand*, June.

[171] UNCTAD (2023). *Review of Maritime Transport 2023: Towards a green and just transition*. Visit: https://unctad.org/publication/review-maritime-transport-2023.

[172] Ibid.

[173] Ibid.

Figure 27 Carbon dioxide emissions by flags of registration, in tonnes

	Country	2012	2022
1	Liberia	84,234,832	116,604,626
2	Panama	133,942,472	113,840,759
3	Marshall Islands	45,270,368	88,611,254
4	China, Hong Kong SAR	46,350,802	63,030,146
5	Singapore	40,511,064	55,007,389
6	Malta	27,002,673	46,599,011
7	China	18,441,308	34,892,234
8	Bahamas	32,054,279	33,102,919
9	Japan	14,084,980	22,207,515
10	Denmark (Dis)	11,734,910	16,887,869

Source: UNCTAD (2023).

Marshall Islands' low level of maritime connectivity is also a major obstacle to its economic development, since the nation consists of remote and dispersed islands and atolls, and maritime transport is the main option for moving cargo internationally and domestically. The limited size of Marshallese markets leaves little room for competition between maritime companies, resulting in high transport costs. This situation limits the potential of greater intra-regional trade, which represents less than a third of the value of the overall trade of the Pacific.[174]

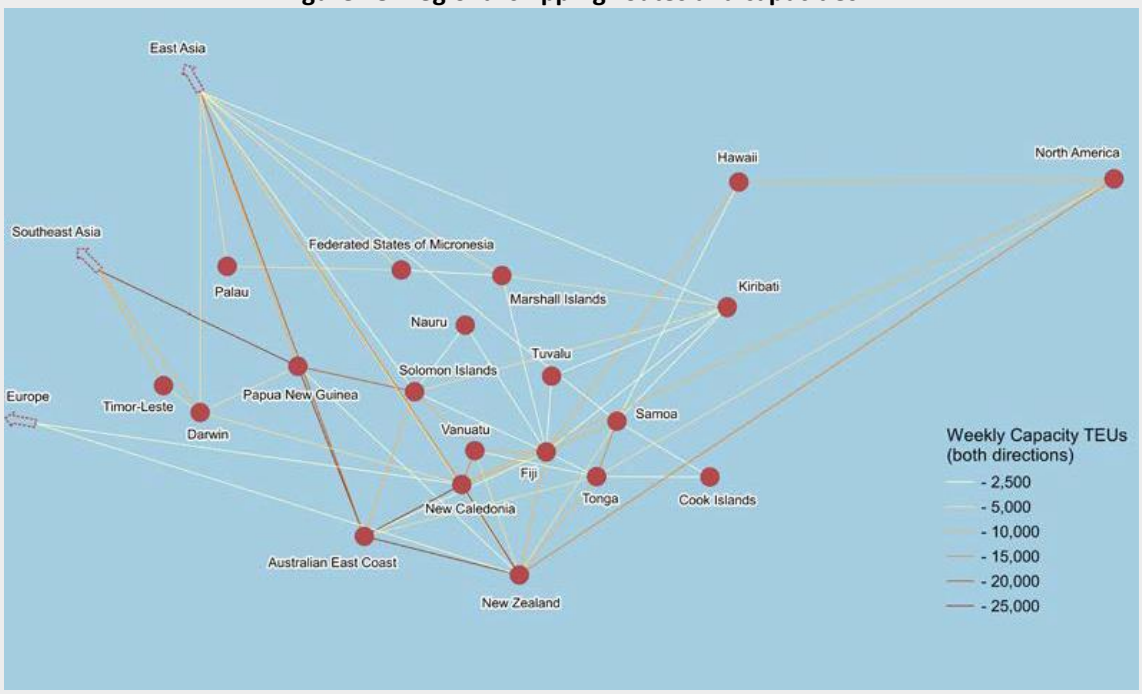
Box 4 Shipping routes, capacities and hub ports in the Pacific

The total service capacities and ocean routes provided between PICTs and the Pacific Rim countries (e.g., Australia, China, Japan, New Zealand, Singapore and the United States) are shown in Figure 28. A small number of large shipping lines and consortia carry significant transport flows, operating vessels up to 20,000 twenty-foot equivalent units (TEUs) in capacity, up to 400 meters in length overall, and over 200,000 deadweight tonnages (DWTs). These shipping lines carry high volumes of goods across the Pacific between the Pacific Rim countries in vessels of up to about 13,000 TEUs capacity, either directly or via transhipment ports in ocean transport hub countries or territories, such as Australia, Fiji, Hawaii, New Caledonia, New Zealand, Papua New Guinea and Solomon Islands.[175]

[174] United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) and United Nations Conference on Trade and Development (UNCTAD) (2022). Analysis of maritime connectivity in the Association of Southeast Asia Nations and small island developing States in the Pacific. Available at https://unctad.org/system/files/official-document/dtltlb2022d1_en.pdf.

[175] ADB (2020). *Trade and Maritime Transport Trends in the Pacific,* November.

Figure 28 Regional shipping routes and capacities



Source: ADB (2020). *Trade and Maritime Transport Trends in the Pacific*, November, P. 7.
Notes: TEU = twenty-foot equivalent unit. East Asia includes China; Hong Kong, China; Japan; the Republic of Korea; and the Taiwan Province of China. North America includes Canada and the United States. South East Asia includes Indonesia, Malaysia and Singapore.

4.7. Tourism

Although Marshall Islands does not currently rely on the tourism sector, its development provides immediate opportunities for the islands, albeit from a relatively low base point. Increasing visitor arrivals through niche tourism (e.g., ecotourism, history tourism and astrotourism) could usefully contribute to private sector diversification, increase demand for local businesses, and better harness and preserve some local and traditional skill sets and handicrafts, as well as socio-cultural resources.

The COVID-19 pandemic disrupted the private sector's operations of tourism and hospitality services, as well as many related supply chains (e.g., retailing and wholesaling), mainly since the country imports most of its essential foods and items with limited operational cash reserve. Although tourism is only a moderate contributor to Marshallese economy (nine per cent of GDP),[176] the impact was estimated to be high due to the sheer severity of the disruption.[177] Most tourism businesses in the islands are micro, small or medium-sized enterprises (MSMEs), and the impact experienced by tourism companies resulted in material job losses, which before COVID-19 represented approximately six per cent of total employment. Businesses closely connected to tourism, notably aviation, were also affected, albeit to a lesser degree.[178]

[176] The hotel and restaurant sector represents in Marshall Islands only 2.3 per cent of the GDP in 2021.

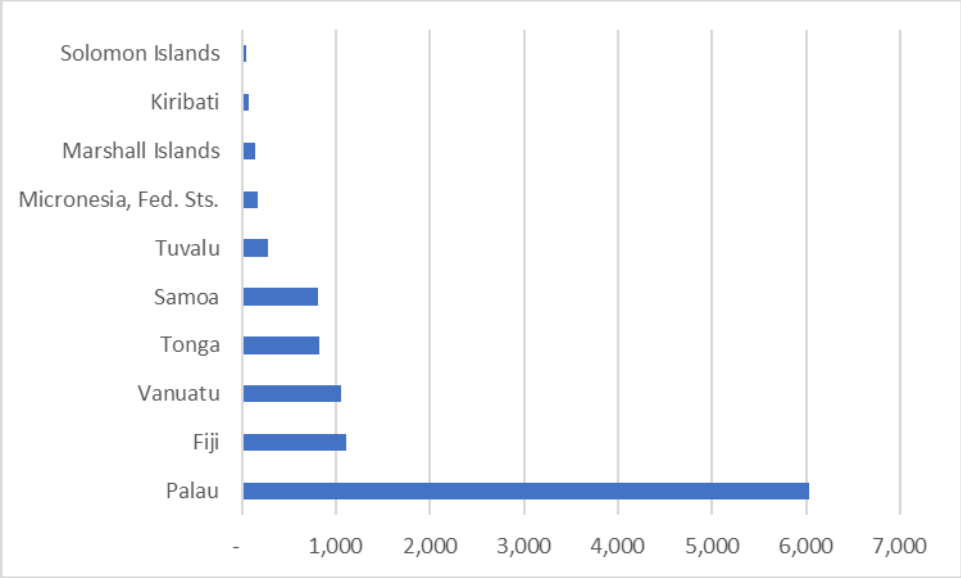
[177] Graduate School USA (2022a). *This level of disruption is unprecedented, given the halt to all international arrivals in March 2020*.

[178] Most businesses have other revenue streams, in addition to goods and services provided to tourists. In times of downturn, tourism-linked businesses are more likely to implement reduced working hours before terminating jobs.

Figure 29 presents the trends of international tourist arrivals in Marshall Islands and other select PICTs before the COVID-19 pandemic. Marshall Islands attracted a small number of tourists compared with its population size. Note that the PICTs in the South Pacific (i.e., Fiji, Vanuatu, Tonga, Samoa and Tuvalu) have tended to receive more tourists than their North Pacific counterparts (i.e., FSM, Marshall Islands and Kiribati).

Figure 29 Pre-pandemic tourist arrivals in the PICTs

Three-year average per 1,000 citizens, 2017-2019



Source: Developed based on the World Bank (2023).

Tourism offers Marshall Islands untapped and rare potential for growth in income and employment creation, leveraging the beauty of Marshallese atolls and oceans. There is a need to market the destination in a more targeted manner. There is also a need for public investment in enabling infrastructures to incentivize private investment in accommodation facilities, such as joint ventures in the outer atolls, and to develop inclusive ecotourism products that value the rich culture and tradition of Marshallese. However, the tourism sector development faces challenges due to the high cost of access to the islands for inbound tourists.

Effective tourist promotion to attract foreign tourists requires favourable local conditions (e.g., accommodation, transport connectivity and professional skills) and the presence of international hotel operators and marketing agencies to become a recognized destination. While the private sector alone might be relied upon to pursue some investments, others may require public funding, or at least co-financing, for developing infrastructure and utilities for the fishery and tourism sectors. Advances in public-private partnership and blended finance could also open promising new avenues for Marshall Islands to explore and better leverage private sector funds with those of the public sector and development partners.

Box 5 Blue-ocean tourism

"Blue-ocean tourism" discourse has recently gained more attention as a driver of climate change adaptation and mitigation.[179] It is considered an emerging strategy to promote income generation and job creation, mainly by strengthening a small island's tourism industry and proactively responding to (and seeking to reverse) declining environmental conditions.

Massive environmental challenges can be seen today and will continue to increase, and the oceans and life underwater are not spared from these developments. While contributing only a tiny fraction to worldwide GHG emissions, as an atoll nation Marshall Islands is among the most affected by climate change.[180] On the other hand, it is also true that the tourism sector and its related activities pose considerable environmental stress; for instance, due to its high energy consumption, the industry significantly contributes to global CO_2 emissions.[181] Hence, integrating sustainability into tourism development policies is a fundamental step toward building a profitable and long-lasting tourism industry in Marshall Islands.[182] There is a need to be strategic in this approach, and to avoid some of the erroneous approaches to economic growth, at the expense of the environment, taken in the past. The design and implementation of a national, comprehensive "blue ocean tourism" development plan for Marshall Islands might be an excellent place to start.

4.8. Infrastructure

Improving infrastructure, e.g., power, water, transport and communications, will make a significant impact on economic growth, social development and citizens' livelihoods. It makes sense to improve upon infrastructure most compatible with future needs, where feasible, such as diversifying energy sources, utilizing energy-saving technologies and renewables, possessing water-efficient features and connecting islands and atolls through submarine internet cables. In this sense, infrastructural investments in support of its fishery and tourism sectors also need to support other fields of economic activities, so that a more diversified and resilient economy can be developed.

The electricity sector in Marshall Islands is primarily based on diesel generators, which are the main source of power for the country at present. The private sector faces an issue in accessing electricity in the islands. The government has made efforts to increase the use of renewable energy sources in its electricity mix, investing in solar power to achieve this, with several solar projects currently in operation or under development. In addition, Marshall Islands has explored the potential for wind power, although the country's small size and lack of suitable wind resources limit the viability of this option. Marshall Islands has also implemented energy efficiency measures, such as using LED lighting and adopting energy-efficient appliances.

[179] Wolf, *et al.* (2021). "Influences of Climate Change on Tourism Development in Small Pacific Island States", *Sustainability*, 13 (8).

[180] Althor, Watson and Fuller (2016).

[181] Wolf, *et al.* (2021).

[182] Bhattacharya, P. and Dash, A. K. (2021). *Determinants of blue economy in Asia-Pacific island countries: A study of tourism and fisheries sectors*. Available at: https://www.semanticscholar.org/paper/Determinants-of-blue-economy-in-Asia-Pacific-island-Bhattacharya-Dash/f5d17c9e81c77d53629765d7a132f52147623652.

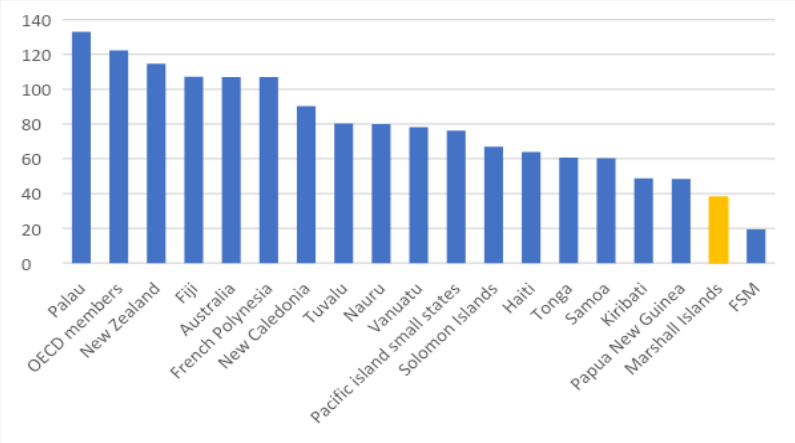
The primary water source in Marshall Islands is rainwater and groundwater, stored by various means and extracted from wells throughout the islands. The water is treated at various small-sized treatment plants and then distributed to residential and commercial customers through a network of pipes and tanks. There are also several private companies that offer water-related services, such as water delivery, water treatment and water filtration systems, in Marshall Islands.

In this vein, infrastructure and utility provisions require the private sector's involvement and investment. For example, the need for improved processing of solid waste and recycling capacity might contain a private sector component, as might solar and offshore (wind and tidal) electricity generation. One of the strategies that can boost the private sector's participation in infrastructure projects, which is especially crucial for Marshall Islands' climate change mitigation and adaptation (for more details, see the next chapter on "planet"), is the PPP model in support of (public) development partners and (private) FDI inputs. There may also be scope for the use of blended finance.

4.9. Digitalization

Marshall Islands lags behind global trends in digitalization.[183] Figure 30 provides evidence of the status of Marshall Islands' digitalization. Although mobile broadband services have improved recently, especially after the submarine cable connection of 2010, fixed broadband is still constrained for speed. The inter-island disparity in access to both broadband variants is high, with limited connectivity outside Majuro and Ebeye. There is no legal framework to support and build trust in digital services provided either by the government or by private operators.[184] Further improvements in domestic telecommunication and information technology services are imperative if the country wishes to avail itself of the opportunities digitalization provides, from e-government public services, particularly health, education and administrative processes, to e-trade and personal communications. This is one area where private capital and technical support are active, and Marshall Islands should seek to leverage the private sector's involvement in the field.

Figure 30 Mobile phone subscription per 100 people



[183] United Nations Department of Economic and Social Affairs (DESA) (2023). "E-Government Development Index (EGDI)," *UN E-Government Knowledgebase*, available at: https://publicadministration.un.org/egovkb/en-us/About/Overview/-E-Government-Development-Index.

[184] World Bank (2021). *Project Appraisal Document for the Digital Republic of the Marshall Islands Project*.

Source: Developed based on the World Bank (2023).
Note: Most recent year, either 2021 or 2022.

The government made crypto-currency legal tender in 2018, making it the first country in the world to do so. The IMF subsequently advised Marshall Islands to repeal its central bank digital currency (CBDC). While the IMF is generally favourably inclined towards CBDCs, it pressed Marshall Islands to refrain from proceeding with the CBDC project, suggesting that the country was not yet ready for it. The project has been put on hold while the government works on its feasibility study.[185] Such a step into the world of crypto-currencies is not without integrity risks, but signals an intention to innovate and pursue new opportunities in the financial orbit.

Box 6 Digitalization as the future of Marshall Islands

Digitalization, made in providing a range of business and consumer services as a function of advances in ICT and the Internet, can potentially lessen some of the constraints that have traditionally put Marshall Islands and other PICTs at a distinct disadvantage. For example, advances in digitalization are creating business models where economies of scale are much less critical and where operating costs and transaction costs are lowered, so services previously deemed unviable for a small economy like Maeshall Islands are for the first time commercially viable prospects. If advances in digitalization can mitigate at least some of the economies of scale that have traditionally served to constrain economic development in Marshall Islands and other PICTs and virtually lessen their geographic remoteness, that would be a very significant "win." Improved internet connectivity, particularly with outer islands and atolls, will likely be a critical element for sustainable economic growth in the years ahead.

[185] Jahan, *et al*. (2022). "Towards Central Bank Digital Currencies in Asia and the Pacific: Results of a Regional Survey," *IMF Fintech Note 2022/009*, International Monetary Fund, Washington, DC.

5. Planet

Strengthening resilience to climate change and other environmental issues is essential for Marshall Islands' sustainable development. Such a trajectory requires timely implement adaptation and mitigation strategies, strengthen governance and financing and enhance socioeconomic resilience. This section of the study addresses three critical development issues in Marshall Islands under the planet pillar of the SDGs: (i) environment, biodiversity, climate change and natural disasters; (ii) the blue economy; and (iii) multi-dimensional vulnerability index (MVI) for SIDS.

5.1. Environment, biodiversity, climate change and natural disasters

Marshall Islands' weather is moist and tropical with an average annual temperature of 27 Celsius. The islands have a dry season from December to April and a wet season from May to November, with yearly rainfall varying within the archipelago. The northern atolls receive only 100-175 centimetres of rain each year, while the southern atolls receive 300-340 centimetres of rain each year.[186] However, *El Niño*, a climate periodic event involving changes in the temperature of waters in the equatorial Pacific Ocean, often changes the climate patterns dramatically and increases national disaster risks, such as droughts and tropical cyclones.[187]

The low-lying islands have atiny remnant of natural forests, but possess extensive coconut plantations and agroforests which cover about 70 per cent of the land area. There are about 22 native tree species, primarily found in narrow bands of remnant coastal forests which provide vital windbreaks against salt-laden winds and protection for agroforests and crops.[188] Invasive plant species in Marshall Islands include yellow alder, Spanish needle, creeping oxeye, lead tree and several weeds and grasses.[189] Insects causing concern include fruit flies, mealybugs and coconut scales. Although Marshall Islands has not yet suffered damage from invasive species to the extent of some other island nations, the low biodiversity profile of the islands turns these into a severe risk for the country.

Box 7 Coconut rhino beetle

Coconut rhino beetles are a new invasive pest to Marshall Islands and other PICTs, such as Fiji, New Caledonia, Palau, Papua New Guinea, Samoa, Solomon Islands, Vanuatu, and US territories, such as Hawaii, Guam and the Northern Marianas. The beetles have the potential to devastate

[186] Subbarao, S. and Mucadam, R. (2015). *Second National Communication of the Republic of the Marshall Islands*. Suva, Fiji: Global Environment Facility, United Nations Development Programme.

[187] Visit: The site of the National Weather Service, National Oceanic and Atmospheric Administration, US Department of Commerce, at https://www.weather.gov/media/peac/one_pagers/El%20Nino%20Impacts%20on%20the%20RMI.pdf.

[188] Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australian Bureau of Meteorology and Secretariat of the Pacific Regional Environment Programme (SPREP) (2015). *Climate in the Pacific: a regional summary of new science and management tools, Pacific-Australia Climate Change Science and Adaptation Planning Program Summary Report*. Melbourne, Australia: Commonwealth Scientific and Industrial Research Organisation.

[189] Government of Marshall Islands (2015). *National Invasive Species Strategy and Action Plan 2016-2021*. Secretariat of the Pacific Regional Environmental Programme (SPREP), Republic of the Marshall Islands Office of Environmental Planning and Policy Coordination, Global Environment Facility (GEF) and United Nations Environment Programme (UNEP).

any island's coconut industry, as well as the livelihoods of thousands of people who depend on it. Marshall Islands has been battling the spread of the destructive beetles for years. In September 2023, the government confirmed the presence of the beetles on Majuro. In October of the same year, a State of Emergency regarding coconut rhino beetles was proclaimed to implement an emergency response against the destructive beetles.[190]

Marshall Islands is exposed to relatively high climate change risks, including natural hazards such as coastal floods (high risk), tsunamis and extreme heat (medium risk).[191] The country Islnds also faces seasonable droughts, tropical storms and cyclones.[192] Sea level rise is the single biggest threat to Marshall Islands, with its highest point being just 10 metres above the sea and the average elevation of most islands being approximately two metres. Associated coastal flooding also poses a significant threat to Marshall Islands.[193] The islands' dense population and infrastructure are located on its coastlines, leaving them exposed to hazards and climate impacts.[194] Marshall Islands is presently assessed as a medium-risk country concerning natural disasters and humanitarian crises; the highest in Micronesia. The degree of disaster risk is expected to rise along with the intensification of climate change-related impacts.[195]

These natural hazards often trigger second-order disasters such as marine pollution, ecosystem degradation, coastal erosion and food insecurity.[196] Atolls with insufficient rainwater storage capacity, like the outer atolls of the dry North (Utrik, Ailuk, Likiep, Wotho, Lae and Namu) are more vulnerable to water shortages during a high heat season. Storm surges and king tides, and increasing salinity of freshwater, pose significant ongoing risks to all vegetation. Climate change also increases the possibility of outbreaks of vector-borne diseases, such as dengue fever. Trans-boundary risk analysis to identify the areas of shared risks and common vulnerabilities in Marshall Islands needs further work.

Box 8 The first climate justice case on the ocean

In September 2023, a group of SIDS – Antigua and Barbuda, Bahamas, Niue, Palau, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Tuvalu and Vanuatu – threatened by rising sea levels took on high-emitting countries in a landmark hearing in Hamburg, Germany. The prime ministers of Tuvalu and Antigua and Barbuda were among those providing evidence at the

[190] Various news sources.

[191] Inter-Agency Standing Committee and the European Commission (2022). *Inform Report 2022; Shared evidence for managing crises and disasters*. Luxembourg: Publications Office of the European Union.

[192] UNDP (undated). *Republic of the Marshall Islands Pacific Adaptation to Climate Change Country Brief: Pacific Adaptation to Climate Change*.

[193] De Souza, M. (2017). ""I Don't Want to Leave My Country for Anything": Making the Decision to Migrate in the Marshall Islands", *New Security Beat*, 18 October, a blog of the Environmental Change and Security Program (ECSP). Wilson Center.

[194] Government of Marshall Islands and Pacific Humanitarian Team (2017). *Republic of the Marshall Islands Country Preparedness Package*. The Chief Secretary's Office and National Disaster Management Office.

[195] United Nations Office for Disaster Risk Reduction (2022). Disaster Risk Reduction in the Republic of Palau. see at https://www.undrr.org/publication/disaster-risk-reduction-republic-palau-status-report-2022.

[196] World Bank Group (2021). "Marshall Islands Climate Change Overview, Country Summary", *Climate Change Knowledge Portal*, see at https://climateknowledgeportal.worldbank.org/country/marshall-islands/vulnerability.

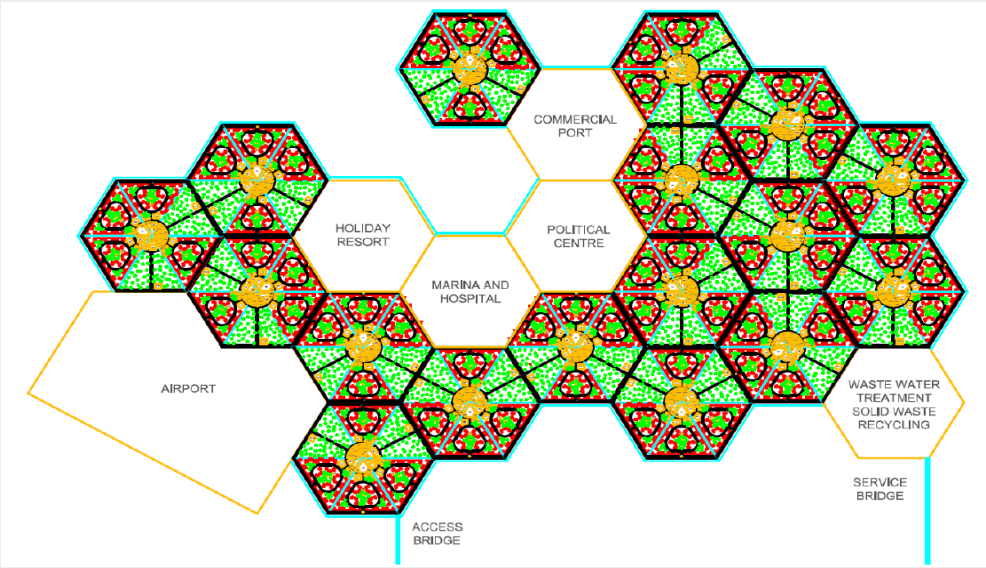
International Tribunal for the Law of the Sea (ITLOS). It was the first climate justice case centred on the ocean. The ITLOS will consider whether carbon emissions absorbed by the sea should be regarded as marine pollution and what obligations those high-emitting nations have to protect the marine environment.[197]

Climate change is not only causing environmental impacts but also socio-economic consequences. In the past 30 years, people have been displaced because of the impact of climate change.[198] The United Nations estimates that over 50,000 people in the Pacific are annually forced to move due to the devastating impacts of disasters and climate change.[199] Climate change impacts such as rising sea levels and more frequent natural disasters are expected to increase such displacement and migration, particularly on low-lying atolls, although more scientific and socio-economic studies are required.

Box 9 Floating islands

Marshall Islands, an atoll nation with entirely low-lying land, is highly vulnerable to global warming and rising sea levels. Floating artificial islands, designed for the inhabitants of Majuro, a coral atoll and high density capital, and Ebeye, another coral atoll with a large population, could provide a long-term solution to the nation for improving infrastructure, public services and quality of life for the people.[200] Figure 31 presents an example of a floating island platform.

Figure 31 Floating island layout



Source: Lister and Muk-Pavic (2015).

[197] McVeigh, K. (2023). "Small island nations take high-emitting countries to court to protect the ocean: Countries threatened by rising sea levels are asking a tribunal to decide on responsibility for pollution of the marine environment", *The Guardian*, 10 September.

[198] Yates, O. E. T. (2020). "Stories of Neighbours and Navigators: Perceptions and Implications of Climate Mobility from Tuvalu and Kiribati to Aotearoa New Zealand", *a thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy in Psychology*, the University of Auckland.

[199] The United Nations (2021). *Pacific Regional Consultation on Internal Displacement*. New York: The United Nations Secretary-General's High-Level Panel on Internal Displacement.

[200] Lister, N. and Muk-Pavic, E. (2015). "Sustainable artificial island concept for the Republic of Kiribati", *Ocean Engineering*, 98(1), 78-87.

Although the plan must be long-term and requires detailed engineering and financial considerations, it may increase the islands' sustainability and minimize future societal problems, while boosting the economy. Transitioning to an artificial island is would entail significant international support, both technical and financial. Developing floating islands may also be one of the plausible options to discourage migration to the United States. The United Nations HABITAT organized the two meetings of the United Nations Roundtable on Sustainable Floating Cities in New York in 2019 and 2022. Those meetings discussed the conceptual design of prototype floating cities.[201]

5.2. Blue economy

The "blue economy" strategy aims to achieve socio-economic progress while attaining ocean environmental protection and sustainable maritime resource extraction.[202] It refers to the sustainable use of ocean resources for economic growth, improved livelihoods and job creation; at the same time, preserving the health of the ocean ecosystem, spanning: fisheries, tourism, maritime transport, aquaculture, seabed extractive activities, marine biotechnology and bio-prospecting.[203]

Marshall Islands has focused on blue economy-based development in fisheries, vessel registration and tourism. In 2018, it identified specific policy priorities and sectors that could contribute to a sustainable "blue economy" development. These sectors include the shipping and maritime sectors, fisheries and marine scientific research. To accelerate a transition towards a sustainable blue economy, Marshall Islands has also proposed to develop comprehensive and integrated planning and spatial management.[204]

Box 10 Circular economy

Waste is generated from household, commercial, agricultural, domestic, municipal and industrial activities. The environmental implications of this waste are witnessed globally in terms of air, land and water pollution, including ocean plastic pollution. Waste management, a crucial part of the blue economy, is particularly challenging for PICTs, including Marshall Islands, due to their high per-capita infrastructure costs, remoteness, narrow resource bases and increased dependence on fossil fuels. Current waste management is associated mainly with a linear economy, involving linear production and supply processes. Moving away from the linear economy (sometimes called an "extract-produce-use-discard" model), the circular economy promotes reducing, reusing, remanufacturing, recycling and resourcing, partly to lower waste volumes. The circular economy

[201] Visit: https://unhabitat.org/sites/default/files/2022/04/1_-_second_un_round_table_floating_cities.pdf.

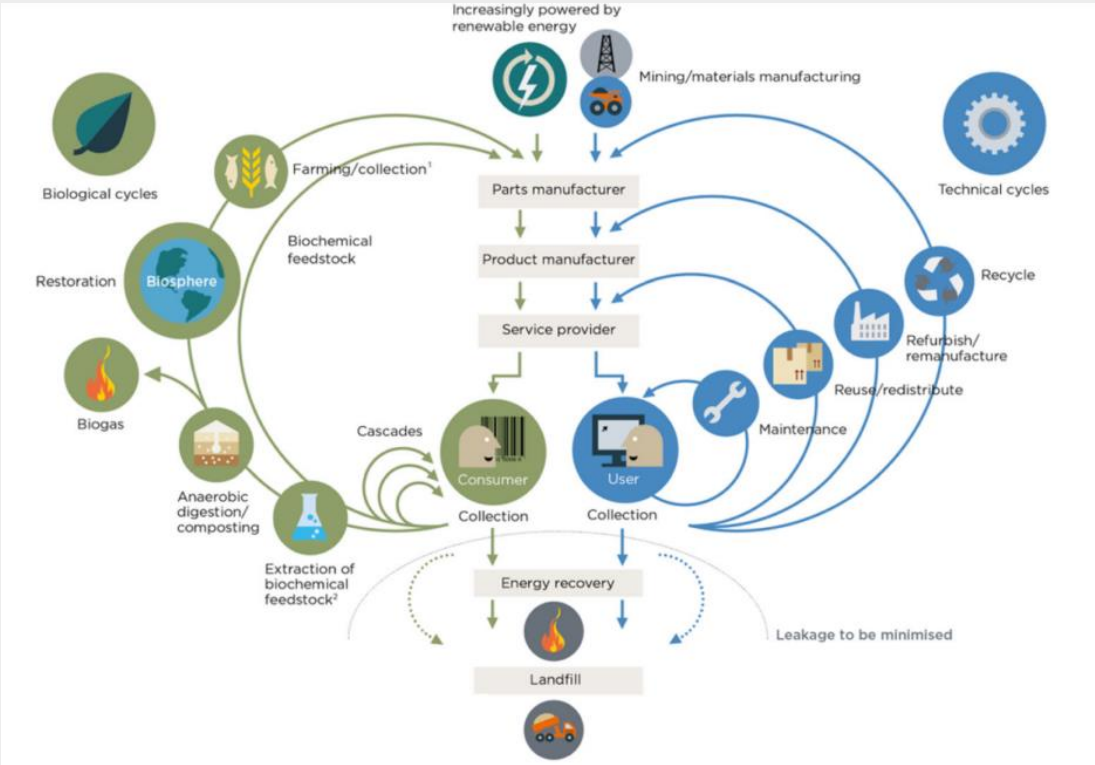
[202] Srinivasan, M., Kaullysing, Deepeeka, Bhagooli, Ranjeet, and Pratt, Stephen (2022). "Marine tourism and the blue economy: Perspectives from the Mascarene and Pacific Islands", in Urban, E. R., and Ittekot, V. (eds.), *Blue Economy*, 153-189. Singapore: Springer.

[203] A useful taxonomy of the blue economy can be found in World Bank and UN (2017), pp. vii-viii. A matrix of blue economy sectors and the targets under SDG 14 is provided on pp. 28-33.

[204] ESCAP (2020). *Changing Sails. Accelerating Regional Actions for Sustainable Oceans in Asia and the Pacific*. Bangkok: The United Nations.

approach seeks global, state and local sustainability.[205] There is a need to adopt the circular economy to reduce waste and contribute to implementing the SDGs. Figure 32 illustrates a typical circular economy model.

Figure 32 Circular economy model



Source: Halog and Anieke (2021). "A Review of Circular Economy Studies in Developed Countries and Its Potential Adoption in Developing Countries", *Circular Economy and Sustainability*, 1, 209–230.

5.3. Multi-dimensional vulnerability index (MVI) for SIDS

In 2020, the United Nations General Assembly requested the development and coordination of work within the United Nations system on a multi-dimensional vulnerability index (MVI) for SIDS. The MVI assesses the vulnerabilities of SIDS and serves as a criterion for access to, and allocation of, concessional resources among countries.[206]

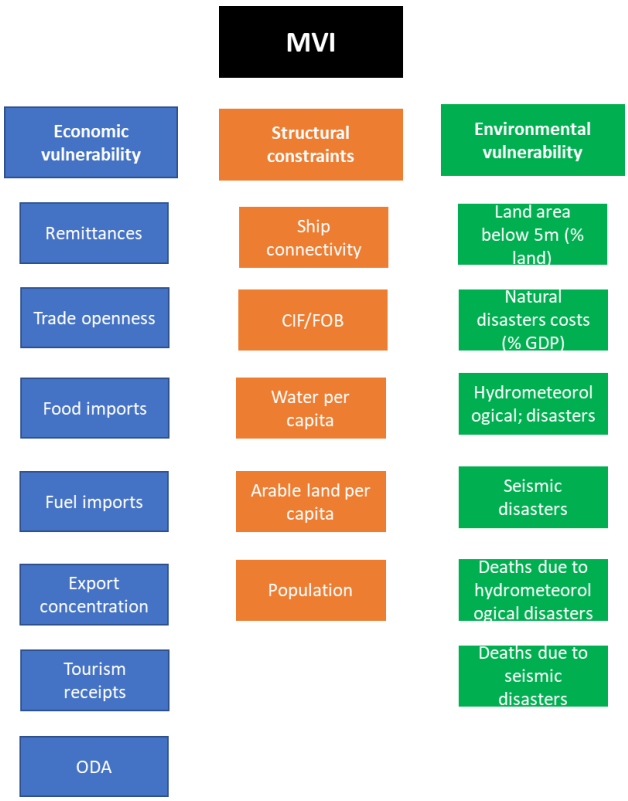
MVI's three essential dimensions are economic, environmental and social. Economic vulnerability is the risk of the economy being affected by exogenous shocks, either of external or natural origin (thus including the economic effects of environmental or health shocks). The ecological vulnerability consists mainly of the physical vulnerability to climate change. The third

[205] See: https://www.sciencedirect.com/science/article/pii/S095965261930678X; https://www.sciencedirect.com/science/article/pii/S095965261930678X; and https://circulareconomy.europa.eu/platform/sites/default/files/global_circular_economy_scenario_in_a_multiregional_inputoutput_framework.pdf.

[206] Sachs, J., Massa, I., Marinescu, S. and Lafortune, G. (2021). "The Decade of Action and Small Island Developing States: Measuring and addressing SIDS' vulnerabilities to accelerate SDG progress", *Working Paper*. Sustainable Development Solutions Network (SDSN). https://irp.cdn-website.com/be6d1d56/files/uploaded/WP_MVI_Sachs%20Massa%20Marinescu%20Lafortune_FINAL_cVeeBVmKSKyYYS6OyiiH.pdf.

vulnerability is the risk of being impacted by social shocks, mainly episodes of violence, and also health shocks such as epidemics. Alongside the three dimensions of vulnerability, the resilience of a country is its capacity to face and manage exogenous shocks, whether economic, environmental and linked to climate change or social. This resilience results from structural or related factors to the present policy. The structural elements reflect countries' inherited capacity and populations to face and cope with external shocks. Taking resilience into account allows for a better understanding of the structural handicaps developing countries face. It also allows capturing better the population's vulnerability to exogenous shocks and not only their economic impacts. Figure 33 presents an overview of the MVI framework.

Figure 33 The MVI framework



Source: United Nations (2021)[207]. *Multidimensional Vulnerable Index: Potential Development and Uses—Analysis and Recommendations.* October.

According to the specific findings of the MVI in the future, Marshall Islands should focus most on improving infrastructure, introducing essential social protection schemes and promoting the tourism sector to help enhance climate change resilience, create employment and improve livelihoods while securing international assistance.

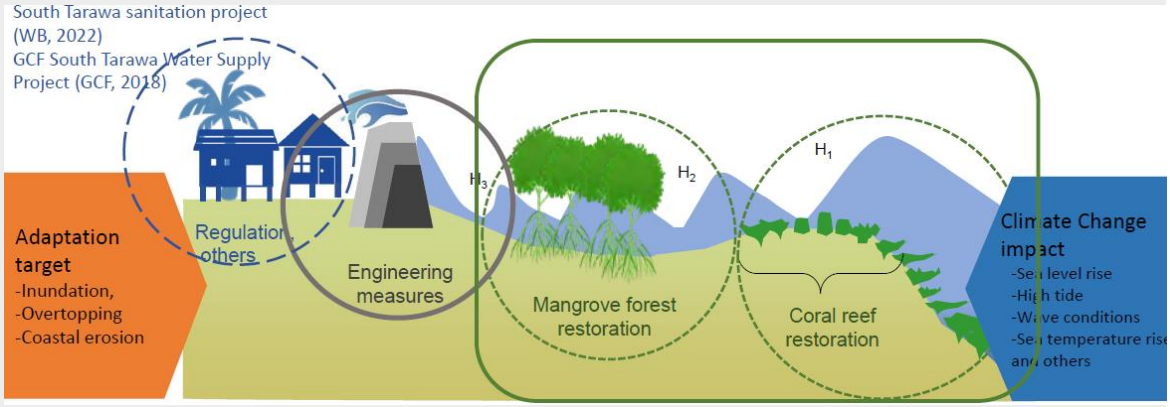
Box 11 Nature-based Solutions (NbS) for sustainable coastal communities

During the Convention on Biological Diversity COP15, held in Montreal in December 2022, Marshall Islands announced adopting the Nature-based Solution(NbS) to protect its biodiversity

[207] Sustainable Development Solutions Network; the United Nations (2021). *Multidimensional Vulnerable Index: Potential Development and Uses—Analysis and Recommendations*. October. New York.

from climate change impacts, particularly sea-level rise and coastal erosion.[208] The NbS leverages the power of coral reef ecosystems surrounding atolls to protect people, optimize infrastructure and safeguard a stable and biodiverse future in coastal communities in PICTs.[209] [210] A Japanese consortium, comprising universities and engineering firms, led to the development of the NbS,[211] which consist of coral reef and mangrove forest restorations (shown in figure 34).

Figure 34 Nature-based Solutions (NbS)



Source: Nonaka, A., *et al*. (2023).

For, coral reef restoration, NbS undertake multiple steps, from spawning at coral farms to out-planting or deploying larvae and seeds. The proper selection of restoration sites is also vital for its success. Besides, suitable coral species must be selected. Two or more years of nursing is standard and a crucial phase to propagate coral reefs for out-planting. Likewise, mangrove forest restoration needs afforestation and continued maintenance with the engenderment of local stakeholders.[212] Therefore, NbS is a long-term restoration strategy. Hard infrastructure, like concrete embankments, are also required in NbS because of their effectiveness against large-scale natural disasters like cyclones and king tides although they are relatively short-lived. An optimal plan is a proper combination of NbS and suitable infrastructures. For example, geotextile sandbag levees are better for NbS than concrete seawalls. NbS is a mixture of ecological and engineering solutions to protect the waterfront of a small island nation, achieving less costly long-term outcomes.

[208] Pacific Regional Environment Programme (SPREP) (2022). *Marshall Islands makes waves for ocean biodiversity at global negotiations*, December.

[209] International Union for Conservation of Nature (IUCN) (2023). *Nature-based Solutions*, at: https://iucn.org/our-work/nature-based-solutions.

[210] van der Meulen, F., IJff, S. and van Zetten Meulen, R. (2022). "Nature-based solutions for coastal adaptation management, concepts and scope, an overview", *Nordic Journal of Botany*.

[211] Nonaka, A., *et al.* (2023). *Issues in Small Islands Development States and Strengthen coastal society by leveraging Ecosystem*, July, Presentation, Japan Society for Pacific Islands Studies.

[212] Boris, Z., *et al.* (2021). *Can we help nature bounce back? Realizing the benefits of nature-based solutions for climate resilience*, the World Bank, available at: https://www.preventionweb.net/news/can-we-help-nature-bounce-back-realizing-benefits-nature-based-solutions-climate-resilience.

6. Peace and partnerships

Before Marshall Islands achieved statehood in 1979 and became independent in 1986, it had been tormented by the international political dynamics caused by its strategic location in the Pacific. Such geopolitical dynamics have shaped the development trajectory of Marshall Islands that the nation could not fully control but has tried to find the best possible options for its people. Within this context, this chapter addresses the final two pillars of the SDGs, peace and partnerships, primarily focusing on: (i) the movement of nuclear justice; (ii) the Unites States' geopolitical strategies; (iii) partnerships with allies; and (iv) development assistance.

6.1. The Nuclear Justice Movement

A United Nations resolution on "Technical Assistance and Capacity Building to Address the Human Rights Impact of the Nuclear Legacy in Marshall Islands (A/HRC/RES/51/35)" was adopted at the 51st session of the United Nations Human Rights Council in October 2022.[213] This "affirms the importance of addressing the adverse impact of the nuclear legacy on the realization and enjoyment of human rights by the people of Marshall Islands."[214] In Marshall Islands, the United States conducted 67 nuclear tests between 1946 and 1958, and its consequences still take a toll on the life and health of Marshallese, especially women and children.[215] Since then, the islands has had a long history of nationwide advocacy for nuclear justice. The experience of the nuclear testing era was so pervasive for Marshallese that it is enshrined in the preamble of the national constitution: "[t]his society has survived, and has withstood the test of time, the impact of other cultures, the devastation of war, and the high price paid for the purposes of international peace and security."[216] Table 4 provides a chronological list of significant national and international events and efforts for nuclear justice in and outside Marshall Islands.

Table 4 Marshall Islands' nuclear legacy

Year	Events
1946	The first nuclear test was conducted in Bikini Atoll, "Operation Crossroads." The 167 Bikinians living on the atoll were moved to neighbouring islands, Rongerik Atoll.
1947	The United Nations entrust the United States to administrate the Micronesia region,

[213] Office of the United Nations High Commissioner for Human Rights (UNHCHR) (2022). *Technical assistance and capacity-building to address the human rights implications of the nuclear legacy in the Marshall Islands, A/HRC/RES/51/35*, 13 October.

[214] Ibid., p. 3.

[215] Forced displacement resulting from nuclear weapon testing violates the human rights of affected people. The first migrants were 167 inhabitants of Bikini Atoll (Bikinians) and part of the forced immigrants and their families still live in Kili Island and Ejit Island where they were moved. Notably, Kili Island is known for its severe living environment with no lagoon, no protective reef and no fishing grounds. Furthermore, the island recently suffered from flooding caused by high tides. The significant flooding in 2016, for example, forced citizens on the island to move to a different part of this mile-long island. In the 2021 census, the population of Kili Island was reported to be 415. Support for such forced emigrants with tragic burdens should be considered in light of human rights. See: Office of the United Nations High Commissioner for Human Rights (OHCHR) (2012). *Report of the Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes*, September. A/HRC/21/48/Add.1

[216] Marshall Islands National Nuclear Commission (NNC) (2019). *Strategy for Coordinated Action to Address Nuclear Justice - FY2020 to FY2023, Policy Paper*, p. 3.

	including Marshall Islands.
1954	The nuclear test, “Operation Castle, Bravo” was conducted in Bikini Atoll.
	The first petition was filed with the United Nations Trusteeship Council by Marshallese.
	The second petition was filed with the United Nations Trusteeship Council.
1956	The last nuclear test in Marshall Islands was conducted on Eniwetok Atoll, “Operation Hardtack I,” completing 23 nuclear tests in Bikini Atoll and 44 in Eniwetok Atoll.
1958	Marshall Islands became an independent state after signing a CoFA with the United States.
	Full settlement of all claims was agreed in the “Agreement for the Implementation of
1986	Section 177” of the CoFA.[217]
	Marshall Islands was admitted to the United Nations.
	The International Atomic Energy Agency (IAEA) submitted the final report on the Bikini Atoll
1991	radioactive status, concluding that resettlement should not be recommended because of
1998	the risk of radioactive local foods (e.g., coconuts). It also concluded that any further survey on the radioactive status of the area would not be needed.
	Marshall Islands filed a "changed of circumstances petition” for further compensation because: (i) the US nuclear test damage guarantee covered only the four atolls (i.e., Enewetak, Kili, Mejatto and Utrik); (ii) other northern atolls were also damaged; and (iii) the
2000	United States disclosed documents related to the nuclear tests after the agreement was concluded. No formal response was received from the US Congress.
	The Compact II entered into force.
	The Bikini Atoll nuclear test site was registered as a UNESCO World Heritage.
	A report of the UNHRC Special Rapporteur was submitted to the United Nations General Assembly.[218]
2004	Marshall Islands filed lawsuits against all nine Nuclear Weapon States in the International
2010	Court of Justice and, separately, against the United States in the US Federal District Court.[219]
2012	The National Nuclear Committee was established based on the Special Rapporteur’s suggestion.
2014	A resolution on the “Technical assistance and capacity-building to address the human rights implications of the nuclear legacy in the Marshall Islands” was adopted by UNHRC.
2017	The Marshall Islands Diet adopted a resolution expressing concern over Japan's discharge of processed water from the Fukushima nuclear power plant into the Pacific Ocean and calling
2022	for consideration of alternative measures.
	The second amended Compact agreement (Compact III) was signed for an additional 20-year agreement to 2043, which will be in effect after approval of both the US Congress and
2023	Marshall Island Parliament (Nitijela). The new Compact will maintain the Section 177.

Source: Various.

[217] The United States and Marshall Islands (1983), *Agreement Between the Government of the United States and the Government of the Marshall Islands for the Implementation of Section 177 of the Compact of Free Association*, June.

[218] UNCHR (2012). *Report of the Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes, Calin Georgescu Addendum Mission to the Marshall Islands (27-30 March 2012) and the United States of America (24-27 April 2012), A/HRC/21/48/Add.1*, 3 September.

[219] Nuclear Age Peace Foundation (2023). *The Nuclear Zero Lawsuits*, at: https://www.wagingpeace.org/nuclearzero/#:~:text=On%20April%2024%2C%202014%2C%20the,in%20U.S.%20Federal%20District%20Court.

Marshallese nuclear justice advocacy began from the first petition filed with the United Nations Trusteeship Council by members of the Marshallese Congress in 1954.[220] In the petition, the negative impacts on Marshallese's health, such as lowering blood count, burns, nausea, and falling hair, were cited.[221] An increasing number of forced immigrants, like Bikinians who were evacuated to Rongerik Atoll for the sake of the first nuclear test, also raised a concern. The continued efforts of Marshallese leaders brought about the "Section 177" agreement, which was for nuclear compensation under the CoFA.[222] Also, the agreement supported the full settlement of all claims with recognition of the United States' responsibility "to address past, present and future consequences of the nuclear testing claims."[223] However, less than US$4 million was awarded out of a US$2.2 billion judgment rendered by the Nuclear Claims Tribunal created under the CoFA.[224]

The government submitted the changed circumstances petition (CCP)[225] to the US Congress in 2000, following Article IX[226] of the Nuclear Claims Settlement under Section 177 of the CoFA.[227] The CCP comprised five components: (i) funding to satisfy personal injury awards; (ii) funding to satisfy the Enewetak property damage award; (iii) funding to establish primary and secondary care medical infrastructure; (iv) fifty years of annual funding to support national health care programmes, and; (v) expansion of the US Department of Energy (DOE) medical monitoring programmes to all exposed populations.[228] The CCP resulted from an extensive multi-year effort and significant coordination at the national and local government levels in Marshall Islands. However, the US Congress did not provide any response.[229] Instead, the US Department of State

[220] Marshall Islands and the United Nations Trusteeship Council (1954). *Petition from Marshallese people concerning the Pacific Islands*, T/PET10/28, 6 May; Marshall Islands National Nuclear Commission (2019). *Strategy for Coordinated Action to Address Nuclear Justice - FY2020 to FY2023, Policy Paper*.

[221] Stegnar, P. (1998). *Review at Bikini Atoll*. Vienna: IAEA.

[222] Johnson, G. (2009). *Nuclear Past Unclear Future*. Micronitor Book.

[223] Ibid. p. 21.

[224] US Committee on Foreign Affairs, House of Representatives (2010). *Oversight on the Compact of Free Association with the Republic of the Marshall Islands (RMI): Medical Treatment of the Marshallese People, U.S. Nuclear Tests, Nuclear Claims Tribunal, Forced Resettlement, Use of Kwajalein Atoll for Missile Programs and Land Use Development.*

[225] The Government of Marshall Islands (2000), *Petition: Presented to the Congress of the U.S.A. Regarding Changed Circumstances Arising from U.S. Nuclear Testing in the Marshall Islands*. Republic of the Marshall Islands.

[226] The United States and Marshall Islands (1983), *Agreement Between the Government of the United Sates and the Government of the Marshall Islands for the Implementation of Section 177 of the Compact of Free Association*, June.

[227] A part of Article IX is "if loss or damage to property and person of the citizens of the Marshall Islands, resulting from the Nuclear Testing Program, arises or is discovered after the effective date of this Agreement, and such injuries were not and could not reasonably have been identified as of the effective date of this Agreement, and if such injuries render the provisions of this Agreement manifestly inadequate" (US Department of State, 2003).

[228] Marshall Islands National Nuclear Commission (2019). *Strategy for Coordinated Action to Address Nuclear Justice - FY2020 to FY2023, Policy Paper*.

[229] Ibid., p. 8.

reported no basis for the Marshallese claims, given the assistance the United States had provided under the Compact agreement.[230]

In 2005, hearings were held by the relevant US House and Senate committees,[231] but no legislation resulted.[232] Testimonies were offered by Marshallese and US officials, as well as the Congressional Research Service. Bill S.1756 (the Republic of Marshall Islands Supplemental Nuclear Compensation Act)[233] was introduced in the Senate in 2007 to provide supplemental ex gratia compensation to Marshall Islands for impacts of the nuclear testing programme of the United States and other purposes, providing $2 million per year for the communities of Enewetak, Kili, Mejatto and Utrik, from fiscal years 2007 through to 2023. A substitute version of the same bill[234] was prepared in the next year, 2008, and expanded the healthcare programme to include Ailuk, Likiep, Mejit, Wotho, Wotje and Ujelang, with an increase in annual funding to US$4.5 million from 2009 to 2023. This expansion of targeted islands in the health programme could be seen as a response to the claim and fact that the Islands affected by the US nuclear testing programme are not only the original four atolls, but broader areas because of the fallout of radio-active substances.

In January 2010, Bill S.2941[235] was introduced in the US Senate, identical to the original Bill S.1756, by upgrading existing healthcare services or providing quarterly medical field team visits, as appropriate, in each of the 10 atolls.[236] This bill died when the 111th Congress ended in December 2010, but Bill S.342, which had the same terms and conditions as Bill S.2941, was introduced in February 2011. Behind these legislative actions, the US Congress also requested research on Marshallese's lifetime cancer risks.[237] [238] The study concluded that: (i) substantial numbers of cancers had already occurred or were projected to occur; (ii) about half of past and future cancers among Rongelap Island residents who were exposed to the BRAVO fallout on Rongelap and Ailinginae in 1954 were radiation-related; and (iii) except for thyroid cancer, the overwhelming majority of cancers that had occurred or would occur among persons exposed only on atolls and islands in the mid- and southern-latitudes are likely to be baseline cancers unrelated to radiation exposure. However, the absence of comprehensive cancer incidence data is a limitation in making robust and reliable estimates.

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[230] US Department of State (2004), *Report Evaluating the Request of the Government of the Republic of the Marshall Islands Presented to the Congress of the United States of America*, November.

[231] U.S. House of Representative (2005). *The United States Nuclear Legacy in the Marshall Islands: Consideration of Issues relating to the Changed Circumstances Petition,* May.

[232] Ibid., pp. 8-9.

[233] Senate of the United States (2007). *Republic of the Marshall Islands Supplemental Nuclear Compensation Act of 2007, July.* Accessed November 2023, https://www.govinfo.gov/content/pkg/BILLS-110s1756is/pdf/BILLS-110s1756is.pdf.

[234] Senate of the United States (2008). *Republic of the Marshall Islands Supplemental Nuclear Compensation Act of 2007(Amended)*, September.

[235] Senate of the United States (2010). *Republic of the Marshall Islands Supplemental Nuclear Compensation Act of 2010*, July.

[236] Enewetak, Bikini, Rongelap, Utrik, Ailuk, Mejit, Likiep, Wotho, Wotje and Ujelang.

[237] Simon, L. and Bouville, A., *et al*. (2010). "Radiation Doses and Cancer Risks in the Marshall Islands Associated with Exposure to Radioactive Fallout from Bikini and Enewetak Nuclear Weapons Tests: Summary." *Health Physics*, August.

[238] Charles L. and Bouville, A., *et al*. (2010). "Projected lifetime cancer risks from exposure to regional radioactive fallout in the Marshall Islands", *Health Physics*, August.

A Special Rapporteur of UNHRC was invited to Marshall Islands and the United States in 2012 to assess the impact on human rights of nuclear testing.[239] His 2012 report explored the adverse impact of the US nuclear testing programmes on human rights in Marshall Islands, particularly concerning hazardous substances and wastes.[240] Regarding human rights, the Special Rapporteur concluded that "[t]he nuclear testing resulted in both immediate and continuing effects on the human rights of the Marshallese...[R]adiation from the testing resulted in fatalities and in acute and long-term health complications. The effects of radiation have been exacerbated by near-irreversible environmental contamination, leading to the loss of livelihoods and lands...[M]any people continue to experience indefinite displacement."[241]

Further, in 2014, apart from the Nuclear Claims Tribunal, Marshall Islands filed lawsuits against nuclear weapon states in the International Court of Justice and, separately, against the United States in the US Federal District Court.[242] The nine nuclear powers comprise China, the Democratic People's Republic of Korea, France, India, Israel, Pakistan, the Russian Federation, the United Kingdom and the United States. The accusation pertained to not fulfilling their obligations with respect to the cessation of the nuclear arms race at an early date and to nuclear disarmament.[243]

Following the UNCHR Special Rapporteur's recommendation, the National Nuclear Commission (NNC) was established by the NNC Act of 2017.[244] To address the ongoing impacts on the fundamental human rights of Marshallese, the NNC strategized the five critical pillars of nuclear justice:[245]

(i) Full payment of all past and future awards of the Nuclear Claims Tribunal (compensation);
(ii) Quality healthcare for all Marshallese (health);
(iii) Reducing the risks of exposure to radiation and other toxins in the environment (environment);
(iv) Building national capacity to monitor and understand radiation impacts (governance); and
(v) Education and awareness of the nuclear legacy (education and outreach).

In the same year (2017), another issue emerged regarding nuclear compensation's misuse at the Bikini Resettlement Trust Fund, managed by the Bikini-Kili-Ejit (KBE) local government. The fund had been designed to compensate those displaced from Bikini Atoll due to nuclear testing. The

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[239] UNCHR (2012). *Report of the Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes, Calin Georgescu Addendum Mission to the Marshall Islands (27-30 March 2012) and the United States of America (24-27 April 2012), A/HRC/21/48/Add.1*, 3 September.

[240] UNCHR (2012).

[241] Ibid., p. 6.

[242] Nuclear Age Peace Foundation (2023). *The Nuclear Zero Lawsuits*, at: https://www.wagingpeace.org/nuclearzero/#:~:text=On%20April%2024%2C%202014%2C%20the,in%20U.S.%20Federal%20District%20Court.

[243] International Court of Justice (2014). *Obligations concerning Negotiations relating to Cessation of the Nuclear Arms Race and to Nuclear Disarmament, 2014 General List No. 160*.

[244] Ibid.

[245] Ibid.

KBE local government was responsible for the trust fund's management and disbursement to the recipients. However, after the US government ended 35 years of oversight of trust fund use, following a request from the KBE local government, the funds were improperly spent.[246] Following a week of public demonstrations by members of the displaced Bikini community on Majuro over alleged mismanagement of the trust funds, the Marshall Islands government placed the KBE government into receivership.[247]

In 2018, the Senate Committee on Energy and Natural Resources heard testimony on bill S.2182(Bikini Resettlement and Relocation Act)[248] from the people and leadership of Bikini Atoll concerning managing their Resettlement Trust Fund. No further action was taken by the Senate, following that hearing.[249] In 2022, a Senate joint resolution formally apologizing for the Nuclear Legacy of the United States in Marshall Islands was resolved.[250] In 2023, however, the Senate passed legislation, the Guam Host Community Compensation Act, [251] expanding nuclear compensation to more Americans in the US mainland and Guam, to which some Marshallese have shown their resentment, as they were exposed to much higher radiation than the American "down-winders", but their request to expand compensation has not been supported by the United States.[252]

In 2019, the House Committee on Armed Services introduced Act H.R.2500, which included a requirement for the Secretary of Energy to submit a detailed report on the status of the Runit Dome on Enewetak Atoll, a radioactive waste repository left by the United States after a series of nuclear tests between 1946 and 1958 (see figure 35). In response to this, the US Department of Energy made a report concluding:[253]

(i) The Runit Dome is not in any immediate danger of collapse or failure;
(ii) The main risk the dome poses would be derived from the flow of contaminated groundwater;
(iii) Individual radiological protection monitoring data indicated that internal exposure to fallout radionuclides was well below international standards for radiological protection of the public; and
(iv) The most notable and immediate impact of rising sea levels on the Cactus Crater (Runit Dome) containment structure is associated with the physical effects of storm surge and wave-driven flooding, proposing a groundwater radiochemical analysis.

[246] US Department of Interior (2023). "Statement on the Kili Bikini Ejit Resettlement Trust Fund", *OIA News*.

[247] Marianas Variety/Pacnews (2023). *Marshall Islands government takes over Bikini operation*. Islands Business.

[248] Senate of the United States (2017). *Bikini Resettlement and Relocation Act*, December.

[249] Marshall Islands National Nuclear Commission (2019). *Strategy for Coordinated Action to Address Nuclear Justice - FY2020 to FY2023*, Policy Paper.

[250] Senate of the United States (2022). *Formally apologizing for the nuclear legacy of the United States in the Republic of the Marshall Islands and affirming the importance of the free association between the Government of the United States and the Government of the Marshall Islands*, March.

[251] House of Representatives (2023). *Guam Host Community Compensation Act, November*.

[252] Johnson, G. (2023). *Marshalls 'astounded' at exclusion from US nuclear compensation plan*, *Radio New Zealand*.

[253] US Department of Energy (2020). *Report on the Status of the Runit Dome in the Marshall Islands*.

However, this DOE report also cast doubt because only cesium 137 was featured as a radioactive substance and strontium 90, another critical radionuclide, was largely ignored.[254]

Figure 35 The Runit Dome

Source: Sherriff (2023).

From 1946 to 1996, the United States, the United Kingdom and France detonated 318 nuclear devices in the Pacific in territories spanning Marshall Islands, French Polynesia/Te Ao Maohi, Kiribati, Australia, the US territory of Johnston/Kalama Atoll and Amchitka Island, Alaska. Fallout was dispersed throughout the region and detected in the Cook Islands, New Zealand, Niue, Fiji, Tokelau, Samoa, Tonga and Tuvalu. In addition to nuclear detonations, the United Kingdom conducted some 600 so-called "minor trials"[255] in Australia, and the United States tested chemical weapons, explosives and ballistic missiles in Marshall Islands.[256] These have left a devastating legacy of sickness, anxiety, displacement, radiation and environmental damage.[257] The humanitarian impact extends well beyond the communities most affected to the thousands of military and civilian personnel – from the United States, France, the United Kingdom, Fiji, Australia and New Zealand – who participated in the tests and suffered from radiation exposure.[258]

Bikini Atoll and other northern atolls in Marshall Islands have come to symbolize the dawn of the nuclear age, despite its paradoxical image of peace and earthly paradise. The government ratified the 1972 Convention Concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention) in 2002. It has also developed its inventory of potential World Heritage sites which were added to the Tentative List in 2005: Likiep Village Historic District (cultural), Mili Atoll Nature Conservancy and Nadrikdrik (natural) and the Northern Marshall Islands Atolls (mixed natural and cultural). Marshall Islands obtained World Heritage status for the Bikini Atoll nuclear test site in 2010.[259] Yet, remote and widely spaced outer islands

[254] Johnson, G. (2023). "Marshall Islands study: Concern raised over long-ignored nuclear contamination: International Disarmament Institute", *Radio New Zealand*.

[255] ICAN. *United Kingdom*, Banning Nuclear Weapons. Accessed November 2023, https://www.icanw.org/united_kingdom.

[256] Pace University (2023). *Pacific Nuclear Test Archive*, at: https://disarmament.blogs.pace.edu/nuclear-test-archive/.

[257] Ibid.

[258] Ibid.

[259] UNESCO (2023). *Marshall Islands, State Parties Description*. World Heritage Centre.

across a vast ocean territory require significant planning and resources to conduct consultation, research and management in the location.

6.2. The United States' geopolitical strategies

The United States has committed to develop closer ties with PICTS, including Marshall Islands, by commencing numerous initiatives pertaining to the Pacific's development, security and diplomacy.[260] These are summarized in the following paragraphs.

In February 2022, the US released its "Indo-Pacific Strategy," which reiterated its commitment to an Indo-Pacific that is free and open, connected, prosperous, secure and resilient [261] It also aimed to prioritize negotiations on the CoFAs, as the bedrock of its role in the Pacific. The United States announced a "Pacific Pledge" as part of its Indo-Pacific Strategy, noting that the United States "considers the Pacific Islands to be important partners" and "greatly values our historic ties, strong economic links, and mutual cooperation."[262] In June 2022, the United States jointly launched the "Partners in the Blue Pacific" with Australia, New Zealand, Japan and the United Kingdom, boosting economic and diplomatic relations with PICTs.[263] In September 2022, the first-ever US-Pacific Island Country Summit took place in Washington, D.C., which endorsed the "Pacific Partnership Strategy", aligned with the goals of the Pacific Islands Forum's (PIF) 2050 strategy, [264] and the second summit was also held the following year in September. [265] Concerning the CoFAs, including Marshall Islands, the United States stressed more substantial commitment through diplomatic ties, the US Coast Guard's presence and defence engagement. It has also highlighted the importance of the CoFA renewable and the South Pacific Tuna Treaty.[266] [267] Figure 36 presents the US' geopolitical strategies.

Figure 36 The United States' strategic approach in the Pacific

[260] National Security Council (2022). *Indo Pacific Strategy of the United States, February*. Washington DC: Executive Office of the President.

[261] Ibid.

[262] U.S. Department of State (2022). *U.S. Engagement in the Pacific Islands: 2020 Pacific Pledge, October*.

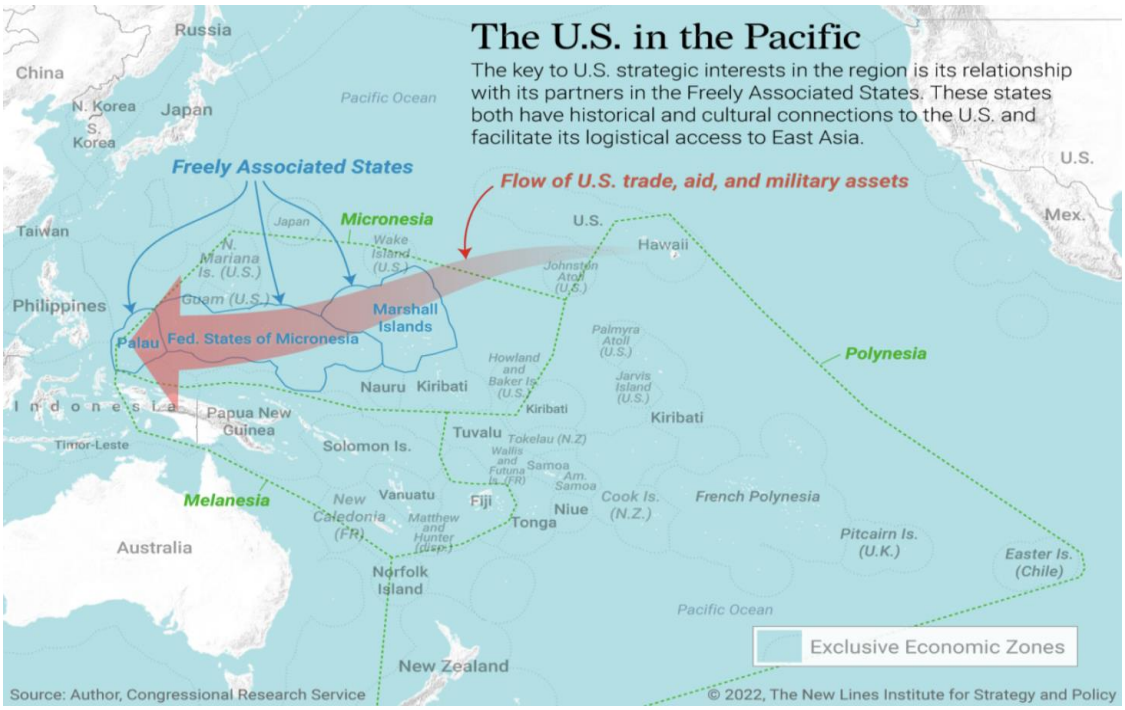
[263] The White House (2022). *Statement by Australia, Japan, New Zealand, the United Kingdom, and the United States on the Establishment of the Partners in the Blue Pacific (PBP), June*.

[264] The White House (2022q). "Declaration on U.S.-Pacific Partnership", *Statement and Releases*, 29 September.

[265] The White House (2022b). "Declaration on U.S.-Pacific Partnership", *Statement and Releases*, 25 September.

[266] The White House (2022). *Pacific Partnership Strategy of the United States, September*. Washington D.C.: Executive Office of the President.

[267] The South Pacific Tuna Treaty, which entered into force in 1988, is an agreement on the United States' fishing rights in the EEZs of 16 counties in Oceania. The parties to the treaty include: Australia, Cook Islands, FSM, Fiji, Kiribati, Marshall Islands, Nauru, New Zealand, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, United States and Vanuatu. NOAA Fisheries (2023). *South Pacific Tuna Treaty: Fisheries treaty agreement between the United States and 16 Pacific island countries*, at: https://www.fisheries.noaa.gov/pacific-islands/international-affairs/south-pacific-tuna-treaty.



Source: The New Lines Institute for Strategy and Policy (2022).

In February 2022, the United States developed an Integrated Country Strategy for Marshall Islands, under which the US Mission Strategic Framework for Marshall Islands comprises three goals:

i) To be the primary security guarantor and partner of choice in the region;
ii) To advance US economic security by building a prosperous (economic) and resilient (health, education and environment) nation for the people of Marshall Islands; and
iii) To strengthen governance in Marshall Islands by enhancing partnerships and engagements.[268]

The United States has invested billions of dollars in aid and demonstrated genuine support for the security of Marshall Islands, predominately through the Compact agreements, in cooperation with the United States' regional allies, such as Australia, Japan, New Zealand and the United Kingdom. Marshall Islands maintains diplomatic ties with the Taiwan Province of China (see figure 37).[269]

Box 12 Kwajalein Atoll

Kwajalein Atoll is vital for the United States' regional security strategy.[270] The atoll is a lengthy string of about 100 small coral islands and atolls roughly 2,600 kilometres from Guam and more than 3,200 kilometres from Hawaii.[271] The atoll, which hosts the Ronald Reagan Ballistic Missile

[268] US Department of State (2022). *Integrated Country Strategy: Marshall Islands*. Washington D.C.

[269] The United States Institute of Peace (2022). *China's Influence on the Freely Associated States of the Northern Pacific, USIP Senior Study Group Final Report. September | NO. 5*. Washington D.C.

[270] US Department of State (2022). *Integrated Country Strategy: Marshall Islands*. Washington D.C.

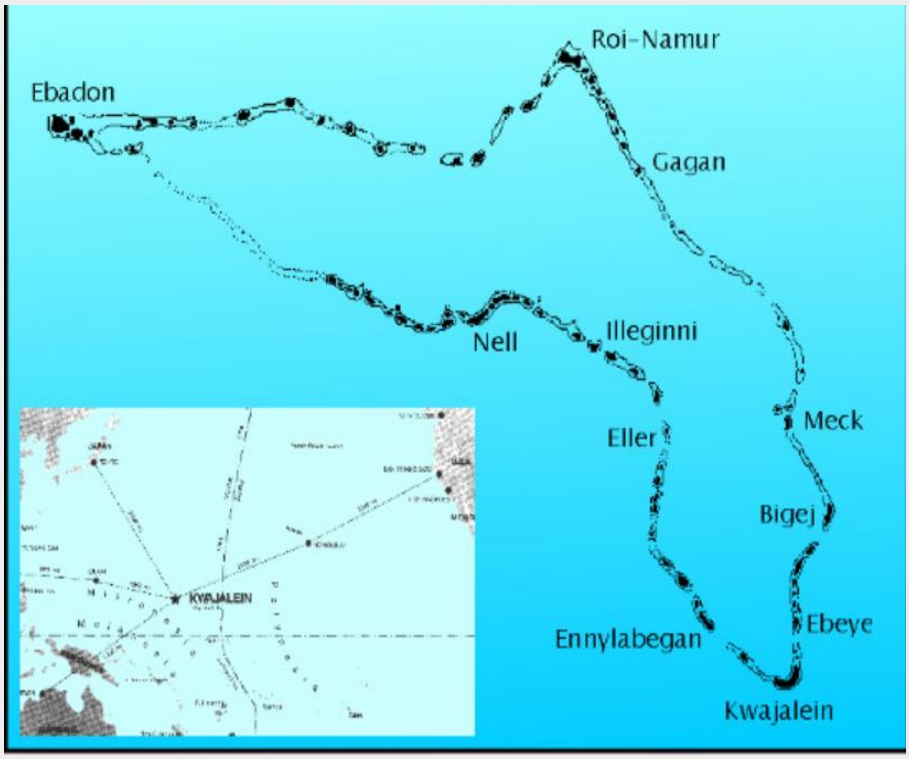
[271] The United States Army Space and Missile Defense Command (USASMDC), Public Affairs Office (undated). *Ronald Regan Ballistic Missile Defense Test Site at Kwajalein Atoll (RTS),* at: https://www.smdc.army.mil/Portals/38/Documents/Publications/Fact_Sheets/RTS.pdf.

Defense Test Site, provides a uniquely suited location and needed space for missile defence, given its proximity to the equator, a significant target area, a strategic location between the two US military hubs in the Northern Pacific (i.e., Hawaii and Guam) and a supportive local population.[272]

After WWII, the United States took over the atoll from Japan and kept the islands as a naval base to support a series of nuclear tests at Bikini and Enewetak Atolls. After the last nuclear tests in Marshall Islands had been completed, the base was repurposed as a missile defence test site. The current land use agreement, which has generated a substantial capital inflow for Marshall Islands, will expire in 2066 with an option for an additional twenty years, included in the "Compact II" signed in 2003.[273]

Kwajalein Atoll is administered by the US Army garrison of about 1,300 service men and women, primarily federal employees and contractors, living on the atoll.[274] Marshallese workers in the military base usually live on Ebeye, which is 10 minutes away from the base by ferry (figure 38). One crucial issue is Eybey's growing population, coupled with inadequate infrastructure and a lack of necessary public services, such as utilities, healthcare, education and waste management.

Figure 37 Kwajalein Atoll



Kwajalein and Ebeye

[272] Ibid.

[273] The United States and Marshall Islands (2003). *Compact of Free Association: Military Use and Operating Rights, Article X* , April.

[274] Ibid.

Ebeye

Source: Waller, M. (2023).

6.3. Partnerships with allies

Apart from the United States, Marshall Islands has several other bilateral relationships and a permanent mission to the United Nations in New York. All foreign diplomatic missions are based in Majuro, including the United States, Japan, Australia and the Taiwan Province of China. To strengthen its regional ties, Marshall Islands has joined regional organizations such as the Pacific Island Forum (PIF) in 1987[275] and the Pacific Islands Development Forum (PIDF) in 2015.[276] Marshall Islands also joined the Micronesia Islands Forum (MIF) and the Micronesian Presidents' Summit (MPS) to promote regional cooperation within Micronesia, where the leaders of the nine-member states convene.[277] To date, all five Micronesian countries (Palau, FSM, Marshall

[275] Pacific Islands Forum (2023). *Marshall Islands, Forum Members*, at: https://www.forumsec.org/marshall-islands/.

[276] Pacific Islands Development Forum (2023). *Marshall Islands, at:* https://www.pidf.int/members-rmi/.

[277] Micronesian Islands Forum (2008). *9th MCES Joint Communique, February*.

Islands, Nauru and Kiribati) and four FSM states (Yap, Chuuk, Pohnpei and Kosrae) and two US territories (Guam and CNMI) are members of the MPS.[278]

In early 2022, Marshall Islands, along with four other Micronesian countries, expressed their intention to withdraw from the PIF, due to its inability to achieve a consensus on a Micronesian candidate for the PIF secretary-general position. However, in a significant breakthrough, Pacific leaders reached a deal to restore much-needed unity in June 2022, with all but one country, Kiribati, agreeing to continue their membership in the Forum by signing the Suva Agreement.[279] Kiribati finally returned to the PIF in January 2023.[280]

To further enhance this partnership with PICTs, Japan has hosted Summit-level meetings named the Pacific Islands Leaders Meeting (PALM), every three years since 1997.[281] The ninth Pacific Islands Leaders Meeting (PALM9) was held as a video conference in July 2021. Representatives from 18 PIF members and Japan take part in PALM, comprising: Cook Islands, Fiji, FSM, Kiribati, Marshall Islands, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu, French Polynesia, New Caledonia, Australia and New Zealand.[282] The Republic of Korea is also a country that has recently strengthened its diplomatic ties with PICTs. The first Korea-Pacific Leaders' Summit was held in Seoul in May 2023.[283] Under the theme of "Navigating towards Co-Prosperity: Strengthening Cooperation with the Blue Pacific", leaders from the Republic of Korea and PIF discussed the approach to further strengthen cooperation in sustainable development, climate change, environment, disaster risk and resilience, ocean, maritime affairs and fisheries and people-to-people exchanges.

The Forum for India–Pacific Islands Cooperation (FIPIC)[284] was launched during Prime Minister Narendra Modi's visit to Fiji in November 2014. FIPIC includes 14 island countries – the Cook Islands, Fiji, Kiribati, Marshall Islands, Micronesia, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu. India's focus has been mainly on the Indian Ocean where it has sought to play a significant role and protect its strategic and commercial interests. The FIPIC initiative marks an effort to expand India's engagement in the Pacific. The third FIPIC was held in Port Moresby, Papua New Guinea, in May 2023, aimed at fostering stronger linkages with partner countries.

6.4. Development assistance

[278] Micronesian Islands Forum (2023). *25th MCES Joint Communique, April*.

[279] Pacific News Service (2022). *Micronesian members will stay in Pacific Islands Forum*, June, at: https://pina.com.fj/2022/06/08/micronesian-members-will-stay-in-pacific-islands-forum/.

[280] Pacific Islands Forum (2023). *Releases: Kiribati Government to rejoin the Pacific Islands Forum*, at: https://www.forumsec.org/2023/01/30/releases-kiribati-government-to-rejoin-the-pacific-islands-forum/.

[281] Ministry of Foreign Affairs of Japan (2023). *Pacific Islands Leaders Meeting (PALM)*, at: https://www.mofa.go.jp/region/asia-paci/palm/index.html.

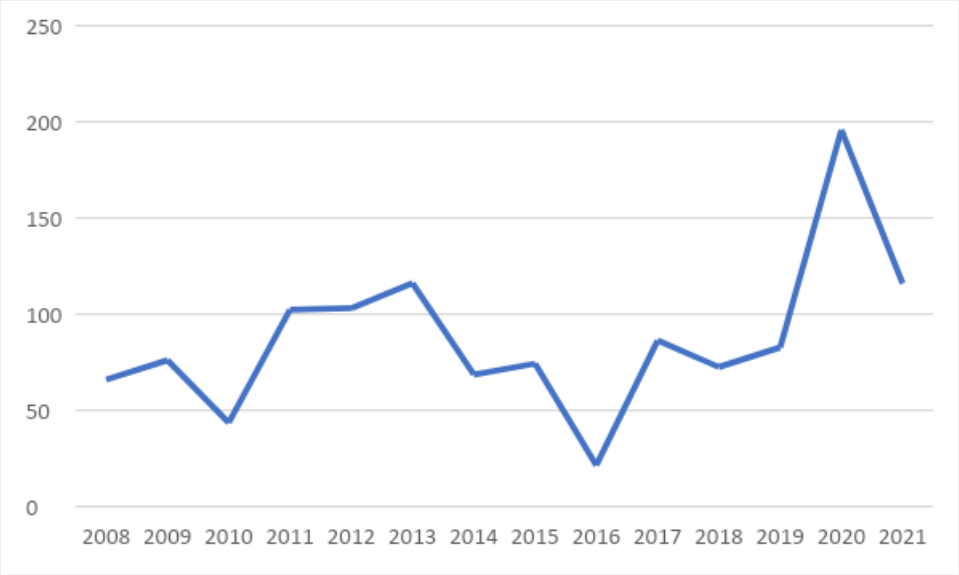
[282] Ministry of Foreign Affairs of Japan(2021). *The 9th Pacific Islands Leaders Meeting (PALM9)*. Accessed November 2023, https://www.mofa.go.jp/a_o/ocn/page23e_000607.html

[283] Pacific Islands Forumu(2023). *REPORT: Declaration and Action Plan of the 1st Korea-Pacific Leaders' Summit, 2023*. Accessed November 2023, https://www.forumsec.org/2023/05/29/report-declaration-and-action-plan-of-the-1st-korea-pacific-leaders-summit-2023/

[284] Ministry of External Affairs, Government of India. *Forum for India-Pacific Islands Cooperation*. Accessed November 2023, https://www.ficci-fipic.com/about.html

Marshall Islands benefits from partnerships with various bilateral and multilateral development partners. While the United States remains the primary donor for the islands, other major ODA and technical assistance contributors with grants and concessional loans comprise: Japan, the Taiwan Province of China, the World Bank, Australia, ADB, EU, the United Nations system, among others. Their assistance tends to focus on governance, education, health, agriculture, forestry and fishing, water, humanitarian assistance and energy issues. However, international aid flows have fluctuated, resulting in a degree of uncertainty for the government's fiscal management (see figure 38).

Figure 38 International aid to Marshall Islands



Source: Developed based on the Lowy Institute (2023).[285]
Note: The marked hike in 2020 was a result of emergency humanitarian and healthcare assistance, due to the COVID-19 pandemic.

In early 2023, the EU placed Marshall Islands on its tax haven blacklist, surprising government officials in Majuro. This is the second blacklisting in six years. The blacklisting signifies the EU's determination that Marshall Islands has not been adequately cooperative on tax avoidance matters.

6.5. The United Nations in Marshall Islands

The United Nations Multi-Country Office (MCO) for Micronesia was established in October 2021, under the leadership of the United Nations Resident Coordinator. Based on Pohnpei, FSM, the MCO covers Palau, FSM, Marshall Islands, Nauru and Kiribati. Together with MCO, the United Nations Country Teams (UNCT) in Micronesia support Marshall Islands in meeting its national development priorities and achieving the SDGs. There are six resident United Nations agencies (IOM, UNDP, UNFPA, UNICEF, UNOPS and WHO) and 13 non-resident United Nations entities supporting the United Nations' work in Marshall Islands. The country also remains a partner country under several United Nations joint programmes and projects in Micronesia, typically managed by their regional offices in Apia, Bangkok, Jakarta, Manila and Suva.[286] MCO

[285] Lowy Institute (2023). *Pacific Aid Map*, at: https://pacificaidmap.lowyinstitute.org/.

[286] The United Nations Micronesia (2023). *Republic of the Marshall Islands: United Nations Country Implementation Plan (CIP), January 2023 – December 2024*.

established a satellite office on Majuro in March 2022, with a full-time Country Coordination Officer to assist in coordinating the United Nations support in-country. This one-stop facility is expected to make the United Nations' coordination efficient and conducive to making progress on the SDGs.

At the latest SDG Summit, held in New York City in September 2023, the United Nations proposed six significant transitions in further driving progress towards the SDGs by 2030.[287] The critical transitions that can have catalytic and multiplier effects across the SDGs comprise: (i) food systems; (ii) energy access and affordability; (iii) digital connectivity; (iv) education; (v) jobs and social protection; and (vi) climate change, biodiversity loss and pollution. Marshall Islands' development agenda suggests the six transitions will play a critical role in realizing the SDGs for which the present national study provides a relevant strategic direction for the country.

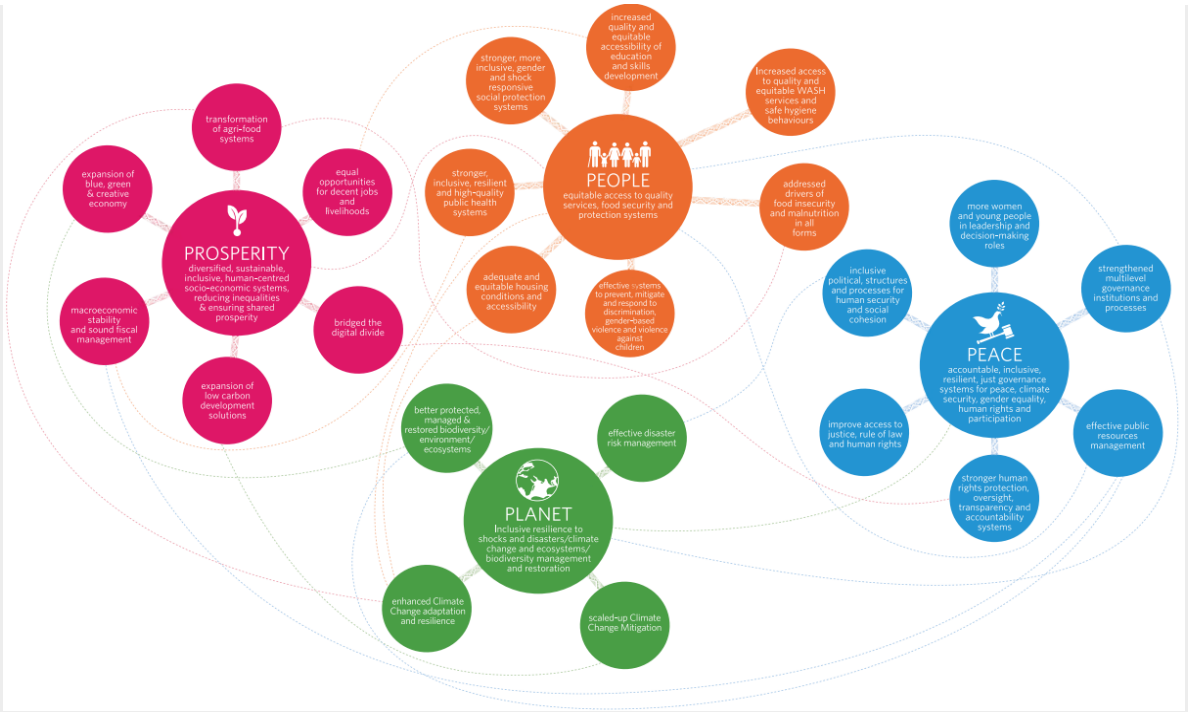
Box 13 The Pacific Sustainable Development Cooperation Framework (PSDCF) 2023-2027

The United Nations' PSDCF 2023-27 aims to accelerate ongoing and future investments for attaining the SDGs in the PICTs, funded by domestic resources, debt, bilateral or multilateral development assistance, and national and international private financing. The PSDCF mainstreams multi-sectoral resilience, gender equality, human rights and the "blue economy" into its entire framework, from its vision and theory of change, through outcomes and indicators, to tracking and reporting on progress. The key accelerators of change and means of implementation comprise innovative financing and digital transformation while acknowledging the fundamental role of traditional culture, unique biodiversity and natural resources in the Pacific societies and economies.

The PSDCF is articulated around the 2030 Agenda's four main pillars, namely: people, prosperity, planet and peace. Partnership, the fifth pillar, is principally a means of implementing programmes to be developed under each thematic area. Figure 39 below presents an overview of the PSDCF.

Figure 39 PSDCF framework

[287] United Nations Sustainable Development Group (2023*). Six Transitions: Investment Pathways to Deliver the SDGs, September 2023*. New York: The United Nations.



Source: The United Nations in the Pacific (2022).

The PSDCF's Country Implementation Plan (CIP) defines the United Nations Country Team's actions and deliverables on the ground to help achieve the PSDCF's outcomes, firmly anchored to country-level needs and structures. The Joint (United Nations–government) Steering Committee oversees the implementation of the CIP.

Box 14 The SAMOA Pathway

The "SAMOA Pathway," the United Nations-led global programme of action for small island developing States (SIDS) 2014-2024, was adopted at the United Nations' Third International Conference on Small Island Developing States in Apia, Samoa, in 2014. It recognizes the adverse impacts of climate change and sea-level rise on SIDS' efforts to achieve socioeconomic development, food security, disaster risk reduction and ocean management, among other challenges.[288] As a SIDS, Marshall Islands is part of the SAMOA Pathway, as a beneficiary country.

The SAMOA Pathway addresses the unique challenges SIDS face and supports their development via the five priority areas. They are: (i) promoting sustained and sustainable, inclusive and equitable economic growth with decent work for all, sustainable consumption and production and sustainable transportation; (ii) mitigating climate change and adapting to its impacts by implementing sustainable energy and disaster risk reduction programmes; (iii) protecting the biodiversity of SIDS and caring environmental health by mitigating the impact of invasive plant and animal species and by adequately managing chemicals and water, including hazardous waste, as well as protecting oceans and seas; (iv) improving human health and social development through food security and nutrition, improved water and sanitation, reducing the incidence of non-communicable disease and by promoting gender equity and women's empowerment; and (v)

[288] Ibid. Also see: United Nations Office of the High Representative for the Least Developed Countries, "Landlocked Developing Countries and Small Island Developing States" (UN-OHRLLS) (2014). *The SAMOA Pathway*, see: https://www.un.org/ohrlls/sites/www.un.org.ohrlls/files/samoa_pathway.pdf.

fostering partnership among SIDS, United Nations agencies, development partners and others to achieve these goals.[289]

The United Nations will launch a new ten-year programme of action for SIDS at the fourth International Conference on Small Island Developing States, to be held in Antigua and Barbuda in May 2024. It will focus on practical and impactful solutions that allow SIDS to secure a sustainable and safe future for their citizens.[290]

[289] Ibid.

[290] Visit: https://sdgs.un.org/smallislands.

7. Key Gaps and Challenges in Attaining the 2030 Agenda

Marshall Islands shares the everyday challenges of most PICTs as well as some specific to its history, geography, society and economy. Like others, its development opportunities are challenged by size, isolation, distance, infrastructure and climate. Outward migration has shown a sizeable national threat to maintaining a healthy future for the islands. Development is uneven between the crowded urban areas of Majuro and Kwajalein and the outer islands. A heavy reliance on foreign capital and supplies has posed a vulnerable position for Marshall Islands with external shocks. Natural hazards include prominently droughts, sea-level rise, rogue waves and tsunamis, which are specific risks to the low-lying atoll nation. A complicated legacy is represented by the consequences of nuclear testing in the 1940s and 1950s, which still today takes a toll on the life and health of Marshallese, especially women and children.

This final section of the national study seeks to identify critical gaps that Marshall Islands confronts in attaining its national development plans and policies that directly and indirectly contribute to achieving the SDGs. It also presents policy recommendations, broadly categorized into the five pillars of SDGs: people, prosperity, planet, peace and partnership. This part of the study is based on the previously presented chapters. This is not an exhaustive checklist, nor does it seek to go into great depth. Instead, it seeks to delineate and prioritize the most pressing challenges confronting Marshall Islands.

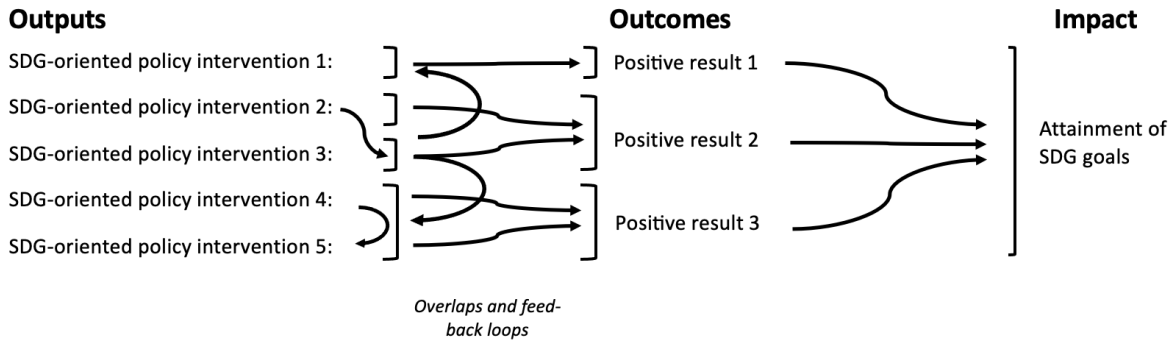
7.1. A holistic post-pandemic development strategy

This national study suggests that Marshall Islands would benefit from a holistic development approach to address the various overlapping socioeconomic, environmental and geopolitical challenges confronting the islands. Those challenges can potentially limit Marshall Islands' policy options, lessen the effectiveness of the government's day-to-day operations and undermine the long-term fiscal well-being of the island economy. With competing demands for finite funds and resources, as well as limited institutional capacity, strategic and practical prioritization becomes critical in seeking to achieve the most significant net positive impact.

Furthermore, there are considerable overlaps and interlinkages among the 17 SDG goals and the challenges posed in attaining them. Thus, while it is helpful to clearly define each of these, for clarity and a strategic allocation of resources, pursuing these goals necessitates taking a holistic approach, and, conversely, avoiding the temptation to adopt a "silo approach" (see figure 40). Gains made in one area field may have a positive (or negative) knock-on effect in another area, while a lack of progress in one area could pose a negative drag on another.[291]

[291] For example, health and NCD issues in Marshall Islands are partly related to diet and high dependency on imported foods. Not only is there a need for a lifestyle change, but there is also a need to seek economic solutions that lessen Marshall Islands' dependence on imported products. But any import substitution programmes must overcome the stark reality that most imported produce is typically cheaper and more convenient than any actual or potential home-grown equivalents. And there is a need for education and advocacy work as well. Thus, addressing health issues in Marshall Islands also necessitates interventions on the economic and socio-cultural fronts.

Figure 40 The silo approach



Source: The authors.

There is also a need to prioritize and pursue a strategy most likely to bring about the greatest desirable impact, relative to the funds, resources and institutional capacities available. In competing demands for such assets, effective prioritization becomes critical in achieving the most significant net positive impact. But those calculations, articulated in various development strategies and other policy documents, are not static and are prone to changes triggered by events and other exogenous factors. The recent COVID-19 pandemic is a good example, with a "different Marshall Islands" coming out of the pandemic, back into a world that is different from the one before the pandemic struck in early 2020.

This study would argue that the post-pandemic period allows Marshall Islands to re-set some of its development priorities and re-position itself in a regional and global context different than before 2020-2023. While the various recommendations provided below are valid avenues to pursue in and of themselves, in combination they can be part of a new development narrative for Marshall Islands, leveraging its greatest strengths and current opportunities, while seeking to address some of its fundamental weaknesses: holistic post-crisis development strategies, if you will. As the reader goes through the text below, she/he will see the extent to which some of these components are interdependent and overlapping in focus and intent. And that is a good thing, as it suggests there are areas where efficiency gains ("two—or three or more—for the price of one") can be achieved by adopting a holistic approach. Indeed, they inter-rely on progress attained elsewhere for their improvement. This underlines the necessity of what is sometimes called "joined-up government", where state agencies work in close coordination and resist the temptation to only focus on their particular mandates, resulting in a "siloed government". The latter tends to result in duplication of effort, a potential wastage of finite resources and, most importantly, an inability to make substantive gains across the full spectrum of socioeconomic and environmental priorities, as any initiatives undertaken will come up against, and be constrained by, the boundaries of their respective silo.

7.2. People

In Marshall Islands, the government has pursued sustainable human development, providing inclusive services to the population and modernizing various systems while refraining citizens from abandoning the country. Low nutritional imported foods have led to wide-spread NCDs in the islands. Violence against women is a complex and hostile reality in the islands, doubled by women´s discrimination at work, in society, public offices and businesses. Poor education and healthcare outcomes coupled with frequent natural hazards have pressured Marshallese communities to consider their future with more attractive options, including emigration to the United States under the CoFA.

Develop a dedicated migration and mobility policy

The government needs to develop a comprehensive policy to deal with the growing outward migration, resulting in the recent significant population drop (by 20 per cent over the last decade), while intensifying the engagement with Marshallese diaspora for it to better contribute to local development perhaps through increased remittances. Such a policy framework will help the country to seize the demographic dividend, maintaining the younger generations within its borders. It can be achieved through improving a combination of public services such as education, healthcare, and job creation, in collaboration with various stakeholders such as businesses, civil society, and development partners. However, such a policy framework must be developed based on the changing national culture and social norms. [292] Some specific recommendations include:

i) Developing the education and other social support systems to entice younger generations to stay in Marshall Islands;
ii) Strengthening overseas Marshallese associations in select diaspora hubs (e.g., Arkansas, California, Hawaii and Oregon) and encouraging their offshore cooperation, providing resources and technical assistance;
iii) Providing national language and cultural education to the diaspora's next generations, where possible; and
iv) Developing a legal and policy framework to facilitate foreign labour immigration and residence.

Mitigate food security shocks.

The recent and substantial rise in imported food prices, while unwelcome, does present an opportunity to strengthen food system pathways and rejuvenate traditional agri-food systems that can both alleviate nutritional deficiencies and counteract the substantial prevalence of NCDs in Marshall Islands. In the medium to long term, to support resilient agri-food systems, Marshall Islands needs to pursue agro-ecosystem diversity, sustain agri-food system transition and strengthen necessary food price/supply monitoring tools that are critical to raise the alarm of pending food shocks or crises, to be combined with anticipatory actions and preventative measures that strengthen food systems in advance. More specifically, Marshall Islands may wish to consider "crowding in" investments in:

i) Enhancing sustainable nutritious and healthier food production and livelihoods;
ii) Substiting heavily reliant imports; and
iii) Building capacity in import and domestic food supply chains, in collaboration with the private sector.[293]

Empower and protect women and other underprivileged groups

Empowering and safeguarding women and under-privileged groups groups necessitates comprehensively implementing various initiatives. Marshall Islands should also ratify multiple human rights instruments. Launching a widespread public awareness campaign is crucial to

[292] Hezel (2013).

[293] In addition, development partners should: (i) address the 5Fs (food, feed, fuel, fertilizer and finance) constraints immediately where possible; and (ii) ensure multi-year funding to strengthen food systems. See: FAO and WFP (2022*). Pacific Island Countries: Impact of rising costs of food, feed, fuel, fertilizer and finance Bulletin*, November 2022, Issue #1.

challenging gender stereotypes, promoting gender equality and fostering a culture of respect and inclusion. A multi-stakeholder approach involving government, civil society organizations and the private sector is vital to implement these initiatives effectively and bring about lasting empowerment and equality for women and underprivileged groups in Marshall Islands. Some specific actions might usefully include:

i) Addressing violence against women and developing comprehensive strategies encompassing legal protection, support services, awareness campaigns and educational programmes promoting healthy relationships and gender equality;
ii) Launching a widespread public awareness campaign to challenge gender stereotypes, promote gender equality and foster a culture of respect and inclusion;
iii) Promoting a multi-stakeholder approach involving government, civil society organizations (CSOs) and the private sector to empower women and underprivileged groups;
iv) Enhancing women's representation and participation in decision-making bodies, such as political institutions, corporate boards and public administration, perhaps by introducing gender quotas;[294]
v) Creating more job opportunities with equal pay to increase the number of women and disadvantaged people in formal employment;
vi) Providing training programmes, financial assistance and networking opportunities to support female and all other disadvantaged entrepreneurs;
vii) Establishing social protection measures that encompass disability support and social assistance, benefiting all disadvantaged groups of people;
viii) Mainstreaming human rights, which includes promoting gender equality, empowering women and ending violence against women and girls, in the education system; and
ix) Adopting international human rights norms and agreements as appropriate.

Enhance the quality of education to create a prosperous future for youth

To provide better opportunities for Marshall Islands' future generations, it is crucial to overhaul the education system. There is a need for a quality education system, at various levels and fields, spanning: academic (elementary, secondary and tertiary), vocational and adult/further education. In particular, the islands must design and embed sexual and reproductive health (SRH) education in the curricula to guide the students in preparing for their adolescence. A greater emphasis on quality TVET is also recommended, to equip Marshallese – particularly youth and women – with the skills needed to be employable. These actions will not only enhance school performance but also enable young people to secure better future lives and careers within the country, thereby decreasing the rate of outward migration while reducing the nation's dependence on foreign workers to fill specialized roles. Such a reform process must encompass improved governance structures, physical facilities and curricula, and well-trained educators and administration personnel. The proposed actions should include (but not necessarily be limited to) the following components:

i) Providing incentives to young individuals to complete at least secondary education;
ii) Enhancing the existing teachers' certification system, including opportunities for selected teachers to receive training abroad;
iii) Developing sexual and reproductive health (SRH) curriculums and embedding them in the education system;

[294] For more information on the pros and cons of gender quotas, refer to: https://www.idea.int/data-tools/data/gender-quotas/quotas.

iv) Addressing high youth unemployment requiring TVET, aligned with the labour market demand;
v) Addressing educational inequalities by prioritizing resources and support for disadvantaged islands and areas (e.g., outer atolls);
vi) Improving modest infrastructure regarding physical and virtual learning platforms; and
vii) Establishing a fully-fledged, four-year, liberal arts college with vocational and further education streams.[295]

Box 15 The University of Marshall Islands

It is imperative to prioritize the higher education of Marshallese. There would be merit in establishing a fully-fledged, four-year, liberal arts college: the University of Marshall Islands. The university could also provide vocational and further education streams, intended to improve the pool of skills and expertise available in the island country.[296] Courses and curricula that align with the islands' economic, social and environmental needs and priorities would be expected to reap dividends in the years ahead. Developing the skills is needed to reduce the "brain drain" of young Marshallese to other countries, and to be less dependent on overseas workers to meet demand in the government and the private sector. The lack of full-fledged higher education encourages students to migrate for their advanced studies.

Strengthening public health

In Marshall Islands, health coverage and outcomes are sub-optimal. Marshallese citizens struggle with one of the highest world obesity levels, leading to NCDs and premature deaths. Enhancing healthcare services should be one of the top development priorities for the islands. To tackle health problems, the government should consider applying a comprehensive approach to strengthening public health and consider the following measures, among others:

i) Exploring the imposition of taxes and duties on sweet, salty and fatty foods, and tobacco or alcohol to discourage high consumption;[297] [298]
ii) Increasing public awareness and knowledge about habits and nutrition to reinforce healthy lifestyles (reducing salt, sugar and fat; taking more fruit and vegetables; exercising more);
iii) Formulating national dietary and physical activity guidelines;
iv) Incorporating healthy lifestyle issues in national strategies, policies and action plans;
v) Pursuing more fishing, aquaculture and agriculture to improve food security and reduce the reliance on highly processed food imports.

[295] Such a four-year college could be funded by upgrading the College of the Marshall Islands on Majuro.

[296] Such a four-year college could be developed by upgrading the College of the Marshall Islands on Majuro.

[297] The primary purpose of such taxation was traditionally to generate additional government income. Countries have recently realized this could be a powerful tool to promote desired (e.g., healthy) behaviour. For more information on nutrition-related taxation: Jensen, J. and Smed, S. (2018). "State-of-the-art for food taxes to promote public health," *Proceedings of the Nutrition Society*, 77(2), 100-105.

[298] Such taxes and duties have been enacted in numerous countries, such as Norway, Denmark and Finland, as well as some cities in the United States, Mexico and Tonga. WHO has promoted nutrition-related taxation for years. Refer to: FAO (2014). *Policy measures to increase local food supply and improve food security in the Federated States of Micronesia*, November; WHO (2004) *Global Strategy on Diet, Physical Activity and Health*. Geneva.

vi) Introducing digital healthcare services such as mobile doctors and telemedicine implementing necessary ICTs or "health-tech," particularly for those in outer islands;[299]
vii) Renovating, expanding and upgrading healthcare facilities; and
viii) Improving women's healthcare provision, as well as supporting childcare and eldercare provisions.

7.3. Prosperity

Marshall Islands is exposed to various exogenous factors and forces that can deleteriously impact the country, its economy and its people (e.g., heavy dependency on essential goods imports and global commodity price hikes). Some of those risks can be mitigated by developing a more resilient economy based on the promotion and development of greater private sector activity, a more robust infrastructural platform of service provision and the adaptation of digitalization.

Grow through economic diversification: fisheries, agriculture, tourism and digitalization

The private sector could serve as an additional engine of sustainable economic growth, as current revenues largely depend on foreign aid, fishing of tuna stocks and vessel registration. The post-pandemic recovery gives Marshall Islands an opportunity to reboot its economy to be more resilient, diversified and sustainable around its leading sector – fisheries. Promoting more significant private sector investment, whether from domestic or foreign sources, could do much to innovate, invigorate and inspire new elements of the islands' future fishery sector. The Such a strategy would contribute to private sector diversification, increase demand for local businesses and better harness and preserve some local and traditional skill sets and handicrafts, as well as socio-cultural resources. While the private sector alone might be relied upon to pursue some investments, others may require public funding, or at least co-financing, for developing infrastructure and utilities for the fishery and tourism sectors. Infrastructural investments in support of Marshall Islands' fishery and tourism sectors also need to support other fields of economic activities, so that a more diversified and resilient economy can be developed. Crucially, the kinds of improvements being made in providing a range of business and consumer services, as a function of advances in ICT, have the potential to lessen some of the constraints that have traditionally put Marshall Islands and other PICTs at a distinct disadvantage. Improved internet connectivity is likely to be a critical element for sustainable economic growth in the years ahead, which means prioritizing undersea cable connections that can allow Marshall Islands to stop depending on expensive and unreliable satellite connections. Specific efforts in this space should consider including (but not necessarily limited to) the following components:

i) Investing in fisheries and aquaculture enterprises that offer long-term nutrition, livelihoods and sustainability benefits;
ii) Enhancing regional cooperation, including the Nauru Agreement, for sustainability in fisheries; and reducing illegal, unreported and unregulated fishing;
iii) Developing a coherent and realistic sustainable tourism strategy, including ecotourism
iv) Making a very deliberate commitment to ensure that current locations (both pristine and nuclear legacy locales) are protected;
v) Improving the level of electricity, water access, transport and ICT connectivity (e.g., airport rehabilitation and outer island transportation and communications);

[299] For more information, see: https://intelehealth.org/.

vi) Enforcing favourable foreign labour policies for the tourism sector, initially, and efforts made around TVET; and
vii) Promoting public-private partnership and blended finance to leverage private sector funds with those of the public sector and development partners (including accommodation upgrading);
viii) Attracting and retaining quality FDI inflows;
ix) Developing labour force skills through a range of educational initiatives (e.g., TVTE) that are well aligned with the needs of businesses, and bringing in foreign expertise to assist in this process where there is currently a lack of a domestic pool in those skills;
x) Coordinating with the banks to provide better access to finance for local investors;
xi) Setting up a department dedicated to promoting investment and providing incentives for foreign investors;
xii) Implementing local entrepreneurship programmes for low-income individuals such as the "One Island One Product (OIOP)" scheme, which promotes traditional handicrafts, pottery, fashion accessories, household items and food items;[300] and
xiii) Expanding digitalization by increasing the affordability of the Internet and enhancing digital literacy.

7.4. Planet

The future of Marshall Islands, a global advocate for climate action, is inevitably linked to international agreements on climate, and the possibility to tap into climate finance to build resilience. Marshall Islands requires development partners' support to face climate risks, de-risk investments and build infrastructure better. Another suite of opportunities is covered by the term Blue Economy, encompassing fisheries, tourism, aquaculture, other oceanic resources exploitation and the production of blue foods as part of the food security system of the country.

Maintain ecology, biodiversity and marine resources, including disaster risk reduction and circular economy

In Marshall Islands, ongoing climate change and its intensifying impacts, such as rising sea levels, high temperatures and extreme weather events, suggest a clear need to develop various initiatives in adaptation, mitigation and resilience in protecting the islands' ecology, biodiversity and marine resources, as well as disaster risk reduction (DRR) and circular economy advocacy. Marshall Islands needs technical assistance and funding support to develop sustainable and resilient approaches to infrastructure and utility provision, as well as other interventions intended to protect the country's pristine and ecological system. Activities that could attract international private sector funding and additional support include (but are not limited to):

i) Developing and integrating comprehensive risk assessments that include assessing hazards, vulnerability, exposure and adaptive capacity risk, along with impact-based forecasting and early-warning systems;
ii) Implementing public awareness programmes and localized technical assistance;
iii) Designing training programmes for government officials and others on disaster risk assessments, emergency response planning and post-disaster recovery, as well as establishing emergency protocols among national stakeholders and neighbouring countries;

[300] Opportunities to employ OIOP, especially in Yap, are analyzed in: Schumann, F. (2016). "One Village One Product (OVOP) Strategy and Workforce Development: Lessons for Small Islands and Rural Communities", *Pacific Asia Inquiry*, 7(1).

iv) Aligning environmental data-sharing systems with improved ICT infrastructure across multiple countries in the region, as well as government agencies within Marshall Islands itself;
v) Adopting the "blue economy" approach to achieve a more sustainable use of ocean resources for economic growth and development while preserving the health of marine and land ecosystems;
vi) Promoting various practices of the circular economy to improve water quality, minimize the release of hazardous chemicals and materials and increase recycling and safe reuse; and
vii) Given Marshall Islands' limited resources and capacities, actively working with development partners, the private sector and CSOs to mobilize resources and expertise to support the above-listed actions.

Advocate for more substantial international commitments to climate justice

As a nation that is not a significant polluter or emitter of greenhouse gas emissions, but increasingly suffering the consequences of climate change, Marshall Islands should actively engage in global efforts to ensure the effective implementation of climate justice. In this vein, the country would do well to join forces with other affected nations to demand more significant emission reduction targets and increased financial support for its climate change adaptation and mitigation measures. This includes actively participating in climate negotiations and other international forums to ensure that the voices of PICTs are heard. Specific interventions could usefully comprise:

i) Exploring the possibility of pursuing practical actions against major polluters and greenhouse gas emitters, in line with the International Court of Justice's advisory opinion on countries' obligations to address climate change, seeking preparations for the environmental, social and economic impacts of climate change on Marshall Islands, perhaps assessing MVI and supporting efforts to establish an international legal framework for climate justice;[301] and
ii) Strengthening cooperation with regional organizations such as the PIF and the Secretariat of the Pacific Regional Environment Programme (SPREP) to develop comprehensive regional strategies for climate resilience, adaptation and mitigation, pooling resources, sharing expertise and leveraging regional influence to advocate for more robust global climate action.

7.5. Peace and partnerships

Enhancing the nuclear legacy

One of the most strategic definitions for the future of Marshallese still lies in the negotiations with the United States to revitalize a long-term settlement of the issues provoked by the nuclear legacy. Such payment should cover monetary compensation and involve specialized medical services for radiation-related illnesses. Within this context, necessary technical assistance and outreach support by the United Nations, including IAEA, must address biological and ecological radioactive impacts, forced relocations and land loss. The government, donors, the United Nations agencies and other partners and stakeholders, including multirateral development banks (MDBs), civil society and affected communities, must coordinate assistance on nuclear legacy, practical approaches and project formation well. The proposed actions should include

[301] See: https://sdgs.un.org/topics/small-island-developing-states/mvi.

(but not necessarily be limited to) the following components:

i) Taking a pragmatic approach to coordination: The relationship between Marshall Islands and the United States on the nuclear legacy is sensitive and complicated. Other stakeholders including the United Nations, are not supposed to be involved in any compensation negotiation (monetary and in-kind). Instead, there could be specific areas in which other organizations can support Marshall Islands according to their expertise and knowledge (e.g., IAEA's scientific and technical capacity and WHO's healthcare advice);
ii) Building national capacity to monitor and understand radiation impacts: Tracking the status of radiation-affected people and sites has faced severe resource constraints for which development partners' assistance is needed to strengthen Marshall Islands' capacity to collect accurate data and scientific evidence. In the long run, developing Marshallese's evidence-based intelligence on the nuclear legacy is desirable to fill the gap in available data and facts to introduce constructive policies on the issues;
iii) Protecting human rights of forced migrants: Forced displacement resulting from nuclear weapon testing has impacted the human rights of affected communities and people; and
iv) Enhancing education and awareness of the nuclear legacy: Marshall Islands' nuclear legacy has universal value as admitted in the international arena (e.g., a World Heritage). However, Marshall Islands is less equipped to preserve such historical value appropriately.[302] Although the nuclear legacy is politically sensitive and needs to be handled carefully, collective efforts to enhance such heritage through improving education and awareness are desirable.

Foster Pacific-Pacific regional cooperation

Under the changing geopolitical dynamics, Marshall Islands' regional location has become increasingly important to regional powers. To overcome many of the issues and challenges described in this paper, Marshall Islands requires continuous support from its strategic partners, mainly the United States and its allies in and outside the Pacific. Marshall Islands should advocate for greater collaboration with the United States and other development partners, including bilateral and multilateral agencies. The islands' diplomatic ties with the Taiwan Province of China will also provide a unique opportunity regarding tangible and intangible resources. Climate change is the primary threat to the nation, and by taking a pragmatic approach to its relations with those countries, Marshall Islands can receive much-needed developmental assistance, which is crucial for its sustainable growth and healthy future. Last but not least, Marshall Islands should form regional/Micronesian trade and investment preference groups through "Pacific-Pacific" economic development cooperation. Under the framework, trade, investment and human flows would be expected to be accelerated. The government must maintain diplomatic and economic relations with all stakeholders to effectively achieve the country's development goals.

Employ a holistic approach: The "BlueEARTH" development model.

Navigating a way through increasing geostrategic competition in the Pacific, Marshall Islands has faced various challenges and conundrums, as profiled in this study, spanning: education, healthcare, food, labour, migration, infrastructure, trade and investment, tourism, finance, the

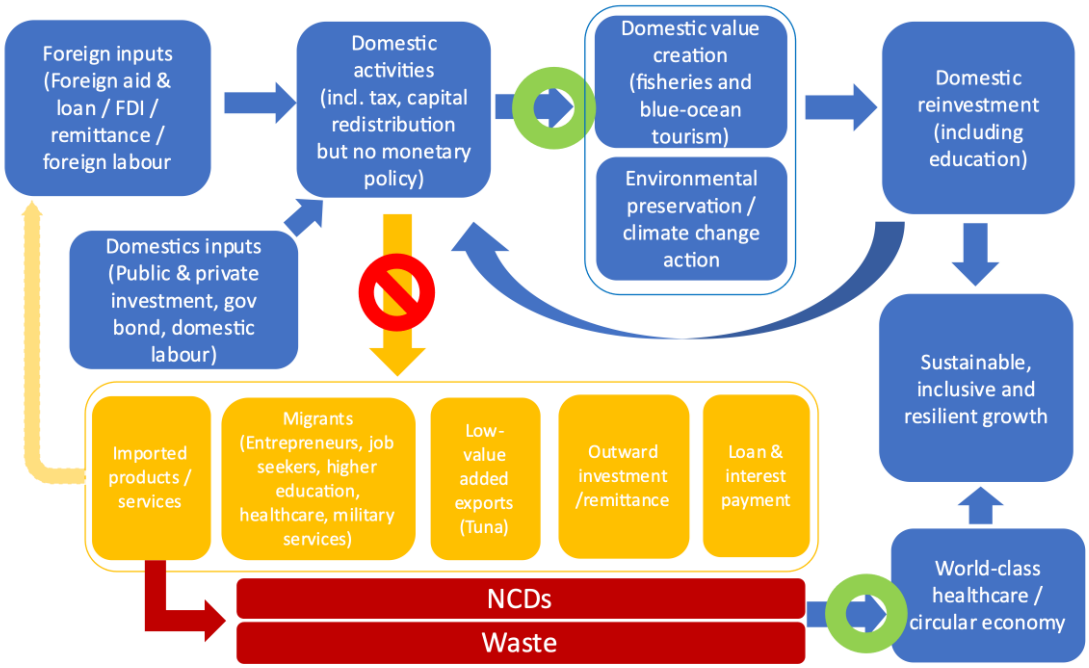
[302] Marshall Islands National Nuclear Commission (2019). "Strategy for Coordinated Action to Address Nuclear Justice - FY2020 to FY2023," *Policy Paper*.

private sector, climate change, natural disaster, blue economy, biodiversity, gender and youth, circular economy and so on. To a lesser or greater extent, all these issues stem in part from one crucial dilemma, that is: Marshall Islands has come to depend significantly on foreign external inputs, capital and knowledge, while at the same time steadily diminishing its valuable domestic assets (whether they be capital, human, tangible or intangible in form) to others, and particularly Australia, China, Fiji, Japan, New Zealand, the United States, the Taiwan Province of China and other neighbouring countries, for example, Indonesia, Malaysia, the Philippines and Thailand in South-East Asia. This vicious cycle has resulted from historical sovereign development and geo-political and socio-economic settings around the Marshall Islands.

Money flowing into the Marshall Islands or generated within the country can contribute to domestic value creation or be lost through outflows. To foster sustainable growth, it is crucial for the assets to remain within Marshall Islands, enabling local reinvestment and fuelling a cycle of development. The country should prioritize the value creation process within its borders, which will effectively halt the outflow of assets and promote investments and reinvestments domestically. For instance, significant money is spent on imported goods and foods. While certain food products, like rice and wheat, may not be producible within the country, there are opportunities to locally produce other goods or seek equivalent substitutes, which are usually better in nutrition and prevent NCDs while reducing healthcare costs. Those imported goods, such as cars, motorcycles, furniture and canned foods and drinks will eventually increase the amount of waste at the very end of value chains, which urgently require the implementation of circular economy practices such as recycling, reuse and environmentally right dumping. Presently, locally caught tuna is also exported without processing, leading to low prices and reduced income for the local economy. Remittances received by foreign immigrants, who play an essential role in the Marshall Islands, are often sent back to their home countries. To retain money within the country, it is crucial to develop a self-reliant workforce capable of fulfilling demanding jobs across various fields. This requires sufficient education and healthcare services to citizens and foreigners in all necessary and specialized fields so that the money they earn can circulate within the country. Another significant outflow of money stems from investments made overseas. The lack of a conducive business environment in Marshall Islands discourages local and foreign investments. The funds lost through these investments in foreign markets should instead be reinvested within local boundaries, fostering sustainable, inclusive and resilient development. Human assets have also shown the same trend as emigration, which has become a popular option for many Marshallese for various reasons such as work, study, military, family, and illness under the CoFA with the United States.

Marshall Islands should focus on retaining money within the country by emphasizing domestic value-creation processes, reducing outflows and reinvesting lost funds in local markets. This approach will contribute to socio-economic growth and self-reliance. Figure 41, below, depicts the problem in Marshall Islands as a simplified value chain.

Figure 41 Marshall Islands' simplified value-add or value-losing chains



Source: The authors (2023).

The figure may suggest three critical policy implications:

i) Marshall Islands should focus on investment in domestic value creation (e.g., industries, education, environmental protection, climate change adaptation) and healthcare and waste management to safeguard against the negative impacts of imported foods and goods;
ii) Marshall Islands must discourage value outflows through various leaking channels (e.g., imported goods, foods and fuels, migration, low-value-added exports, outward FDI and loan repayments) by implementing relevant countermeasures (e.g., laws and regulations, taxes and duties, incentives, contracts, institutional capacity building and human resource development); and
iii) Marshall Islands has to develop a comprehensive policy package, containing the above two policy streams in a carefully designed mix so that the nation can enhance its interventions' effectiveness and efficiency while reducing their potential cancelling-out effect. The two policy streams may have an opposite effect that, for example, domestic investments targeted households and businesses may choke on drastic import restrictions, reducing the availabilities of essential foods and goods and increasing the living costs.

In partnership with stakeholders, including other SIDS in the Pacific and Micronesia, bilateral donors, multilateral development agencies, international finance institutions (IFIs) and others (e.g., CSOs and the private sector), Marshall Islands should develop and implement a holistic development framework intended to comprehensively break out of the vicious cycle and strengthen its socioeconomic fundamentals. Such a strategy would aim to develop and maintain the domestic value creation systems within Marshallese borders while encouraging international cooperation with other countries and entities. It should seek to bring about greater economic resilience and attain a more environmentally sustainable growth trajectory.

In this context, we humbly propose a new development model, for consideration by Marshall Islands and other PICTs, potentially adaptable to other SIDS globally, called "BlueEARTH." The term BlueEARTH denotes a [Blue] economy, [E]ducation, [A]id, [R]emittances, [T]ourism and [H]ealth. The model builds on some of the critical concepts and components of previous SIDS development models, such as MIRAB, TOURAB, ROT, SHIFT and PROFIT (see section 2.2), but expands them to cover other crucial issues and challenges that Marshall Islands and other PICTs are currently contending with, as depicted in this study (table 5). The aim of the BlueEARTH is to break the vicious cycle of the past and serve as a vehicle to create a more virtuous cycle for the future.

Table 5 The "BlueEARTH" development model

Model	Key elements	Income sources	Enablers
BlueEARTH	[Blue] economy [E]ducation [A]id [R]emittance [T]ourism [H]ealth	Fisheries, foreign development assistance, inward remittances and blue ocean tourism	Improved education and healthcare, a more dynamic private sector, environmental preservation, circular economy, greater international cooperation, better bureaucracy and advances in digitalization

Source: The authors.

The model's merit is in identifying multiple revenue sources for Marshall Islands, namely: fisheries, foreign development assistance, international remittances and blue ocean tourism. The model also identifies the key enablers: improved education and healthcare, a more dynamic private sector, environmental preservation, a circular economy, greater international cooperation, better bureaucracy and advances derived from increased digitalization. New elements in this model include education, healthcare, environmental preservation and circular economy as key policy issues that Marshall Islands must tackle, as they have significantly contributed to people's migrations out of the country. This framework can provide the basis for national and international development cooperation for Marshall Islands among various stakeholders and development partners, as elaborated in this study. Mainstreaming environment sustainability, in the pursuit of a robust domestic blue economy, offers the prospect of genuine sustainability.

Partnerships with bilateral development partners (such as Australia, Japan, New Zealand, the United States and the Taiwan Province of China), regional and international organizations (such as ESCAP, PIF and SPC), MDBs (such as ADB and the World Bank) and IFIs can all help bring about positive impacts. Harnessing the financial and non-financial (technical) capacities of these institutions and their considerable prior experience is highly recommended. But within the Pacific, partnering with other PICTs to develop joint approaches to regional socio-economic and environmental issues of mutual concern can also be incredibly beneficial, sharing and leveraging resources, and ensuring that "the wheel is not reinvented." Sharing best practices, lessons learned and pursuing innovative approaches to economic development and climate change challenges all help to enhance, not divert, domestic institutional capacity. Further, bilateral and multilateral agreements with neighbouring island countries can help create and strengthen trade and investment ties.

This national study would argue that integrating blue economy principles into Marshall Islands' development strategy (i.e., the BlueEARTH) would contribute significantly to the island's

sustainable growth prospects. Initiatives might usefully include: offshore renewable energy; decarbonized shipping and climate-resilient ports; adopting circular economy principles in production, processing and services; and sustainable marine food production and processing, among others.