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Strengthening Pacific Research and Development

A baseline assessment of investment and capacity
in Pacific states.

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Acronyms

AUD	Australian Dollar
CINRC	Cook Islands National Research Committee
CIREC	Cook Islands Research Ethics Committee
CSOs	civil society organisations
DHERST	Department of Higher Education, Research, Science and Technology (PNG)
DIP	Deliberate Intervention Programs
EEZ	Exclusive Economic Zone
EFTS	equivalent full-time student figures
FFA	Forum Fisheries Agency (Pacific Islands)
FJD	Fijian Dollar
FNU	Fiji National University
GDP	gross domestic product
GEF	Global Environment Facility
GERD	Gross Domestic Expenditure on Research and Development
HEC	Higher Education Commission
HEIs	Higher Education Institutions
HR	Human Resources
ICT	Information and Communication Technology
KDP	Kiribati Development Plan
KV20	Kiribati 20-year Vision
MAF	Ministry of Agriculture and Fisheries (Samoa)
MCIL	Ministry of Commerce, Industry and Labour (Samoa)
MCIT	Ministry for Communications & Information Technology (Samoa)

MOU	Memorandum of Understanding
MTDP IV	Medium Term Development Plan IV (PNG)
NCD	Non-Communicable Diseases
NEP	National Energy Policy (Fiji)
NES	National Environment Service (Cook Islands)
NGO	Non-Governmental Organisation
NSDA	National Sustainable Development Agenda (Cook Islands)
NSTIP	National ST&I Policy (Samoa)
NUS	National University of Samoa
NUV	National University of Vanuatu
NZD	New Zealand Dollar
OB	Office of The President (Kiribati)
ODA	official development assistance
PGK	Papua New Guinea Kina
PICTs	Pacific Islands Countries and Territories
PNG	Papua New Guinea
PSIDS	Pacific Small Island Developing States
R&D	Research and Development
R&I	Research and Innovation
RDI	Research, Development & Innovation
SBD	Solomon Islands Dollar
SBMA	Seabed Minerals Authority (Cook Islands)
SCCI	Samoa Chamber of Commerce & Industry
SCS	Samoa Conservation Society

SDG	Sustainable Development Goal (United Nations)
SINU	Solomon Islands National University
SPC	The Pacific Community, formerly the South Pacific Commission
SPREP	Secretariat of the Pacific Regional Environment Programme
SROS	Scientific Research Organisation of Samoa
STEM	Science, Technology, Engineering, and Mathematics
STI	science, technology, and information (sometimes ST&I)
TOP	Tongan Pa'anga
TPVM	Te Puna Vai Marama (Cook Islands)
TVKP	Te Vairanga Kite Pakari (Cook Islands)
UNESCO	United Nations Education, Scientific and Cultural Organization
USD	United States Dollar
USP	University of the South Pacific
WIPO	World Intellectual Property Organization
WST	Samoan Tala

Executive Summary

This preliminary report provides a baseline assessment of Research and Development (R&D) investment and human capacity in ten Pacific Small Island Developing States (PSIDS): Cook Islands, Fiji, Kiribati, Nauru, Niue, Papua New Guinea, Samoa, Solomon Islands, Tonga and Vanuatu. Commissioned by the United Nations Education, Scientific and Cultural Organization (UNESCO), this report aligns with the United Nations Sustainable Development Goal (SDG) 9.5 which monitors progress toward enhancing scientific research and encouraging innovation. Target 9.5 aims to encourage national innovation and scientific research, as well as increase the number of researchers, public and private spending on research, and experimental development.

Drawing on secondary data from government reports, the regional PacificHub database and completion of a Pacific R&D survey based on the Frascati Survey adapted for Papua New Guinea, this report highlights R&D national contexts, investment levels, human resources, outputs and recommendations for strengthening national science, technology, and information (STI) strategies.

Across the ten PSIDS, key findings demonstrate significant variations in R&D sector maturity influenced by small populations, limited fiscal resources, geographic isolation, and reliance on donor funding for R&D and STI policy developments. Papua New Guinea with a larger population and economy was an outlier within terms of R&D scale and scope with more R&D institutions and activities compared to the other countries.

Across the ten countries key findings included:

- Key policy priorities included climate resilience, agriculture, marine resources and health, with varying degrees of institutional support and domestic funding allocation.
- Low and fragmented national investment with R&D expenditure as a proportion of Gross Domestic Product (GDP) was minimal or data was unavailable for some countries. In other cases like Fiji and Solomon Islands, R&D funding was embedded in sectoral budgets.
- R&D developments were mostly funded by donors and overseas aid, raising issues on sustainability and endogenous capacities.
- Human resources and capacity require significant investment for strengthening. At present, tracking PSIDS progress against SDG 9.5.2 that measures the number of full time equivalent researchers per million inhabitants will remain a challenge due to small population size.
 - Gender imbalances vary between countries.
 - Tertiary education is growing based on current data but better quality data from tertiary institutions including the University of the South Pacific (USP) will help provide a more coherent and detailed sector analysis.
 - Challenges included migration of highly qualified Pacific people overseas and lack of dedicated research training.

- Research outputs data was a challenge. Data available showed that outputs are growing but remain modest through partnerships with external tertiary institutions and funding donors. Focus areas include climate change, environment and biodiversity, agriculture, and health.
 - Patent activity and information was scarce with most innovations applied rather than commercialised.
- Few countries have dedicated national R&D policies. A brief policy review showed that R&D was sectoral-based, like environment and health. These were tied to the national priorities of the government. As a strategy, this makes the most sense for the Pacific region and countries that are classified as low-middle income countries (LMICs).
 - A key feature of policies was the inclusion of community-driven priorities.
 - However, a national R&D policy will help with national coordination to strengthen human capacity more broadly, demonstrate areas where countries should be focusing on leveraging their areas of strength, highlight areas where multi-sectoral or whole-of-government approaches could support efficiencies, and provide incentives to improve private sector involvement for economic resilience.

Recommendations emphasise developing or strengthening national R&D and STI policies, supporting mandatory SDG 9.5 reporting, enhancing cross-sector and transdisciplinary partnerships, and building low-cost digital infrastructure for data management. Prioritising gender inclusive capacity building and leveraging regional networks are identified as areas for opportunity to advance progress.

This baseline report serves as a resource to support subsequent reports for future monitoring and advocacy tools for policy makers to prioritise R&D as a pathway for inclusive sustainable development. There is often a disconnect between international standard metrics and the indicators most relevant to PSIDS and LMIC contexts, highlighting the need to develop more nuanced metrics or proxies that better align with local realities. This is often the case with international and global comparisons across sectors where indicators and metrics are based on continents and developed country settings. Gathering, maintaining and monitoring data is a challenge for small governments.

Future reports need to ensure sufficient time is given to allow for national approvals and to recognise the challenges that PSIDS governments face with public administration. It would be of benefit for funding to be provided directly to country focal points – for example, country UNESCO focal points – to support the monitoring of R&D data and metrics. Overall, the findings underscore the need for coordinated policies, capacity building and better metrics suited for a Pacific context to strengthen R&D activities as a driver of sustainable development. By strengthening the Pacific R&D ecosystem, investing in skills and digital infrastructure suited for Pacific contexts, and promoting inclusive innovation, the Pacific can maximise the contribution of STI to inclusive sustainable development and economic growth.

Introduction

The Pacific region faces unique challenges in building resilient, innovative economic sustainability. The region is characterised by geographic remoteness and dispersion, small populations, vulnerabilities to external shocks such as climate change, and fragile economies and governments. Science, technology and innovation (STI) has the potential to help the Pacific region to address these unique challenges through targeted applications in key sectors such as climate change adaption and resilience, marine and agricultural resource management, digital transformation and connectivity, disaster risk management and improved social service delivery

It is within this context that this report assesses Research and development (R&D) investment and capacity in ten Pacific Small Island Developing States (PSIDS): Cook Islands, Fiji, Kiribati, Nauru, Niue, Papua New Guinea, Samoa, Solomon Islands, Tonga and Vanuatu, focusing on the United Nations Sustainable Development Goal (SDG) 9.5 which monitors progress toward enhancing scientific research and encouraging innovation. Target 9.5 aims to encourage national innovation and scientific research, increase public and private spending on R&D (SDG 9.5.1), and increase the number of researchers per million inhabitants (9.5.2).

This report establishes baselines for R&D ecosystems across PSIDS where data is often fragmented, unavailable, or difficult to track against current indicators. For example, the only Pacific country with a population over one million is Papua New Guinea. Most PSIDS have populations under 200,000. Nonetheless, the report findings will help national governments and stakeholders to have a better understanding of national R&D ecosystems to identify strengths and weaknesses in current fields, human capacity, research infrastructure and national investment.

The assessment draws on secondary data from government reports, the regional PacificHub database and completion of a Pacific R&D survey based on the Frascati Survey adapted for Papua New Guinea. This report highlights R&D national contexts, investment levels, human resources, outputs, and recommendations for strengthening national STI strategies.

Challenges in data collection such as inconsistent reporting, unavailable data, and limited capacity from national representatives to complete the survey highlight the need to think through time and resources given to support PSIDS' effective monitoring towards SDG 9.5. The report, therefore, provides a useful reference point for progress to be measured over time moving forward in support of national and regional STI planning.

The report is structured by country profiles, each covering a country overview, policy context, data sources, R&D investment, human resources, outputs, and national recommendations to support R&D and STI policy pathways and strategies. The data and findings in this report can help to strengthen STI policies that target real needs, help to prioritise limited resources that are currently available for maximum impact and align STI policy with national develop goals.

1. Cook Islands R&D National Profile

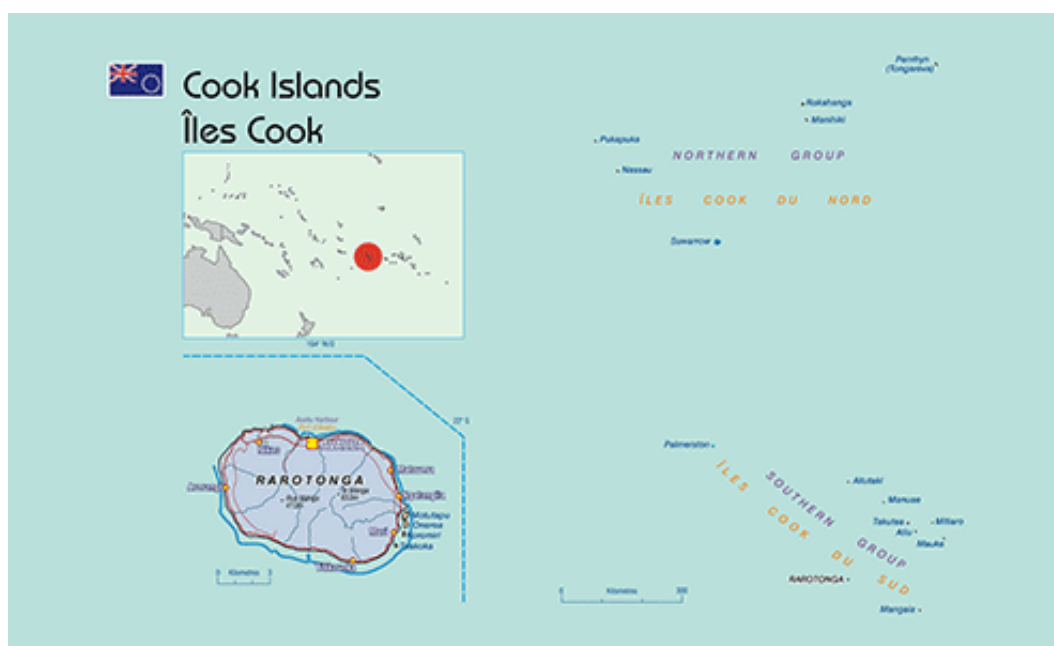


Figure 1.1 Map of Cook Islands¹

1.1 Country Overview

The Cook Islands is a multi-island state in free association with New Zealand. The Cook Islands comprises 15 islands and is surrounded by American Samoa and Niue to the west, Kiribati to the north and French Polynesia to the east. National statistics from 2024 are as follows:¹

- **Exclusive Economic Zone (EEZ):** 234 million km²²
- **Land area:** 237 km
- **Population:** 13,491 (2024)
- **Population growth:** -3.4% (2024)
- **GDP per capita:** USD25,651 (2024)
- **Adolescent Population (ages 10-19):** 3,000 (2024)³

1.2 Research & Development Policy Context

Public Sector

Through the National Sustainable Development Agenda (NSDA), the Cook Islands Government tracks SDG 9.5 Indicators through NSDA Goal Indicators 8.5 Total national research funding and contribution to goal priorities, and 8.6 Tertiary and vocational level completion. In 2021, the government reported they had met their goal for NSDA 8.5 with a budget allocation of NZD140,000 (New Zealand Dollar) towards

¹ Pacific Community [SPC], 2025, Cook Islands

² Ibid

³ UNICEF, 2025, Cook Islands data set

funding research for national priorities (see Section 1.3 for more information). The government reported they were on track to meet their target of 40 for NSDA 8.6 with 28 of the resident population attaining tertiary or vocational qualifications.⁴

All research in the Cook Islands must meet the country's research and ethical standards. In 2022, a revised national research permit structure was put in place and is managed by the Office of the Prime Minister. The structure includes a National Research Council and an Ethics Committee. The secretariat duties for the Council and Ethics Committee are carried out by the Central Policy and Planning Office.⁵

Examples of Government agencies engaged in research include:

- National Environment Service – environmental stewardship and enforcement
- Ministry of Marine Resources – activities include conducting research on marine life, fisheries and seabed minerals. Recent developments in 2025 include a new biology laboratory, an otolith lab for fish health studies and the use of a remotely operated vehicle for deep-sea exploration. These developments support the Cook Islands to strengthen local scientific knowledge and research by providing the resources and capacity to independently assess stock status of marine resources. Funding was provided by the Australian Government and the Pacific Community (SPC).
- Seabed Minerals Agency – approves research activities
- Te Marae Ora – Ministry of Health which has its own Health Research Ethics Committee.

Academia

The tertiary sector includes the Cook Islands Tertiary Training Institute established in 2013 and the University of the South Pacific (USP) has had a Cook Islands Campus since 1975. Overseas tertiary institutions also have a presence in the Cook Islands providing tertiary education and training as well as research for its overseas based students. Such institutions provide training to respective Cook Islands cohorts through signed agreements with government agencies and civil society organisations (CSOs). For example, Whitireia Community Polytechnic and USP offer a New Zealand accredited Bachelor of Nursing Pacific degree.

USP Cook Islands equivalent full-time student figures (EFTS) totalled 18 for 2024 with 13% males and 87% female enrolled in 13 undergraduate programmes and four sub-degrees. The top five programmes of study are Bachelor of Education (Primary), Certificate Disaster Risk Management, Bachelor of Commerce, Bachelor of Law and Bachelor of Commerce Professional Accounting.⁶

Private Sector

There are three private sector companies undertaking research as part of their exploration licences issued by the Cook Islands Government. They are Moana Minerals (2021), Cobalt (CIC) limited (2019) and CIIC Seabed Resources (2025). They are

⁴ Government of Cook Islands, 2023

⁵ Office of the Prime Minister, n.d.

⁶ University of South Pacific, 2024, p. 41

regulated by the Cook Islands Seabed Minerals Authority (SBMA) responsible for regulating and managing seabed mineral activities. Targeted research is carried out under SBMA's environmental permit.

CSOs

There are two incorporated research organisations in the Cook Islands which receive funding from the Cook Islands Government.⁷ They are:

- Te Vairanga Kite Pakari (TVKP) – the Cook Islands Research Association incorporated in 2020. The association aims to nurture the pursuit of research and knowledge that supports the social, economic, and cultural wellbeing of the Cook Islands and its peoples. In addition to hosting research events, a database of peer reviewed publications and a register of Cook Islands researchers is available.⁸
- Te Puna Vai Marama (TPVM) – Cook Islands Centre for Research incorporated in 2018.⁹ The organisation received NZD80,000 per annum toward core costs from the Ministry of Finance and Economic Management.

1.3 R&D Investment

While the NSDA Indicator 8.5 tracks overall national budget allocation towards R&D there was no public national consolidated dataset for total research spending across all sectors. The Government's national appropriation is published by the Cook Islands Statistics Office through the Government Finance Statistics (GFS). The Ministry of Finance and Economic Management's (MFEM) Budget Book (2024–25) includes agency statements and allocations that may cover research or innovation activities. Development partner research can be partially traced through the UNESCO Core Data Portal and other partner reports.

National investment into research is often integrated into research activities aligned with government agencies' mandates and therefore, can be embedded across a range of work programmes and/or project activities. Research-related government activities include feasibility studies, technical assessments and reporting requirements. These activities are typically financed through broader development programme budgets by government or donors. For example, the Global Environment Facility (GEF) cycles has provided the National Environment Service Cook Islands (NES) with a NZD12,390,000 investment through project activities which includes the following major research components:

- Coastal Hazard and Adaptation Feasibility Study (2024 – 2025) approximately USD360,000. Funded under the coastal resilience programme this involved scientific assessments, coastal modelling, risk mapping and adaptation recommendations.
- GEF-7 Enhancing Natures Unique Areas (ENUA¹⁰) Project (2023 – 2029) with a total project value of approximately USD7 million. Significant funding was

⁷ Funding amount was undisclosed in public documents.

⁸ Te Vairanga Kite Pakari, 2025

⁹ Te Puna Vai Mārama, 2025, p.3

¹⁰ 'Enhancing Natures Unique Areas' and is a Cook Islands word that translates to land

dedicated to research and data strengthening components such as terrestrial and marine assessments, biodiversity surveys and decision-support tools

- GEF 5 Ridge to Reef (R2R) (2020) with funding from the previous GEF cycle of USD5 million. Funds were used to conduct the 2020 Takutea biodiversity survey, community-based monitoring and ridge-to-reef ecological research used to inform management planning.
- Citizen-Science and Environmental Monitoring Initiatives (2023 - 2025) are worth USD16,000. This supports ongoing work such as collecting baseline data, analysing environmental trends and improving reporting frameworks for the State of Environment.

Although not labelled as “research expenditure,” these activities represent substantial investment in scientific work, environmental evidence and policy-relevant data generation.

1.4 HR / People

Human Resources (HR) and workforce data was fragmented. However, according to the 2021 Cook Islands Census Report, about 28% of the resident population hold some form of qualification, a slight increase on the previous census of 5%.¹¹

Figure 1.2 below shows that while females achieved higher education qualifications than males in Bachelor’s Degrees and Postgraduate Certificates, more males achieved Trade qualifications. It was noted that overseas qualifications and PhDs were difficult to classify.¹²

¹¹ Cook Islands Statistics Office, 2023, p. 72

¹² Ibid., p. 22

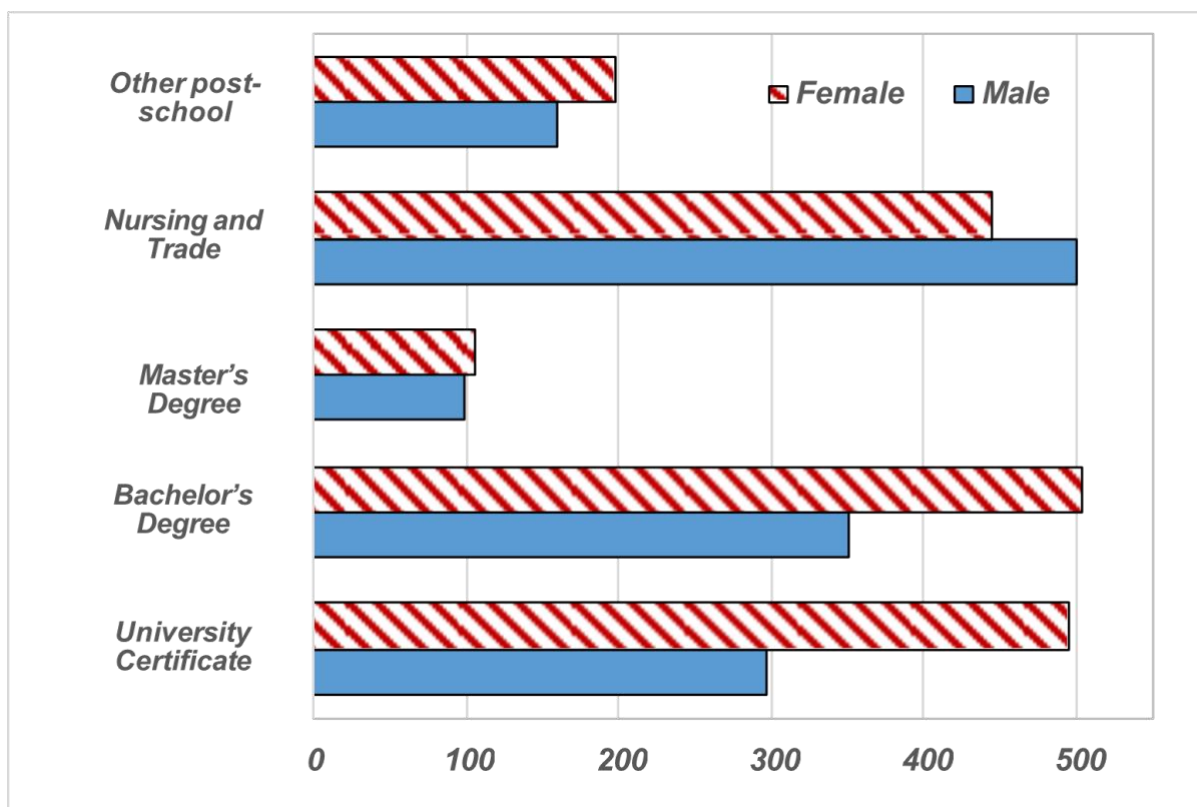


Figure 1.2 Higher educational qualifications gained from Cook Islands Census 2021¹³

The Office of the Public Service Commissioner (OPSC) shares workforce data showing the number of public servants by ministry and gender. However, it does not yet break down staff by qualification level (PhD, Master's, Bachelor's) or focus specifically on research roles. Government agencies however provide some information on their websites. For example, the NES as of 2025 has 43 positions, several of these contribute directly or indirectly to research, environmental monitoring, policy development and data analysis. The NES is also strengthening its internal research capability through new and emerging roles such as the Research & Data Coordinator, which was being progressed in 2025.

NES Qualifications by Gender in 2024/25:

- PhDs: none
- Master's Degrees: two (one female, one male)
- Postgraduate Certificates: five (one female, four males)
- Bachelor's Degrees: 11 (10 females, one male)

Consultants engaged by the NES in 2024/25:

- Five female consultants (one with a Bachelor's degree; four with Postgraduate qualifications including Master's and PhD level)
- Three male consultants (all with Postgraduate qualifications including Master's and PhD level)

¹³ Ibid., p. 24

This can be compared to the Ministry of Justice which has one male staff member with a Master's qualification and the Mitiaro Island Administration which has one female staff member with Master's qualification.

Based on available sources Table 1.1 below shows the highest qualifications for the public and civil society sectors for 2025.¹⁴

Table 1.1 Cook Islands Government Combined Qualifications by Gender for 2025

Qualification	Number	Female	Male
PhD	5	4	1
Master's Degree	11	8	3
Postgraduate Certificate	8	4	4
Bachelor's Degree	11	10	1

The table below demonstrates the number of Cook Islands national EFTS for 2024 at USP, by level of study.

Table 1.2 2024 Cook Islands National EFTS at USP by Level of Study¹⁵

Level of Study	Number of EFTS
Postgraduate (thesis)	–
Postgraduate (coursework)	–
Undergraduate	13
Sub-Degree	4
Total Number of EFTS	17

1.5 Outputs

Research activities are coordinated by the Cook Islands National Research Committee (CINRC) and the Cook Islands Research Ethics Committee (CIREC) under the Office of the Prime Minister. As of early 2024, around 50 research applications had been received across different sectors, including health, education, environment, and social issues. Agencies such as the Cook Islands Tourism Corporation and the Ministry of Agriculture also publish some of their applied research and policy outputs on their websites.

Publications

A search of Google Scholar informed the collation of material. Additional information about published material from the National Environment Service and two Civil Society Research entities in the Cook Islands were also included. For 2025, this includes three book chapters, 20 Journal articles and one technical report.¹⁶ There is no patent information available.

¹⁴ Information from National Environment Service, Ministry of Justice and Mitiaro Island Administration provided by Office of the Public Service Commissioner, and TPVM and VKTP Annual Reports

¹⁵ USP, 2024, p. 41

¹⁶ Te Vairanga Kite Pakari, 2025

An example of government outputs includes the NES that continues to produce a range of research-driven outputs that inform national policy, environmental management and community awareness. These include:

- Technical reports, feasibility studies, field assessments and ecological surveys
- Policy products, including drafts of the Environment Bill 2024, regulations, guidelines and permitting tools
- State of Environment-related data and analyses, produced internally and through project partnerships
- Public information materials, newsletters and communication products summarising research findings and ongoing environmental work¹⁷

Other outputs include research related conferences, symposia and workshops. For example, a November 2025 Research Webinar was hosted by Te Marae Ora – Ministry of Health, Te Vairanga Kite Pakari, Te Puna Vai Marama and Te Poutoko Ora a Kiwa (University of Auckland) that focused on research in the Cook Islands. Over 90 participants took part in the online event which covered research fundamentals such as research design, methodology, analysis and presentation.¹⁸

1.6 Key recommendations for strengthening R&D pathways in Cook Islands

The Cook Islands small population, economy and limited fiscal capacity are key challenges to advancing R&D activities. In support of R&D as part of the Cook Islands NSDA, recommendations include:

1. Developing a national R&D strategy of research and innovation priorities and actions, including:
 - Supporting national data collection and reporting on research expenditure and human resource capacity in the public and private sectors and civil society. This will assist in NSDA reporting against SDG9.5 indicators
 - Develop the workforce by investing in targeted scholarships for higher tertiary level research qualifications and applied research training opportunities.
 - Strengthen national coordination and collaboration through CINRC, CIREC, sector agents and policy groups of government.
2. Strengthen knowledge sharing and resourcing through public-private collaboration, civil society research bodies, and organisations at national and regional levels with:
 - Shared repository of research products
 - Hosting regular research fora and networking opportunities.

1.7 Guidance for Future Researchers

Steps for research consent and ethical approval for researchers wanting to conduct research in the Cook Islands:

¹⁷ Resources – NES Cook Islands

¹⁸ Te Poutoko Ora A Kiwa, 2025

1. Researchers should consult the Cook Islands Research Council website¹⁹ for details about the application process and relevant information. Applications are categorised by their level of risk – low, medium and high, which is dependent on the nature of research to be conducted. This will determine the turnaround time on the applications.
2. Engage with key relevant government agencies and organisations as part of the consent approval process. For example, the UNESCO focal point is the Cook Islands Ministry of Education.
3. Once applications are reviewed by CIREC, all applications are passed on to CINRC who grant the final approval. All research permits come at a cost of NZD80 and enquiries should be made to the research secretariat.²⁰

¹⁹ Office of the Prime Minister, n.d.

²⁰ email research.secretariat@cookislands.gov.ck

Appendix 1: Cook Islands Output References

The following list is compiled from a search of TVKP, TPVM and Google search databases of Cook Islands authors. The list includes two book chapters, 21 Journal articles and one technical report.

Newport, C. (2025). Voyaging beyond vulnerability: Pacific narratives of climate change mobility. In F. Miller, K.K. Shrestha & S. Wright (Eds.). *Handbook on Climate Change Vulnerability, Environments and Communities*. (pp. 345–365). Edward Elgar Publishing. <https://doi.org/10.4337/9781800882829>

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2. Fiji R&D National Profile

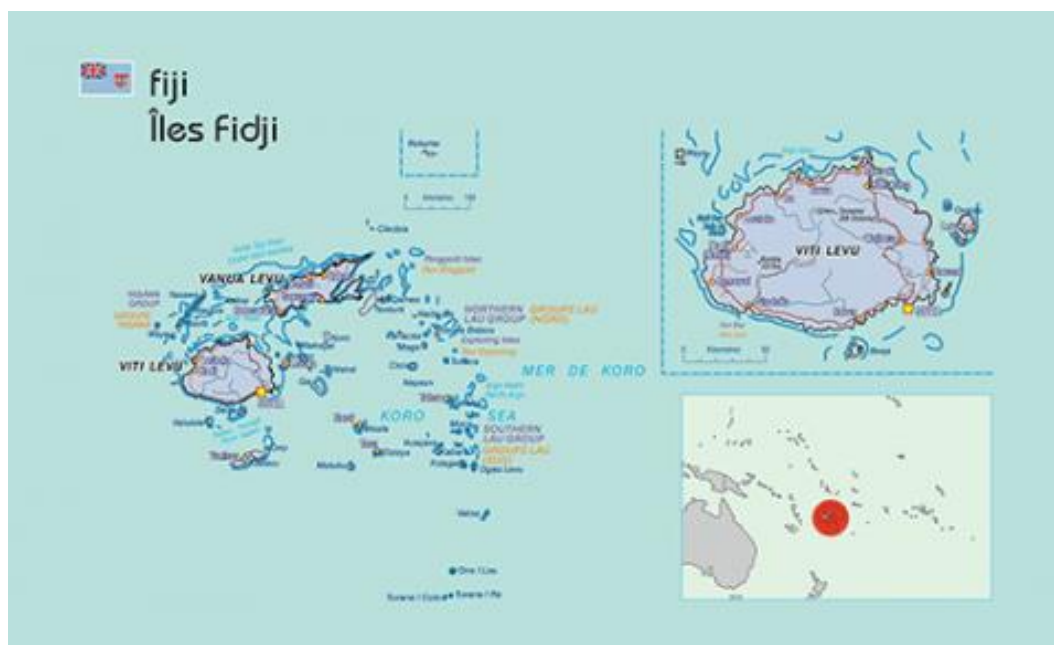


Figure 2.1 Map of Fiji²¹

2.1 Country Overview

- **Capital:** Suva
- **Population:** 931,024 (2024)²²
- **GDP per capita:** USD5,888 (2024)
- **Adolescent population (ages 10–19):** 165,000 (2024)²³

Fiji is made up of more than 330 islands, with Viti Levu and Vanua Levu hosting most of the population and economic activity. Its geography features volcanic mountains, tropical forests, fertile river valleys and extensive coral reefs. The climate is warm and humid year-round, moderated by Pacific trade winds. The population is culturally diverse. Indigenous iTaukei Fijians form the majority, alongside Indo-Fijians and smaller communities of Rotumans, Chinese, Europeans and other Pacific Islanders. English, Fijian and Hindi are official languages and widely spoken. Fiji has a notably young population, with adolescents making up 18% of the total population in 2024.

Fiji is the second-largest economy in the Pacific, with a GDP per capita of USD5,888 in 2024. Historically, Fiji has had the lowest official development assistance to gross national income between 2008 and 2020, but this share spiked to 15% in 2021 in the wake of the pandemic.²⁴

2.2 Research & Development Policy Context

Fiji is actively making progress towards building its R&D capacity. In 2024 the Fiji Government launched the National Development Plan 2025–2029 and Vision 2050

²¹ Pacific Community [SPC], 2025, Fiji

²² Ibid

²³ UNICEF, 2025, Fiji data set

²⁴ Lowy Institute, n.d., Fiji

which set out clear intentions to build R&D governance and infrastructure. Fiji has also implemented a range of initiatives aimed at encouraging R&D across sectors. Although it has not reported any progress alongside Sustainable Development Goal 9, Target 9.5 in its latest 2023 Voluntary National Review²⁵, there is certainly progress being made towards this target.

Table 2.1 Public sector R&D policies and instruments

Policy/Instrument	Years	Lead Ministry/Agency	R&D Content/Relevance
Fiji National Development Plan 2025–2029 and Vision 2050 ²⁶	2025 – 2029	Ministry of Strategic Planning, National Development & Statistics	Research & Development is included under ‘<i>Focus Area 4: Catalysing Economic Growth and Diversifying the Economy</i>’. The Government has made a commitment to promote Research, Development & Innovation (RDI) to accelerate economic growth and improve social wellbeing. There is also a focus on promoting the adoption and application of Industrial Revolution 4.0 (IR) technologies, in particular Artificial Intelligence (AI). For a full set of planned policies related to RDI, refer to the supplementary Table 2.13 in the Appendix 2 at the end of this chapter.
National Energy Policy (NEP) 2023–2030 – “Our Energy, Our Future” ²⁷	2023 – 2030	Ministry of Public Works, Meteorological Services & Transport / Department of Energy	Positions research, modelling and innovation as central to renewable energy and decarbonisation efforts. It calls for sustained R&D investment to drive new technologies, financing tools and systemwide innovation. Priority areas include sustainable biofuels, feedstock supply chains, environmental impacts and transport decarbonisation through modelling and maritime transition planning. The policy also promotes national investment and partnerships with technical

²⁵ Republic of Fiji, 2023,

²⁶ Government of the Republic of Fiji, 2024

²⁷ Republic of Fiji, 2023

			agencies and academia, aiming to mobilise financing, equivalent to 1% of GDP by 2030, to support applied research and technology transfer.
National Climate Change Policy (NCCP) 2018–2030 ²⁸	2018 – 2030	Climate Change Division, Office of the Prime Minister	Fiji's NCCP positions research and innovation as essential drivers of effective mitigation and adaptation. Across its objectives, the policy highlights the need for scientific, technological and social research to protect marine ecosystems, strengthen blue economy governance, develop low-carbon marine transport and ocean energy solutions, and improve monitoring and surveillance of marine resources. It further emphasises research into climate-resilient crops, aquaculture and climate-smart agriculture to secure food and livelihood systems, alongside social research to ensure adaptation solutions are inclusive and locally grounded.
Green Growth Framework for Fiji ²⁹	2014	Ministry of Strategic Planning, National Development & Statistics	The Green Growth Framework for Fiji places research and innovation at the heart of efforts to boost environmental resilience, food security and sustainable development. It calls for greater agricultural R&D, including alternative livestock feed, fertiliser substitutes, pest management and soil fertility, in partnership with research institutions. In the energy sector, it prioritises research into renewable and alternative technologies such as ocean energy, geothermal resources,

²⁸ Republic of Fiji, 2019

²⁹ Republic of Fiji, 2014

			waste-to-energy and hydrogen fuel cells. The Framework also promotes investment in green technology, increased university research funding, and a national science, technology and innovation framework. This framework remains foundational but has been integrated into the 2025-2029 National Development Plan.
Quality Standards for Fiji Higher Education ³⁰	2023	Higher Education Commission (HEC) Fiji	Requires that institutions “promote quality education and research, free intellectual enquiry, academic integrity and honesty” as part of institutional governance. Academic governance standards require effective oversight of “education, training, assessment and research” and explicitly “promote and foster innovation”.
HEC Strategic Research Plan 2022-2026	2022 - 2026	HEC Fiji	The HEC also developed a Strategic Research Plan 2022-2026 setting a baseline to promote higher education research in Fiji. It establishes national goals for strengthening research capacity across institutions. A full copy of this plan is not available publicly but has been referenced in Parliament as Fiji’s baseline research strategy and in the HEC 2019-2020 Annual report.

As well as the policy documents mentioned in Table 2.1 above, the Government of Fiji has also implemented the following initiatives:

Table 2.2 Public Sector R&D Initiatives

Initiative	Year	Lead Ministry	R&D Relevance
Fiji Innovation Hub	2025	Reserve Bank of Fiji	The Innovation Hub will offer a range of services, including an accelerator programme and a national hackathon, to support startups

³⁰ Higher Education Commission Fiji, 2023

			and early-stage founders in tackling Fiji's most pressing financial inclusion challenges. Over the next five years, the hub will expand into new innovation verticals aligned with Fiji's national development priorities, with the goal of becoming a mature, regional centre of innovation by 2030. ³¹
National Research Council (NRC)	2025	Cabinet	In October 2025, Cabinet endorsed the appointment of the NRC, in an effort to strengthen Fiji's knowledge-driven and innovation-focused development agenda. The NRC will provide independent, evidence-based advice to inform government policy decisions, while promoting and evaluating government-funded research across various sectors, including science, health, education, indigenous research, heritage, technology and socio-economic development. ³²
R&D Tax Incentives	2025	Fiji Customs and Revenue	In 2025 the Fijian Government offered 250% tax incentives for businesses conducting R&D of renewable energy industries, as well as Information and Communication Technology (ICT) companies who invest in R&D. ³³
RISE Initiative	2020	Ministry of Trade, Co-Operatives, Micro, Small and Medium Enterprises	In 2020 the Fijian Government launched the RISE initiative to assist enterprises to bring innovation in its respective sectors by encouraging R&D. This initiative allocated FJD500,000 (Fijian Dollar) for enterprises which would need initial support to undertake R&D in a new or improved product, process or services. This initiative is no longer active. ³⁴

A few government ministries invest in R&D activities through internal research units. Ministries were approached for the purposes of the survey; however, no responses were elicited.³⁵ See Table 2.3 below for Ministry-level R&D activities for the financial year 2024-2025.

³¹ UNDP, 2025

³² Kumar, 2025

³³ Fiji Revenue and Customs Service, 2025

³⁴ Ministry of Commerce, Trade, Tourism and Transport [MCTTT], 2020

³⁵ For future assessments, contact should be made well in advance of data requests (at least six months prior) via formal channels and with a UNESCO in-country focal point.

Table 2.3 Government Ministry R&D Activities FY2024–2025

Government Ministry/Agency	R&D Activity
Ministry of Health	Conducted ‘National Health Research’, through the Research innovation, Data Analysis, and Management Unit, to strengthen research and innovation to support health systems improvement. In the Ministry’s Annual Operating Plan 2024–2025, it sets out intentions to increase official development assistance for medical research.
Ministry of Youth and Sports	Conducted Research, Enhancement and Monitoring as part of the Ministry’s youth and sport development work.
Ministry of Agriculture and Waterways	Conducted crop and livestock research and has a number of research stations and centres throughout Fiji. (See Table 2.4 for a list of all research stations)
Ministry of Fisheries	Conducted research into aquaculture development. Some previous research programmes include the Fish Cage Culture Research Project, Pearly Oyster R&D, Fisheries Research and Conservation Programme as well as funding the operational costs of research stations. (See Table 2.5 for a list of all research stations)
Ministry of Forestry	Conducted research into silviculture and timber utilisation, including wood & non-wood species, the sandalwood programme and research into invasive species.
Ministry of Lands and Mineral Resources	The ministry conducted research into geological and mineral investigation, geophysical surveys, hydrogeological surveys and other research on groundwater.
Ministry of Trade, Co-Operatives, Micro, Small and Medium Enterprises and Communications	The R&D team conducted market research and research into policies to facilitate growth in industry, investment, trade, tourism, transport, co-operative businesses, micro small and medium enterprises.
Ministry of Multi-Ethnic Affairs and Sugar Industry	The ministry continued to fund the Sugar Research Institute of Fiji, a private research institute.

Higher Education

In Fiji, all post-secondary providers offering certificate, diploma, or degree programs are recognised as Higher Education Institutions (HEIs) and must undergo institutional accreditation. Under the Higher Education Act 2008, HEIs are classified as either universities (including degree-granting institutes of technology) or other higher education institutions. Fiji currently has 52 registered HEIs, with three universities actively conducting R&D, USP, the University of Fiji and the Fiji National University (FNU). Table 2.4 below outlines R&D achievements for the three universities in 2024.

Table 2.4 Higher Education R&D Achievements 2024

Institution	R&D Achievements in 2024
USP	USP produced 231 research outputs including articles, book chapters, conference proceedings in 2024 and strengthened its role in regional, high-impact research. Key initiatives included Project Halophyte, the Ocean Country Partnership Programme and the PAWES project across four Pacific nations. USP also benefited from major externally funded programmes such as the Pacific Regional Innovation Network, RERIPA and India's SCORI initiative. The university piloted SciVal to enhance research planning and collaboration. External research income reached FJD4.27 million, supporting a growing portfolio of regionally focused research.³⁶
The University of Fiji	The University of Fiji advanced research in 2024 across environment, agriculture, aquaculture and human behaviour. Key projects included rural aquaculture entrepreneurship, aligning with the SDGs and a study on food security in vulnerable islands. The university produced 24 research outputs, spanning international articles, book chapters, conference presentations and blogs.³⁷
FNU	Researchers at FNU produced 153 publications, including books, chapters and journal articles, with over 70% of articles appearing in Q1 and Q2 journals. The university secured FJD7.42 million in external research grants, mostly in health, while also supporting staff and student research with more than FJD263,300 in funding and offered about FJD147,013 in publication incentives.³⁸

Private sector

There is minimal data available for R&D within the private sector in Fiji. The NDP 2025–2029, shows a clear ambition to grow private-sector R&D and innovation and to develop an overarching RDI framework. Further, financial incentives (tax breaks for R&D and Innovation Hub) are early instruments, but still small in scale relative to the economy.

The World Intellectual Property Organization (WIPO) 2024 Fiji IP statistical profile³⁹ reinforces that formal private-sector R&D activity remains low. The profile shows few patent applications filed by residents across 2015–2024. In most years, Fiji records between zero to two resident patent applications, with a small spike in 2024 (18 total applications, all of them non-resident).

Research Institutes and Centres

³⁶ University of South Pacific, 2024

³⁷ The University of Fiji, 2024

³⁸ Fiji National University, 2024

³⁹ World Intellectual Property Organization, 2024, Fiji

The Ministry of Multi-Ethnic Affairs and Sugar Industry funds one research institute, the Sugar Research Institute of Fiji which became Fiji's first independent research body in 2006. Their mandate is to conduct research for the sugar industry in Fiji. They conduct R&D into crop management, crop improvement and crop protection. In addition, the Ministry of Agriculture administers the following public research centres listed in Table 2.5 below.

Table 2.5 Public Agricultural Research Centres and Activities

Research Centre	Research Activities
Taveuni Coconut Center	Large R&D centre focused on coconuts and root crops (taro, yam, cassava, kava); hosts the national coconut gene bank and hybrid seed nut production.
Koronivia Research Station	The ministry's main national research hub. Focuses on crop agronomy, plant protection, post-harvest, chemistry/analytical services, tissue culture, livestock trials
Naduruloulou Research Station	Focuses on tree crops and horticulture research (i.e. cocoa, local and exotic fruit trees, spices)
Dobuilevu Research Station	Conducts research on root crops and cocoa.
Legalega Research Station	Focuses on pulses, fruits, potatoes, mushrooms and contains a newer coconut nursery; serves as a Western Division crop R&D site.
Sigatoka & Nacocolevu Research Stations	Conducts vegetable, fruit and cereal research and trials; key sites for horticultural R&D in the Coral Coast region.
Seaqaqa Research Station	Conducts research on fruit trees and root crops suited to drier conditions in northern Fiji
Wainigata Research Station	Focuses on coconut, root crops (taro, yams, cassava, kava) research.

Source: Coconut Industry Development Project for the Pacific (CIDP).

The Ministry of Fisheries administers the following public research centres listed in Table 2.6 below.

Table 2.6 Public Fisheries Research Centres and Research Areas

Research Centre	Research Activities
Naduruloulou Aquaculture Research Station	Primary freshwater aquaculture research station and hatchery. Focuses on improving tilapia genetics, feed, culture technologies, and extension services, alongside polyculture systems for multiple carp species and silver barb.

Dreketi Fisheries Station / Hatchery	Freshwater aquaculture station and satellite hatchery; supports tilapia farmers in Northern Fiji and participates in government tilapia programs.
Galoa Research Station / Marine Hatchery	Focuses on brackish-water aquaculture and supporting the development of Fiji's aquaculture sector, particularly for shrimp and sea cucumber.
Caboni Research Station / Caboni Multi-species Hatchery	Major national centre for marine aquaculture breeding R&D. Multi-species hatchery and research station (marine shrimp, milkfish, groupers, rabbitfish/nuqa).
Makogai Marine Research / Hatchery Station	Marine hatchery focused on giant clams and other marine species for restocking and aquarium trade; long-standing mariculture research station.

Source: Ministry of Fisheries

NGOs

There are a small number of NGOs who are involved in R&D. In 2025 the following NGOs in Table 2.7 below have been involved in research and have published outputs.

Table 2.7 NGOs and Research Activities

Organisation	Research Activity
Environment, climate & conservation NGOs	
Wildlife Conservation Society (WCS)	WCS Fiji has an explicit "Applied Research" programme, producing detailed reports on cyclone impacts on coral reefs and fisheries, gender and fisheries value chains and integrated "ridge-to-reef" management science.
World Wildlife Fund (WWF) - Pacific	WWF-Pacific's Fiji work on sustainable fisheries and blue food includes "flagship research publications" on inclusivity and fisheries management, community-based management plans, and ecological and socio-economic research on the Great Sea Reef and tabu areas. Recent activities include DNA traceability (ShellBank) training and capacity building for marine turtle conservation, introducing advanced genetic methods into national practice.
NatureFiji-MareqetiViti (NFMV)	NFMV is Fiji's only local NGO focused solely on conservation of Fiji's natural heritage, with a mission that explicitly includes research and biodiversity information exchange. Nature Index lists NFMV as a research-producing NPO/NGO with recent scholarly outputs in biological sciences.
Social, gender, government NGOs doing research	
Fiji Women's Rights Movement (FWRM)	FWRM explicitly runs a "Research & Analysis" program with studies on women in leadership, decent work, social protection, sexual reproductive health, gender-based violence, budget analysis, with outputs from the early 2000s through to 2025.

	Some projects (i.e large-scale perception surveys, justice access research, climate/gender work) are systematic studies that generate new evidence and tools for advocacy.
Fiji Women's Crisis Centre (FWCC)	In 2011 FWCC led Fiji's first national survey on violence against women, using the WHO multi-country study methodology, and published Somebody's Life, Everybody's Business! with prevalence estimates and analysis. In 2025, they continued to be cited as a key data source on GBV in Fiji and maintained ongoing data systems.
Citizens' Constitutional Forum (CCF)	CCF runs a dedicated "research" stream and produces analytical reports on constitutional issues, elections, human rights and governance.
Pacific Network on Globalisation (PANG)	PANG describes itself as a regional watchdog that mobilises based on "substantive research and analysis" on trade, extractives, finance and self-determination. Its outputs include technical trade policy briefs, economic justice research and submissions, some of which push into policy-oriented R&D (new analysis methods, novel critiques of trade regimes).

2.3 R&D Investment

It was difficult to capture accurate R&D expenditure data in Fiji. As Fiji is in its early stages of establishing its R&D infrastructure and reporting mechanisms, across sectors, institutions often did not capture this data in a readily accessible manner. As such, the figures in the Table 2.8 below are incomplete.

Table 2.8 Intramural Expenditure on R&D FY2024-2025⁴⁰

Source of Funds	Sector		
	Government	Higher Education	Total (FJD)
Total Expenditure on R&D	44,804,300	6,140,556	50,944,856

Government R&D expenditure total was taken from the 2024-2025 Budget Estimates document and cross-referenced with the revised 2024 estimates, in the 2025-2026 Budget Estimates document. This figure includes all budget lines associated with research and development, across all Government ministries and institutions.

Higher education R&D expenditure total includes three institutions: Fiji National University, the University of Fiji, and the University of the South Pacific. These figures were sourced from Fiji National University and the University of Fiji annual reports and budget documents, whilst the University of the South Pacific provided their expenditure data directly.

2.4 HR / People

The University of the South Pacific

According to the 2024 Annual Report there were a total of 7,045 EFTS USP Students in Fiji. In the last five years, there has been a decline in EFTS, from 9,922 EFTS

⁴⁰ Republic of Fiji, 2024; USP, 2024

in 2020. In 2024, 39% of EFTS were male and 61% female. USP was unable to provide complete R&D personnel data, due to challenges around their data storage capacity.

Table 2.9 USP EFTS by Level of Study in 2024⁴¹

Level of Study	No. EFTS
Postgraduate (Thesis)	173
Postgraduate (Coursework)	803
Undergraduate	4849
Sub-degree	1144

The University of Fiji

According to the University of Fiji Annual report in 2024 there was a total of 709 graduates across six schools. This figure is not disaggregated by qualification level.

Table 2.10 The University of Fiji graduates by school in 2024⁴²

University School	No. Graduates
School of Business and Economics	86
School of Humanities & Arts	201
Justice Devendra Pathik School of Law	185
School of Science & Technology	50
Umanand Prasad school of Medicine & Health Sciences	183
Centre for iTaukei Studies	4
Total	709

The Fiji National University

According to the 2024 Annual Report the headcount of student enrolments for 2024 was 26,738. In the last five years, FNU has seen an increase in student enrolments every year. In 2024, 60% of students were female and 40% were male. In 2024, there were a total of 806 academic staff, just over half were male.

Table 2.11 FNU graduates by level of qualification, broad field of study and sex in 2024⁴³

Unit	Sex	Qualification level	No. Graduates
Head-counts	Males	Bachelor's	521
		Postgraduate Studies	200
		All other qualifications / Not specified	795
		Total male graduates	1516
	Females	Bachelor's	1140
		Postgraduate Studies	406
		All other qualifications / Not specified	516

⁴¹ University of the South Pacific, 2024

⁴² Fiji National University, 2024

	Total	Total female graduates	2062
		Bachelor's	1661
		Postgraduate Studies	606
		All other qualifications / Not specified	1,311
		Total graduates	3,578

2.5 Outputs

In 2024, Fiji recorded 417 R&D outputs across government, NGOs and higher education (see Table 2.12). Research activity was dominated by the higher education sector, which produced 372 outputs, including 304 international journal publications and 27 conference presentations. The government contributed 40 international journal articles, while NGOs produced five. Higher education also generated 41 additional publications (book chapters and books). Data was taken from higher education reports and online academic literature platforms such as Science Direct and Lens.

Table 2.12 Fiji Research Outputs by Sector in 2024

Output Type	Sector			
	Government	NGOs	Higher Education	Total
Lectures & public presentations	NA	NA	27	27
Publication – International Journals	40	5	304	349
Publications – Other	NA	NA	41	41

Data sourced: [ScienceDirect](#) (2025) & [Lens](#) (2025)

2.6 Key recommendations for strengthening national R&D pathways in Fiji

1. Mandate and report on R&D statistics
 - While Fiji is taking steps to strengthen its governance and institutional arrangements for RDI, this should formally include a national mandate for the appropriate coordinating ministry to collect, verify, analyse and publish R&D statistics annually.
 - This mandate should clearly identify which ministry or unit is responsible (i.e a National R&D or STI Coordination Unit) and require all R&D-performing institutions across government, higher education, NGOs and business to provide annual data.
2. Strengthen R&D reporting and data systems
 - At present, Fiji lacks a national system for tracking and reporting R&D statistics across sectors. Although R&D activities are occurring in government ministries, higher education institutions and NGOs, many organisations do not have the capacity or clarity to classify, manage, or report R&D data.
 - Key challenges identified in this assessment included limited IT infrastructure for safely storing and managing large datasets, absence of standardised R&D

- reporting templates and annual cycles and a lack of clarity around what constitutes R&D across sectors.
- To strengthen national R&D monitoring, Fiji could introduce standard reporting tools and guidelines, build capacity, especially within government ministries and NGOs, to correctly identify and track R&D, and embed clear reporting requirements into institutional planning and compliance processes.
3. Enhance research infrastructure & digital capability
- Fiji could establish a National Research Data Strategy to strengthen the digital foundations needed for effective research and innovation, including national systems for R&D data collection and storage across sectors, standardised data governance protocols, clear guidelines for open data, and improved digital platforms across ministries and research institutions.
 - Enhancing digital capability in this way will support consistent, secure and transparent management of national R&D data.
4. Build partnerships across academia, government and industry, particularly for reporting and data-sharing.
- The ministry leading national R&D should formalise cross-sector partnerships to strengthen Fiji's research ecosystem by establishing joint R&D reporting agreements.
 - Collaborative programmes across sectors could also support the development of knowledge-sharing platforms focused on data management, ethics, research quality and reporting. These partnerships will reduce data silos, build trust, and improve the overall accuracy and completeness of R&D reporting.

2.7 Guidance for Future Researchers

To get a Fiji research permit, researchers must apply through the Immigration Department with a formal request, passport details, photos, medical/police reports and crucial support letters from local institutions (like the Ministry of Education, iTaukei Affairs,⁴³ or universities) confirming research project and financial support. Processing time can take several weeks and permits are generally issued for up to six months at a time, extendable to 18 months total. More information can be found at the Immigration Fiji website.⁴⁴

⁴³ <http://www.itaukeiaffairs.gov.fj/>

⁴⁴ <https://www.immigration.gov.fj/research-permit/>

Appendix 2: Fiji R&D Goals

Supplementary Table 2.13 R&D Goals, Policies and Strategies in the Fiji National Development Plan 2025–2029 and Vision 2050

Goals: Promote RDI and adopt advanced technologies to accelerate economic growth and enhance wellbeing of the people	
Policies	Strategies
Strengthen the policy and strategy framework for RDI	Formulate a National Policy on Science, Technology and Innovation encompassing the ecosystem, priority areas, capability building and funding modalities.
Strengthen the governance and institutional Structure for RDI	Identify an appropriate Ministry to lead and coordinate S&T and public sector RDI across sectors. Introduce a formal platform based on the Triple Helix Model to strengthen collaboration between academia, government and industry. Introduce a promotive regulatory framework including a sandbox environment to test innovation. Improve the national RDI database.
Focus RDI in strategic areas consistent with national development priorities	Identify and apply advanced technologies, including Fourth Industrial Revolution and AI, across economic sectors, natural resource conservation, climate management, infrastructure and public service delivery. Develop a National RDI roadmap detailing governance frameworks and ecosystem requirements.
Strengthen RDI capability and capacity	Design clear career pathways for S&T personnel with competitive compensation. Attract overseas RDI talent through flexible permits and residency options. Create centres of excellence in universities with appropriate infrastructure. Establish a national Science and Technology Park with labs, testing facilities and incubation centres. Incentivise global research universities to establish regional centres in Fiji. Build alliances with global RDI hubs.
Expand funding options for RDI	Increase public funding for basic and applied RDI aligned with national priorities.

	Incentivise private-sector RDI funding through tax measures. Explore matched grant schemes, foreign funding, venture capital, angel funding and crowdsourcing.
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Adapted from: Government of the Republic of Fiji (2024, pp. 100–101)

3. Kiribati R&D National Profile

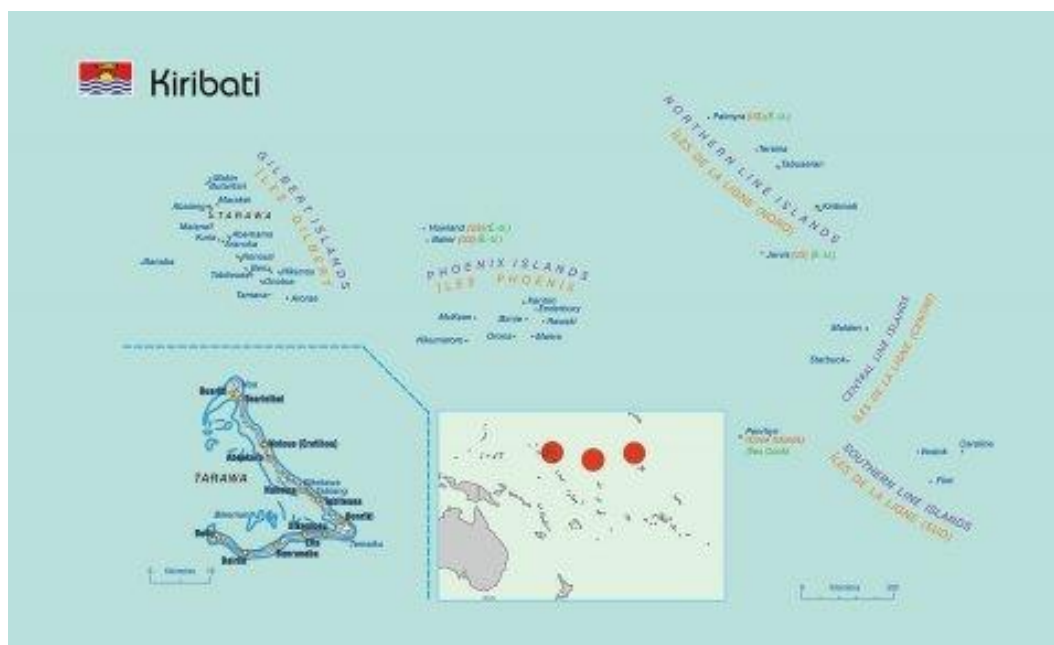


Figure 3.1. Map of Kiribati⁴⁵

3.1 Country Overview

- **Capital:** South Tarawa
- **Population:** 135,509 (2024)⁴⁶
- **GDP per capita:** USD2,177 (2024)
- **Adolescent population (ages 10–19):** 26,000 (2024)⁴⁷

The Republic of Kiribati is composed of 33 coral atolls and reef islands spread widely across the central Pacific Ocean. Although its land area is small, the country spans a vast maritime zone that crosses both the equator and the International Date Line. Most islands are extremely low-lying, rising only a few meters above sea level, which makes Kiribati highly vulnerable to climate change, coastal erosion and freshwater contamination.

The country has a population of 135,509 in 2024 with a large share living on South Tarawa. Kiribati has a notably youthful demographic profile, including 26,000 adolescents in 2024. This growing youth population places increased demand on education, health services and future employment opportunities.

Economically, Kiribati faces challenges due to geographic isolation and limited resources. In 2024 GDP per capita was USD2,177, and the economy depends on fisheries, copra, remittances and development assistance.

⁴⁵ Pacific Community [SPC], 2025, Kiribati

⁴⁶ Ibid

⁴⁷ UNICEF, 2025, Kiribati data set

3.2 Research & Development Policy Context

Public Sector

The Government of Kiribati does not currently have in place a national R&D policy or strategy. R&D is not specified in either of its two national development policies – the Kiribati 20-year Vision (KV20) and the Kiribati Development Plan (KDP) both adopted in 2018. In the latest Kiribati Voluntary National Review from 2018, the Government had yet to make any progress under SDG 9: Industry, Innovation, and Infrastructure. However, in the Voluntary National Review it relates SDG 9 to infrastructure development.⁴⁸

All research in Kiribati, both domestic and external, is required to go through the national research permit process. In 2023, a revised national research permit structure was put in place and is managed by the Office of Te Beretitenti or Office of The President (OB).

Some government ministries engage in research activities as outlined in Table 3.1 below. In particular, the Ministry of Environment, Lands and Agricultural Development (MELAD), Ministry of Fisheries and Ocean Resources and the Ministry of Infrastructure and Sustainable Energy. Although the Ministry of Health has published the most research outputs, it was difficult to find publicly available data relating to its R&D activity.

Table 3.1 Government R&D Activity FY2024–2025

Government Ministry/Agency	R&D Activity
Ministry of Environment, Lands and Agricultural Development	The Agriculture and Livestock Division is mandated to carry out and oversee crops R&D of agricultural extension services in the outer islands, agriculture and livestock management and development and biosecurity services through the administration of the Biosecurity Act 2011 and Kiribati Agriculture Strategy (KAS) 2020–2033.⁴⁹ The KAS and the Ministry’s ‘5-Year Action Framework’ both lay out clear intentions to promote and invest in R&D related to biosecurity, crop and livestock production. The ‘5-Year Action Framework’ sets out the following costed activities:⁵⁰ • Establishing a research centre equipped with tools and equipment to do breeding for coconut, pandanus and babai (taro swamp) – AUD650,000 (Australian Dollar) • Conduct research to evaluate and improve compost mixture against local farmers’ own compost mixture – AUD450,000

⁴⁸ Government of Kiribati, 2018

⁴⁹ Ministry of Environment, Lands and Agriculture Development, 2020

⁵⁰ Ministry of Environment, Lands and Agriculture Development, 2022

Ministry Of Fisheries and Ocean Resources	The Geo-Science Division is promoting partnerships for the undertaking of coastal surveys, marine scientific research and geoscientific surveys (including prospecting of marine genetic resources, mineral exploration, geological mapping, geohazards assessments, vulnerability assessments, marine and spatial planning, geoengineering, geo-environmental studies, and provide information and service) to inform disaster risk reduction and to support national development priorities. In the Ministry's Strategic Plan 2024–2028, R&D is emphasised under 'Key Result Area 5: Innovative Research for Ocean Development and Promoting Traditional Knowledge'. In Mid-2024, the Division signed an Memorandum of Understanding (MOU) with China's Second Institute of Oceanography for joint research, data exchange, sharing of technology and expertise in oceanography and ocean mapping.⁵¹
Ministry of Infrastructure and Sustainable Energy	In 2025 it recently established a 'Research and Development Unit', although information regarding this unit's activities is currently unavailable.

Higher Education

USP has a campus in Kiribati for distant, flexible learning, but also to provide preparatory studies towards obtaining certificates, diplomas and degrees at other campus sites. In 2025, an important development was the official endorsement of the Kiribati Confucius Centre, approved by the Chinese Language Centre and Confucius Organisation.

Kiribati Institute of Technology offers vocational education, including award and short courses for trade and non-trade industries.

Other tertiary institutions include:

- Kiribati Teachers College
- Marine Training Centre
- Tungaru Nurse Training School

Private Sector

R&D activity in the private sector is negligible. There are currently no published statistics on business-sector R&D in Kiribati. The domestic private sector itself remains small and is concentrated in retail, services, copra, fisheries and small-scale tourism. The Government of Kiribati also currently does not offer tax incentives or policies to encourage R&D within the private sector.

⁵¹ Ministry of Fisheries and Ocean Resources, 2024

WIPO's 2024 Kiribati IP statistical profile

The 2024 WIPO intellectual property profile for Kiribati reflects minimal private-sector R&D activity. There have been zero patent applications filed by residents between 2020–24.⁵²

NGOs

Kiribati has no formal R&D reporting mechanism for NGOs. A handful of NGOs (see Table 3.2) have carried out applied research at a community level, although NGOs do not collect data related to their R&D activities.

Table 3.2 Kiribati NGO Research Activity

Organisation	R&D Focus
Kiribati Red Cross Society (KRCS)	In 2019 implemented community-based research around disaster risk management.
Foundation for the Peoples of the South Pacific – Kiribati (FSPK/FSP Kiribati)	Has previously implemented projects around food security. The most recently completed project in 2022 tested model programs for managing land and lagoon resources, with the goal of replicating successful approaches at a national level to improve food security and maintain ecosystem integrity.
Live and Learn Kiribati	Implements projects related to human and environmental sustainability, including enhancing island food systems.

3.3 R&D Investment

There is minimal publicly available data related to R&D expenditure in Kiribati. This reflects the low level of R&D activity in Kiribati, but also low levels of R&D reporting and data management capacity.

Whilst some research activity takes place mostly in the public sector, government ministries do not collect data related to research expenditure. Further, research activities can accompany donor-funded projects but are not necessarily a key focus of projects. As such, it is difficult to determine how much of a donor-funded project is allocated to research. Requiring donors to report on their research activities in Kiribati could contribute to national R&D reporting.

The below figures in Table 3.3 presents publicly available data. The figures are taken from the Annual Account Report 2024⁵³ and represent expenditure from the Geoscience Division in the Ministry of Fisheries and Ocean Resources, and expenditure from the Crop Research Unit in the Ministry of Environment, Lands and Agriculture Development.

Table 3.3 Expenditure on R&D FY2024–2025

Source of Funds	R&D Expenditure (AUD)
Government	2,110,266.84
Funds from abroad	489,541.50
Total Expenditure on R&D	2,599,808.34

⁵² World Intellectual Property Organization, 2024, Kiribati

⁵³ Government of Kiribati, 2025

3.4 HR / People

The small amount of R&D conducted in Kiribati is done in the public sector. Government ministries have personnel who are involved in carrying out R&D activity, however R&D is not the core function of their roles. As such, it was not possible to determine total EFTS and headcounts of R&D personnel, from staff expenditure data.

The table below demonstrates the number of Kiribati national EFTS for 2024 at USP, by level of study.

Table 3.4 2024 Kiribati Nationals EFTS at USP by Level of Study⁵⁴

Level of Study	Number of EFTS
Postgraduate (thesis)	8
Postgraduate (coursework)	42
Undergraduate	1037
Sub-Degree	43
Total Number of EFTS	1130

3.5 Outputs

In 2025, there were fifteen R&D outputs published by at least one Kiribati author (see Table 3.5). These outputs were all affiliated with a government institution, mostly from the Ministry of Health. Fourteen of these outputs were international journal publications, with one book chapter.

Table 3.5 Kiribati R&D Outputs in 2025

Outputs	Sector	
	Government	Total
Lectures & public presentations	3	3
Publication – International Journals	14	14
Publications – Other	1	1
Total R&D Outputs	18	18

3.6 Key recommendations for strengthening national R&D pathways in Kiribati

1. Establish a national R&D coordination mechanism
 - Kiribati currently has no central body responsible for R&D planning, data collection, or strategic direction. Creating a National Research & Innovation Coordinating Unit mandated to collect R&D expenditure and personnel data across government, NGOs, higher education and businesses will help to strengthen R&D planning and coordination for future growth and developments.
2. Develop a National R&D Policy aligned with development priorities
 - The KV20 and KDP outline clear ambitions for economic growth and resilience. R&D is essential for stimulating innovation across these priority areas. Research agendas and interests are also highly driven by external

⁵⁴ University of South Pacific, 2024

priorities. The Government should develop a National R&D Policy that aligns with priorities set out in the KV20 and KDP.

3. Strengthen national research capacity through education and partnerships
 - Research conducted in Kiribati is often led by external researchers. To build national capacity, the Government could offer research fellowships for I-Kiribati graduates in priority fields (e.g., climate science, engineering, ICT, data science), promote joint research programmes with regional universities and development partners and embed research training within vocational and tertiary education pathways
4. Stimulate private sector R&D through incentives
 - Since private sector R&D is virtually absent, Kiribati should encourage market-led innovation. This could include the establishment of funds or tax incentives that encourage private sector R&D activities. This could also be done by supporting innovation partnerships between the private sector and development partners.
5. Leverage donor-funded pilots as formal R&D
 - Many development partners are already implementing research, in partnership with government ministries in Kiribati. As such, the government should consider requiring all donor-funded projects to report on R&D components, innovations tested and data generated.

3.7 Guidance for Future Researchers

1. Researchers must obtain contact with the OB, which is the central point for initial applications.
2. Following this, researchers are required to complete the relevant application depending on the topic of research. Applications will require a project description, key timeframes and research outputs, budget as well as team qualifications and a disclosure of any project funding.
3. Researchers will also require a letter of approval from the relevant ministry. As such, it is recommended researchers reach out well in advance to conducting any research.
4. A research permit fee must also be submitted alongside the application. Contact the OB office directly for the most up to date fees costs. More information on how to apply can be found at the OB website.⁵⁵

⁵⁵ <https://www.president.gov.ki/resources/permit-applications.html>

4. Nauru R&D National Profile

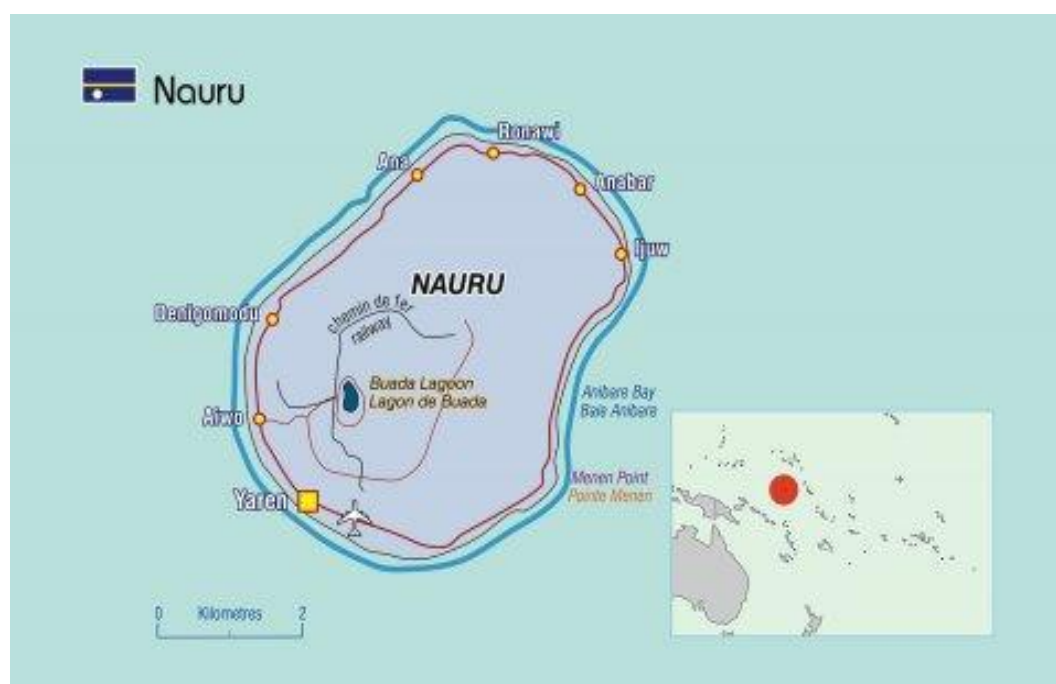


Figure 4.1. Map of Nauru⁵⁶

4.1 Country Overview

- **Capital:** Yaren
- **Population:** 11,988 (2024)⁵⁷
- **GDP per capita:** USD16,790 (2024)
- **Adolescent population (ages 10–19):** 3,000 (2024)⁵⁸

The Republic of Nauru, formerly known as Pleasant Island, is a small island nation located in Micronesia, a subregion of Oceania in the Central Pacific. Covering just 21 km², it is the smallest state in the South Pacific Ocean and one of the world's smallest sovereign countries by land area. In 2024 Nauru had a population of 11,988 with 3,000 adolescent residents, reflecting a youthful demographic structure.

Nauru's economy has historically centred on phosphate mining, which brought periods of significant revenue but also long-term environmental and financial challenges as reserves declined. Today, the country continues to diversify its economy while relying on a mix of service industries, fishing revenues and international partnerships. Nauru's GDP per capita for 2024 was USD16,790, ranking third in the Pacific for that year.

⁵⁶ Pacific Community [SPC], 2025, Nauru

⁵⁷ Ibid.

⁵⁸ Ibid., see population pyramid.

4.2 Research & Development Policy Context

Public Sector

There is no national R&D infrastructure or reporting mechanism in Nauru. However, Nauru's policy and government reports identify research and R&D as essential for sustainable development. Although not mentioned in the National Sustainable Development Strategy 2019–2030 document, the National Digital Transformation Strategy provides the clearest R&D mandate (see Table 4.1 below). These policies promote R&D to protect agrobiodiversity, assess biotechnology risks, document traditional knowledge and promote innovation in the digital economy. Nauru's latest Voluntary National Review was in 2019 and does not report against SDG 9 but links national priorities to improved access to external R&D in renewable energy, land rehabilitation and climate resilience.

Despite these policies, domestic R&D capacity remains low. There is some research occurring within the agriculture and aquaculture sectors. Whilst R&D activities can be embedded within climate, environment, agriculture, health, education or infrastructure projects, which are heavily driven by external partners (UN agencies, regional organisations, donor partners and universities).

Table 4.1 R&D Policies in Nauru

Policy Document	Year	Relevant Ministry	R&D Content
National Digital Transformation Strategy 2025 ⁵⁹	2025	Ministry for Information & Communications Technology	Nauru's National Digital Transformation Strategy 2025 signals a strong push to build private-sector innovation capacity, particularly in the digital economy. The government plans to establish an innovation hub, offering co-working space, mentorship, competitions and potential start-up funding to stimulate new digital businesses and environmental technologies. The strategy also aims to streamline digital services to reduce administrative burdens and encourage innovation. An International Telecommunication Union (ITU) needs assessment supports this approach, urging collaboration between government, development partners and the private sector to invest in digital infrastructure and expand e-commerce.

⁵⁹ Republic of Nauru, 2025

Nauru Climate Smart Agriculture Plan (NaCSAP) 2021–2025 ⁶⁰	2021–2025	Ministry for Commerce, Industry & Environment and Ministry for Climate Change & National Resilience	The Nauru Climate-Smart Agriculture Plan places strong emphasis on R&D to support evidence-based adaptation and food security. Research activities focus on generating and managing agricultural and climate information, developing knowledge systems and forecasting tools, and documenting climate smart practices in agriculture and traditional knowledge. The plan prioritises transforming research outputs into accessible formats for farmers and stakeholders. It also highlights the need to strengthen national research capability through targeted training in research design, data analysis and interpretation. Overall, R&D is positioned as essential for informed decision-making and effective climate-resilient agriculture in Nauru.
Voluntary National Review on the implementation of the 2030 Agenda ⁶¹	2019	Government of the Republic of Nauru	Nauru's 2019 Voluntary National Review reported no progress on SDG 9.5 but identified research-focused indicators in energy and fisheries as future areas for R&D development. Although no public data is available, these indicators show growing attention to research capacity.

Higher Education

Whilst there is a USP campus in Nauru, the campus does not engage in R&D activities. The campus provides certificate programs and coordinates distance learning programs from the main campus in Fiji. The USP campus in Nauru also offers courses for primary teacher education. Table 4.2 outlines USP Nauru EFTS for 2024.

Table 4.2 Nauru EFTS at USP, by level of study in 2024

Level of Study	EFTS
Postgraduate	1
Undergraduate	18
Sub-Degree	34
Total	53

Source: USP (2024)

⁶⁰ Republic of Nauru & Pacific Community [SPC], 2022

⁶¹ Government of the Republic of Nauru, 2019

The Nauru Vocational Training Centre offers formal classes in technical skills whilst the University of New England, funded through Australian official development assistance, has been implementing an on-island teach training programme since 2011.

Private Sector

There are few firms large enough to maintain dedicated R&D units; any R&D in the private sector is likely project-based, small-scale, or embedded in donor programs.

There is planned research around deep-sea mining. Nauru Ocean Resources Inc. (NORI) is a subsidiary of a Canadian company, under the sponsorship of the Republic of Nauru. In partnership with Nauru in 2025, NORI has progressed with a comprehensive seabed-to-surface research program in one of its designated areas, NORI-D, that is believed to contain the largest unexplored nickel deposit.⁶²

NGOs

There is minimal R&D activity occurring in the NGO sector. In the aquaculture and fisheries sector the Nauru Aquaculture Association (an NGO body made up of fish-farmer members) and the Buada Lagoon Owners' Association (a communal-ownership group) are described as the only NGOs active in aquaculture in Nauru and they are explicitly referenced in planning for applied research, demonstration farms, technical support and aquaculture development.⁶³

4.3 R&D Investment

There was no publicly available data related to R&D expenditure for Nauru.

4.4 Key recommendations for strengthening national R&D pathways in Nauru

1. Establish a National R&D Coordination Function
 - Nauru currently lacks a central mechanism to oversee, record and guide R&D activities. Establishing a designated unit or ministry function would enable the government to coordinate research efforts, strengthen alignment with development priorities and ensure greater visibility of national research activities.
2. Develop a National R&D and Innovation Policy Framework
 - A national policy or roadmap would provide strategic direction for research investment and clarify priority areas where innovation can support national development objectives. These may include renewable energy, climate resilience, aquaculture, public health and digital transformation.
3. Strengthen Research Skills and Human Capacity
 - Human capital remains a critical constraint for R&D. Developing targeted programs to build research design, data analysis, monitoring and evaluation and prototyping skills will strengthen national capability. Continued scholarships and fellowships for Nauruans in priority research fields, such as

⁶² International Monetary Fund. Asia and Pacific Dept, 2025

⁶³ Pacific Community [SPC], 2022

marine science, ICT, engineering and climate science, would help expand the future R&D workforce.

4. Require Donors to Report R&D-Related Activities

- International consultants often carry out technical work, pilot testing and data generation through donor-funded projects in Nauru. Whilst also building local capacity, establishing a donor reporting requirement for R&D activities would give Nauru greater visibility over the full scope of R&D occurring in-country.

5. Enable Sustainable Financing for Research and Innovation

- Nauru's small domestic budget limits the scope of nationally funded R&D. However, coordinated financing strategies can maximise external opportunities. The government could identify international funding windows that align with national R&D priorities.

4.5 Guidance for Future Researchers

A research permit is required to undertake research in Nauru. It is recommended researchers contact the relevant government department directly and well in advance, prior to conducting research.

Researchers must obtain a Business visa (Research) and must pay the relevant fee prior to arriving in Nauru. For more information, please refer to the Nauru Immigration website.⁶⁴

⁶⁴ <https://justice.gov.nr/immigration-division/>

5. Niue R&D National Profile

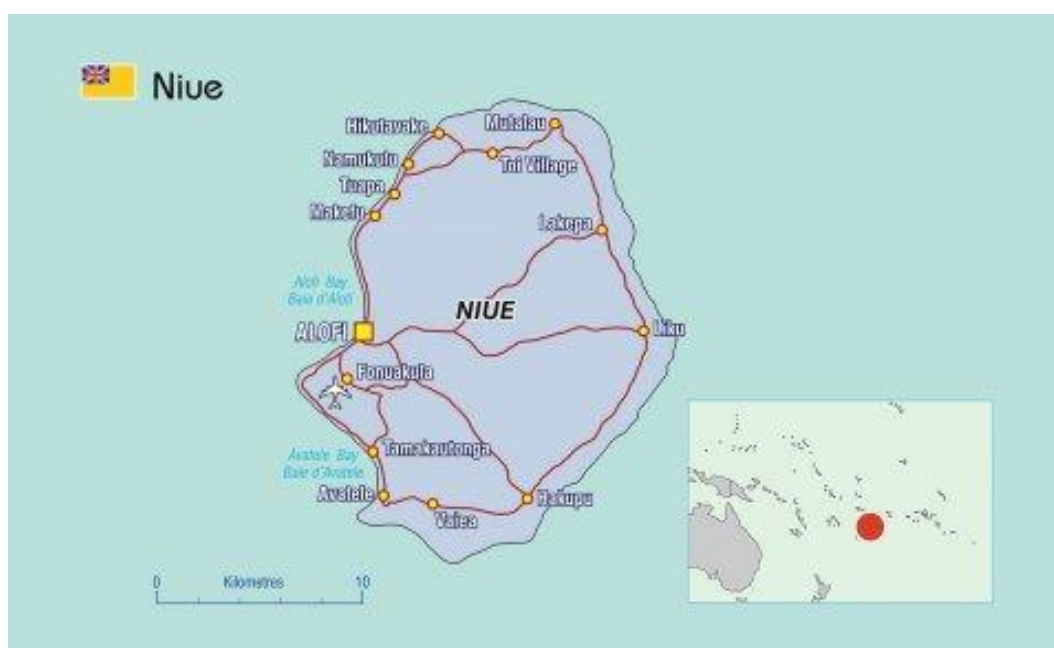


Figure 5.1 Map of Niue⁶⁵

5.1 Country Overview

- **EEZ:** 317,500 km²⁶⁶
- **Land area:** 259 km²
- **Population:** 1,822 (2024)
- **Adolescent population (ages 10–19):** 300 (2024)⁶⁷
- **GDP per capita:** USD12,252 (2024)

Niue is a single island state in free association with New Zealand in the South Pacific Ocean. The island is commonly referred to as "The Rock", which comes from the traditional name "Rock of Polynesia". Niue is one of the world's largest coral islands.

5.2 R&D Policy Context

Public Sector

Niue has a process for research consents (e.g., health related and marine scientific applications) however the number of approved research permits was not available during the research period. There is no national R&D strategy in place. In 2023, innovation in data collection saw Niue establish a digital civil registration and vital statistics system using OpenCRVS software. This was a global first making it easier to register births and deaths and improve data storage and sharing capability.⁶⁸ This initiative contributes to *Niue's 2024 – 2030 National Digital Strategy* and its Strategic

⁶⁵ Pacific Community [SPC], 2025, Niue

⁶⁶ Ibid

⁶⁷ UNICEF, 2025, Niue data set

⁶⁸ Pacific Community [SPC], 2023

Priority 3: Governance and leadership actions to map open data opportunities and have digital R&D funding programmes in place by 2030.⁶⁹

Academia

The main tertiary institution for Niue is USP Niue campus established in 1972. The campus provides access to pre-university programmes as well as degree and postgraduate certificate/diploma and degree programmes by distance learning. Research is increasingly supported by Niue academics and researchers based overseas, mainly in New Zealand.

Private Sector

There is currently no data available on the participation of the Niue private sector in research. However, the Niue Statistics Office has released findings from the 2024 Business Establishment Census. The information helps to better understand Niue's private sector and identify opportunities for growth and investment.⁷⁰

Civil Society

Various CSOs are involved in research related activities. A key research NGO is Oma Tafua established in 2005 which focuses on humpback whale research, conservation and marine ecosystem health along with Niue Ocean Wide (NOW) Trust established in 2023 focused on long term funding for ocean conservation and sustainable development in Niue.

The Niue Media Association established in 2023 conducted a media research study with overseas funding and research partners that highlighted the limited staffing, resources and infrastructure faced by media organisations.⁷¹

5.3 R&D Investment

Overall, there is limited SDG 9.5 R&D data on investment and HR capacity available at this time. Niue does not currently report official data for SDG 9.5 indicators. Like many SIDS, R&D expenditure is extremely limited and not systematically measured.

5.4 HR / People

Niue's research capacity is minimal. Most research activities are linked to the USP Niue campus and collaborations with New Zealand institutions and overseas based Niue researchers. Local researchers are few, and there is no formal national R&D workforce database.

Levels of educational attainment from the 2022 Census showed 17% of males and 20% of females completed a degree qualification (see Table 5.1 below).

Table 5.1 Niue Degree holders by Gender from 2022 National Census⁷²

Qualification	Males (%)	Females (%)
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⁶⁹ Government of Niue, 2023, p.21

⁷⁰ Niue Statistics Office, 2024

⁷¹ ABC International Development [ABCID], 2024

⁷² Niue Statistics Office, 2022, p. 25

Bachelor's Degree/Diploma	9.3	11.3
Post Graduate Diploma/Cert	2.0	2.2
Master's Degree	5.5	6.7
PhD	0.4	0.5
Total University Qualification	17.2	20.7

USP Niue campus had eight EFTS in 2024 made up of one male and eight females. Niue EFTS by level of study included seven in undergraduate programmes of study. Top programmes of study were the Certificate in Vagahau Niue, Bachelor of Arts, Bachelor of Science Graduate Certificate in Education, Bachelor Certificate in Education and Professional Cert in Legal.⁷³

5.5 Outputs

Authored publications by Niue-based researchers was limited.

No patent information available.

5.6 Key recommendations for strengthening national R&D pathways in Niue

Niue has a small population, and limited fiscal space constrains R&D investment. There is an absence of baseline data for SDG 9.5 indicators. There is a heavy reliance on external expertise and regional networks. To strengthen national R&D pathways the following recommendations should be considered:

1. Support research strategy development and human capacity by developing a national R&D and innovation strategy (aligned to SDG 9.5).
2. Continue to leverage regional partnerships (USP, SPC, UNESCO) and academic institutions for capacity building and data collection.
3. Invest in ICT and digital research tools to overcome geographic constraints.
4. Continue to encourage gender-inclusive research participation.

5.7 Guidance for Future Researchers

Researchers should consult the relevant government department well in advance of undertaking any research. General research inquiries or finding the correct department should be made to the Government of Niue website.⁷⁴

The process includes completing relevant applications with supporting information and fee payment determined by the Government of Niue. Once the application is reviewed and the fee is paid, an approval letter is provided.

It is important to engage with the key relevant government agencies.⁷⁵ This includes:

- The Secretary to Government

⁷³ University of South Pacific, 2024

⁷⁴ <https://www.gov.nu>

⁷⁵ see full list of agencies: <https://www.gov.nu/agencies>

- Ministry of Social Services covers Justice, Land, Survey & Community, Education and Health
- Ministry of Natural Resources covers Agriculture, Forestry and Fisheries, Meteorological Services and Environment

6. Papua New Guinea R&D National Profile



Figure 6.1: Map of Papua New Guinea⁷⁶

6.1 Country Overview

- **Capital:** Port Moresby
- **Population:** 10,185,363 (2024)⁷⁷
- **EEZ:** 2.4 million km²
- **GDP per capita:** USD3,076 (2024)

Papua New Guinea (PNG) is a parliamentary democracy in the West Pacific region. With an official population of 10,185,363, PNG in 2024 it is the largest country in the Pacific region. The country has a diverse geography, from alpine highlands regions to tropical rainforests and island archipelagos. It is a resource rich island with rare ecologies and biodiversity across the country.

This diversity is reflected in its population with more than 800 languages spoken. Demographic statistics from 2024 show that the national capital district including Port Moresby has a population of approximately 756,754.⁷⁸ Young people under 25 make up about 60% of the country's population. This youth bulge is exacerbated by low literacy rates which are worse for females than males across all monitored languages.

PNG's economy is buttressed by a growing extractive industry sector and its national currency is the PNG Kina (PGK).⁷⁹ Its key exports are oil, gold, copper, crude petroleum, timber and coffee.⁸⁰ Among the Pacific Islands Countries and Territories

⁷⁶ Pacific Community [SPC], 2025, PNG

⁷⁷ Ibid

⁷⁸ Papua New Guinea National Statistical Office [PNG NSO], 2024

⁷⁹ In December 2025, PGK traded at approximately 0.24 USD, 0.20 EUR, 36.66 JPY, 0.18 GBP.

⁸⁰ National Trade Portal, Export markets

(PICTs), PNG's 4% official development assistance (ODA) to GDP ratio is the lowest. The World Bank has forecasted PNG's growth to increase to 5% in 2025 compared to 4% in 2024. Mining and agricultural sectors are credited with this growth. Overall, however, medium term growth is slow with around 3% growth expected⁸¹.

6.2 R&D Policy Context

PNG's socio-economic profile as a resource rich country with a rapidly growing population are key considerations for setting the national R&D agenda.

The PNG Medium Term Development Plan IV (MTDP IV) 2023 – 2027 has identified R&D as a strategic priority (SPA09).⁸² There is PGK143,000,000 or 0.3% share of total GDP⁸³ over the course of MTDP IV. Six Deliberate Intervention Programs (DIP) are identified under SPA09, through these DIPs, PNG is investing in all core areas; medical, environment and bioscience, agricultural, engineering and technology, socio-economic policy research and food security.⁸⁴

Higher Education

The Department of Higher Education, Research, Science and Technology (DHERST) is the primary regulator of higher education in PNG. DHERST sits within the Department of Prime Minister & National Executive Council.

Since 2021, DHERST has implemented a range of national policies to address the workforce needs required under the GoPNG 2050 Vision. This includes:

- *The National Higher and Technical Education Plan 2021–2030*
- *Education Sector Development Plan 2023–2027*
- *Strategic Plan for Building Leadership Capacity in the Higher Education Sector of PNG* (October 2024)
- *Strategic Plan for Innovation and Sustainability in Funding for PNG Universities and HEIs* (November 2024)
- Policy on Shared Academic Programmes between PNG Universities and Overseas Universities (July 2024)
- Policy on Academic and Research Cooperation between PNG Universities and Research Institutes (July 2024)

DHERST has a regulatory responsibility to maintain a register of HEIs in PNG. This official record is the output of a quality assurance function which provides public information on the status of registered higher education institutions. There are 46 institutions currently listed on the register, 19 are church agency institutions, 26 are state institutions, three are private institutions and one is an overseas institution.⁸⁵ This translates to approximately half of the higher education sector being state owned.

⁸¹ World Bank, 2025, Papua New Guinea Economic Update: Macroeconomic Stability and Growth – Unlocking the Potential of Agriculture.

⁸² Papua New Guinea Department of National Planning & Monitoring, 2023, p. 39

⁸³ Ibid, p. 44

⁸⁴ See Table 6.2: MTDP IV Strategic Priority Area 09: Research, Science and Technology.

⁸⁵ Ministry of Higher Education, Research, Science and Technology, 2021

Annual reporting is an ad hoc exercise. Hence, it is difficult to comment on the number of EFTs and graduates per level per university. DHERST also keeps records of enrolment and graduate statistics, but this has not been updated since 2016.

The statutory research institutions have research priorities in scientific, social and economic policy issues, agriculture, medical and forest research. These are:

- The PNG National Research Institute (NRI) is the country's most comprehensive research institute covering a range of scientific, social and economic policy issues.
- National Agricultural Research Institute of PNG (NARI) – a publicly funded statutory research organisation established in July 1996.
- The PNG Institute of Medical Research (PNGIMR) – established in 1968. PNGIMR's HIV and Sexually Transmitted Infections Laboratory is the only facility in PNG that has the capacity to conduct molecular diagnoses.⁸⁶
- The PNG Forest Research Institute (PNGFRI) – the scientific research division of the PNG Forest Authority established in 1989.

The University of Papua New Guinea

The University of Papua New Guinea (UPNG) is the oldest university in PNG and was established in 1965. It is the country's largest university and has 11 research establishments.⁸⁷

- Centre for Biodiversity and Natural Products – Undertake research on the inventory, biological and economic assessment of biodiversity of PNG
- Centre for Climate Change and Sustainable Development – Focus on the understanding of the impact of climate change on resources and communities and ways to mitigate effects.
- Centre for Disaster Reduction – Devoted to the study of natural disasters such as tsunamis, strong winds, flooding and ways to reduce their impact.
- Melanesian and Pacific Studies – Dedicated to the study of people, their knowledge and culture to enhance knowledge preservation.
- Melanesian Institute of Art and Communication – Study of cultural expression and communication and its application to modern settings.
- Motupore Island Marine Sciences Research Centre – Focus on understanding of the impact of climate change on resources and communities and ways to mitigate effects.
- Micronutrient Laboratory – A laboratory established to assess micronutrient levels in the population, especially children and pregnant women.
- Molecular Biodiscovery and Biomedicines Laboratory – A laboratory established through collaboration with the University of Utah, United States of America, for the screening of PNG natural products for new therapeutic lead compounds and the validation of traditional medicine.

⁸⁶ Papua New Guinea Institute of Medical Research, All Research Projects

⁸⁷ Department of Higher Education Research Science and Technology, Research. University of Papua New Guinea

- Natural Products and Chemical Analysis Laboratory – A facility devoted for chemical analysis of oils and other natural products for economic and medicinal use.
- Traditional Medicine Database Unit – A unit established through collaboration with the Department of Health and World Health Organization (WHO) to undertake surveys and documentation of traditional medicine practices in PNG.
- Snake Venom Research Unit – A research unit developed through collaboration with the University of Melbourne, Australia, to undertake studies on venomous snakes of PNG to improve the management of snake bites.

6.3 R&D Investments

The most recent treasury documents publicly available from 2023 provides an overview on PNGs investment into R&D over the five-year period between 2024–2028.⁸⁸ A total of PGK143 million (0.3% of GDP) public investment into R&D as detailed in Table 6.1 below:

Table 6.1 PNG public investment in R&D

Organisation	Purpose	Investment
National Research Institute: National Youth Strategic Intervention Program	To research youth bulge social and economic implications, review stakeholders' initiatives in both formal education, informal and economic sectors to build baseline database on youth, periodically review, critically analyse, and measure outputs and impact; ultimately to inform multi-sectoral interventions, initiatives and funding to contain the youth bulge.	PGK5,000,000
Office of Climate Change and Development: Building Resilience to Climate Change	To improve capacities of communities, government agencies and civil society to plan and respond to impacts of climate change and climate vulnerability.	PGK9,000,000
PNG Climate First	To support PNG increase its access to	PGK46,000,000

⁸⁸ Papua New Guinea Treasury, 2024

	international climate finance and develop a working team to endorse large-scale financing proposals to support climate-resilient growth in PNG.	
University of Papua New Guinea: Innovative R&D	The objective of the project is to expand the institutional capacity for: • Increasing the quantity and improving the quality of trained high-level manpower and • Undertaking quality applied research and providing consultative/advisory/community services to the public and private sectors and regional development.	PGK5,000,000
University of Technology (Unitech): Innovative R&D	Covers the funding of six full time PhD scholars in Mathematics (STEM), Environmental Engineering, Science (Applied Physics), Forestry (Forest Biodiversity) and Agriculture (Biotechnology, Smart agriculture).	PGK5,000,000
University of Goroka: Innovative R&D	Covers the funding of 6 full time PhD scholars in Education, Science and Science, Technology, Engineering, and Mathematics (STEM) Education.	PGK5,000,000

University of Natural Resources and Environment (UNRE): Innovative R&D	Funding of Research Grants to Postgraduate students at UNRE to undertake agriculture-based research at the institution.	PGK5,000,000
Institute of Medical Research: Health and Epidemiological Surveillance System	The Comprehensive Health and Epidemiology Surveillance System (CHESS) project disseminated seven technical reports, 15 scientific publications and six newspaper articles contributing to the body of knowledge in the field of public health (demography, socio-economic development outcomes, health service uptake, disease burden, child, women and men and epidemiology, both in PNG and globally covering health. For CHESS, an achievement to the 80,000-target population was achieved through the systematic data collection, analyses and contribute to a better understanding of disease patterns, risk factors and health trends in PNG, aiding in evidence-based decision making.	PGK10,900,000
Kokonasa Industry Korpation (KIK): Coconut Research and Nursery Project	The components of this project are: Plant Breeding: Develop and produce new coconut varieties with desired quality to increase	PGK5,000,000

	genetic base of coconut varieties • Agronomy and Farming: Develop Optimal coconut farming systems, soil survey and improvement studies, and • Product Diversification: Research and trials on new coconut products	
PNG Oil Palm Industry Corporation: R&D	To promote the growth and development of the oil palm industry through appropriate R&D techniques. Based in West New Britain, Oro, Milne Bay and New Ireland.	PGK8,000,000
National Agriculture Research Institute: R&D	To promote income earning opportunities through R&D in agriculture research outcomes. Focused on climate resilience of taro, cassava, yam, sweet potato and bean crops.	PGK8,000,000
PNG Cocoa Board	Research into Recovery & Value Addition of Cocoa in PNG	PGK4,000,000

These figures show that all tertiary institutes receive baseline funding of PGK5 million while most public investment into R&D is focused on climate resilience and climate financing. The two other sectors with public investment into R&D are health and agriculture.

6.4 Key recommendations for strengthening national R&D pathways in Papua New Guinea

PNG has a comprehensive research infrastructure reflected in the establishment and maintenance of six universities and four government research institutions. The key priorities for R&D revolve around natural resources management and the socio-economic impact of extractive industries and climate change.

Key challenges to improving national R&D pathways are capacity gaps and resourcing limitations. As the Pacific region's largest country, its extensive research agenda covers a broad spectrum of social, economic, cultural and environmental issues. The MTDP IV has allocated 0.3% of the total budget for the period 2023–2027. This level of investment suggests limited ability to diversify research outputs and projects. There is also the reality of substantial research interests in PNG from external partners drawing outputs out of the PNG research system.

To help strengthen R&D developments in PNG, key recommendations to consider include:

1. A top-down approach to involve MHERD being more in the production, dissemination and monitoring of research outputs.
2. The National Archives and Public Records Services can also play an important role in storing research outputs and making these accessible across the national libraries system.
3. A medium-term approach to improve R&D could involve research institutions pooling research funding for transdisciplinary research projects, noting that challenges to improving research are restricted by capability and funding.
4. Research infrastructure: Given the significant volume of research outputs being generated in PNG, a user-friendly infrastructure would support dissemination and use of these resources across sectors.
5. Continue using the MTDP IV as a guide to monitor progress towards the national research agenda.
6. Empower research leadership at grassroots levels through incentivising private sector investment in R&D.

Appendix 3: Papua New Guinea Supplementary Tables

Public Investment Program for Statutory Authorities and Provincial Governments 2024 – 2028:⁸⁹

Table 6.2 MTDP IV Strategic Priority Area 09: Research, Science and Technology

DIP 9.1	Medical Research
	Government supports medical research initiatives into tropical infectious diseases as well as emerging lifestyle diseases, including Non-Communicable Diseases (NCDs). Research will provide information about disease trends, outcomes of treatment and health care costs.
DIP 9.2	Environment and Bio-Science Research
	The environment represents PNG's critical nature assets. The government supports research into biodiversity to develop new technologies to address National and global problems.
DIP 9.3	Agricultural Research
	Government supports agriculture research to improve our knowledge and technologies for strengthening value chains and increasing productivity. Research is also necessary to address threats of emerging pests and diseases, climate change and food insecurity.
DIP 9.4	Engineering and Technology Research
	Government will support research into developing technologies for developing sustainable infrastructure and energy security, and ICT applications.
DIP 9.5	Socio-Economic Policy Research
	Socio-economic research is critical to provide government with evidence-based information to help development of relevant policies.
DIP 9.6	Food Security
	Considering the increasing threats posed by pests and diseases, climate change effects and geopolitics, it is critical for government to support research initiatives on how these can be mitigated to sustain food security.

Table 6.3 MTDP: Strategic Priority Area 10: Climate Change and Environmental Protection

DIP 10.1	Climate Change Mitigation
DIP 10.2	Climate Change Adaptation
	The government will address the climate change challenges by undertaking the following mitigation and adaptation programs: • Reducing Emissions from Deforestation and Forest Degradation (REDD+) Safeguard Information System; • Enhanced Determined Contribution Implementation Plan 2020-2030; • Adaptation Program; and • Mitigation Program.
DIP 10.4	National Disaster Management
	The three focused areas of government intervention include: • Natural Disaster Program; • Integrated Early Warning System; and • Natural Disaster Resilient Infrastructure.

⁸⁹ Papua New Guinea Department of National Planning & Monitoring, 2023

7. Samoa R&D National Profile



Figure 7.1 Map of Samoa⁹⁰

7.1 Country Overview

- **Capital:** Apia
- **Land area:** 2,934 km²⁹¹
- **Population:** 218,697 (2025)
- **GDP per capita:** USD4,764 (2024)
- **Adolescent population (ages 10–19):** 50,226 (2024)⁹²

Samoa is located in the Central South Pacific and consists of two main islands, Upolu (home to the capital, Apia), Savai'i and four smaller islands. With a total land area of 2,934 km², approximately 80% of land is customary land owned by villages, with the remainder either freehold land or government owned land.

Similar to other states in the Pacific, Samoa's economy is vulnerable to natural disasters (cyclones, tsunamis) and external economic shocks due to its small size, small population, lack of mineral resources and fragile economies associated with its remote geographic location being far from international markets.

Like its Pacific neighbours, Samoa is experiencing rising sea levels, coastal erosion, increasing ocean acidification and frequent severe weather events that threaten the country's water and food security, biodiversity, infrastructure and economic stability.⁹³

Taking into account the above-mentioned environmental challenges, Samoa's economic growth and its recovery is therefore crucial to its R&D landscape as it

⁹⁰ Pacific Community [SPC], 2025, Samoa

⁹¹ Ibid.

⁹² Ibid., see population pyramid

⁹³ U.S. Department of State, 2025

impacts on the necessary investments that are required for developing and progressing its R&D ecosystem.

7.2 R&D Policy Context

Samoa's R&D policy landscape is characterised by a high degree of integration within national strategic planning, particularly in areas crucial for economic diversification and climate resilience. Samoa's incorporation of R&D within its broader national development strategies involves focusing on innovation, industry development, and the use of STI to support sustainable economic growth and national resilience.

The following assessment summarises the R&D policy framework, key institutions, critical challenges and recommendations for strengthening national R&D pathways.

Strategic Policy Framework

Samoa's R&D is not governed by a single "Science Ministry" but is embedded across several national policies and development strategies that are implemented by various Government entities.

The implementation of Samoa's overarching national development framework the Pathway for the Development of Samoa (PDS)⁹⁴ launched in February 2022 guides all sector plans, including those with R&D components. It links national priorities to broader sustainable development goals and prioritises a "Diversified and Sustainable Economy" as one of its key strategic outcomes with an emphasis on value-added agriculture and renewable energy research to reduce reliance on imports and stimulate business innovation and growth.

Since 2017, Samoa has been working towards the development of a specific National ST&I Policy (NSTIP)⁹⁵ that provides a unified policy framework to coordinate STI efforts across various sectors. Led by the Scientific Research Organisation of Samoa (SROS), Samoa's first NSTIP was developed through a whole of government approach.

Approved by Samoa's Cabinet in February 2025, the new NSTIP supported by UNESCO is the most critical recent policy development, signalling a shift from sector-specific silos to a cohesive national framework. The NSTIP therefore strives to ensure that collaborative efforts between government, the private sector, academia and civil society empower Samoa to address critical challenges, stimulate economic growth and further enhance global competitiveness.

The Ministry of Commerce, Industry and Labour (MCIL) protects and safeguards intellectual properties (IPs) via the Copyrights Act 1998 and various International Conventions and Treaties administered by WIPO for the international protection of local IPs. This framework encourages innovation and R&D by protecting trademarks,

⁹⁴ Ministry of Finance, 2021

⁹⁵ UNESCO, 2017

patents, industrial designs, geographical indications, circuit layouts and plant breeders' varieties.

The *Digital Transformation Strategy 2023-2030* provides a roadmap to enhance digital infrastructure, improve e-government services and build a resilient digital economy. The strategy emphasizes digital inclusion, cybersecurity and upskilling the workforce through various nationally-led initiatives.

Public Sector and Academia

Samoa's R&D ecosystem includes specialised public entities like the SROS, the National University of Samoa (NUS) and regulatory bodies like the Samoa National Health Research Committee (SNHRC). These entities have established robust mechanisms for research governance, ethical review and national data sovereignty, ensuring that research outcomes serve public policy objectives.

SROS

The SROS was established in 2006 to conduct R&D to significantly contribute to Samoa's economy. Over the years, SROS has developed prototypes and value-added products from its R&D program, ready for commercialisation. Since then SROS has expanded and grown its research activities to include agricultural research, environmental and renewable energy research to promote sustainable development and medicinal plants and natural products research to address health issues in Samoa.

NUS

The NUS is also a major contributor to R&D. Established by an Act of Parliament in 1984, the NUS which began with an initial budget of only 5 tala (WST or Samoan Tala)⁹⁶ and 45 students enrolled in the University Preparatory Year program. Since then, NUS has evolved to become Samoa's premiere tertiary institution with an annual operating budget exceeding WST30 million, serving as a multi-faculty research hub and a critical engine for Samoa's human resource development. The key R&D hubs and outputs of NUS include:

- The Journal of Samoan Studies (JSS)⁹⁷: This peer-reviewed publication showcases interdisciplinary research on ICT in education, land tenure and health, featuring a mix of local and international scholars.
- Samoa Digital Library (SADIL)⁹⁸: Officially launched in 2022 in partnership with the United Nations Development Programme (UNDP), the SADIL provides digital access to Samoan resources, acting as a central repository for local knowledge that was previously locked in paper archives or overseas institutions. SADIL is part of the Samoa Knowledge Society Initiative (SKSI)⁹⁹ Project, which is collectively funded by the India South-South Cooperation, UNESCO and UNDP.

A recent strategic R&D partnership was a strengthened MOU with the Secretariat of the Pacific Regional Environment Programme (SPREP) in 2024. The MOU

⁹⁶ Sanerivi, 2024

⁹⁷ National University of Samoa's Centre for Samoan Studies, 2025

⁹⁸ Samoa digital library, <https://sadil.ws/>

⁹⁹ National University of Samoa [NUS] and UNDP, 2023

has allowed NUS students and staff to access regional expertise and funding for climate change and biodiversity research.

MAF

Samoa's Ministry of Agriculture and Fisheries (MAF) is the lead agency for national food security and agricultural economic growth. Under the current Pathway for the Development of Samoa (2021/22–2025/26) and the Agriculture and Fisheries Sector Plan (2022–2027)¹⁰⁰, the Ministry has pivoted its R&D toward climate resilience, import substitution and commercialising smallholder farms production.

The Ministry's R&D activities are structured around four primary pillars designed to transition Samoa from subsistence farming to a more resilient, market-oriented sector:

1. Climate-Smart Agriculture: Developing and distributing crop varieties (taro, cocoa, coconut) that are resistant to drought, high temperatures and pests.
2. Import Substitution: Improving livestock breeds (pigs, poultry and sheep) and aquaculture outputs to reduce reliance on expensive imported proteins.
3. Biosecurity and Pest Management: Intensive research into biological controls for invasive species like the Coconut Rhinoceros Beetle and the Fruit Fly.
4. Value Chain Integration: Researching post-harvest technologies (e.g., solar drying for kava and cocoa) to increase the shelf life and export quality of Samoan products.

MCIT

The MCIT is responsible for driving digital R&D policy in Samoa as signalled in the review of the *National ICT Policy 2012–2017* and the creation of a new *National Digital ICT Policy*.¹⁰¹ This transition represents a strategic policy decision to utilise digital technology for accelerated national growth, moving beyond basic infrastructure goals to leverage digital innovation for effective governance and economic development. The MCIT actively implements digital platforms such as the Samoa One Government Portal launched in October 2025¹⁰² and is the lead Government agency for developing and implementing *Samoa's Digital Transformation Strategy 2023–2030*.

Whilst R&D execution is widely distributed across key Government ministries that rely on evidence-based policies to perform their core functions the three public sector entities, SROS, NUS and MAS dominate the R&D ecosystem.

Private Sector

Innovation is mainly government-led and there is limited publicly available information about significant R&D spending by the local private sector. Unlike developed nations where R&D is often software or pharmaceutical-based private sector R&D in Samoa is almost exclusively capital-embedded innovation (e.g., buying new, advanced machinery to process local crops).

¹⁰⁰ Ministry of Agriculture and Fisheries, 2022

¹⁰¹ Ministry of Communications and Information Technology [MCIT], 2021

¹⁰² <https://mcit.gov.ws/samoa-one-government-portal/>

The (WIPO) Statistical IP Profile for Samoa for the year 2024¹⁰³, also reflects minimal private sector investment in patents, as a measure of the level of innovation activity by local businesses. However, it was noted instead that for the year 2024, a total of 62 patents¹⁰⁴ from applicants abroad were filed to the MCIL's Registry of Intellectual Properties, for protection in Samoa, under the Patents Cooperation Treaty (PCT).

NGOs

The following three NGOs in Table 7.2 account for significant scientific and social research in Samoa's non-profit sector.

Table 7.2 NGOs with R&D Activities

Organisation	Primary R&D Focus	Key Research Activities
Conservation International Samoa ¹⁰⁵	Marine & Ocean Science Conservation International has been working in Samoa since 2006. CI Samoa has worked with the Samoa government and local communities to conserve critical forest ecosystems and support sustainable management of their oceans.	Marine spatial planning: Leading the science behind protecting 30% of Samoa's ocean (conducting biomass surveys and habitat mapping) and key contributor to the formulation of Samoa's Marine Spatial Plan 2025-2035, ¹⁰⁶ that was launched on 3 June 2025. Developed through extensive community and stakeholders' engagement, the Marine Spatial Plan forms part of the implementation of Samoa's Ocean Strategy 2020-2030. Blue carbon: Researching carbon sequestration rates in Samoan mangroves. CI's focus on mangrove conservation in Samoa, is part of the broader Samoa Ocean Strategy (SOS) 2020-2030, which aims to protect 30% of Samoa's waters and coastal ecosystems. This strategy is a key contributor of technical and financial support. The SOS was officially launched on 16 October 2020 and legally strengthened in June 2025. ¹⁰⁷
Samoa Conservation Society (SCS) ¹⁰⁸	Terrestrial Ecology Formed in 2013, the SCS is a membership based non-	Key research areas include:

¹⁰³ World Intellectual Property Organization [WIPO], 2024, Samoa

¹⁰⁴ Ibid

¹⁰⁵ Samoa Conservation International, 2025

¹⁰⁶ Ministry of Natural Resources and Environment, 2025

¹⁰⁷ Conservation International, 2025

¹⁰⁸ <https://samoaconservationsociety.com/>

	governmental environmental organisation dedicated to promoting the conservation of Samoa's biological diversity and natural heritage. SCS works collaboratively with Samoan communities, the Government and NGO partners to raise awareness on the state of Samoa's environment, research the status of threatened species and implement practical conservation projects to save them.	Manumea Bird (Tooth-billed Pigeon) – Ongoing research and awareness campaigns to locate individuals and protect breeding pairs, as its population is critically low. Rare and endemic plants – Surveys, collection, propagation and establishment of nurseries (like at Vailima Botanical Gardens) for threatened flora, including medicinal and butterfly-attracting plants, despite funding challenges. Invasive species control – Eradication efforts, such as the long-running project to rid Samoa of rattan palm and research on invasive ants (e.g., on Manono Island).
Women in Business Development Inc (WIBDI)	Agri-Process & Social Data Established in Samoa since 1991, WIBDI's primary focus has been promoting and advancing the economic and business status of the women in Samoa. WIBDI's focus has since shifted to supporting small business development and preparing its clients to establish and maintain their own income-generating projects through providing training programs in rural areas.	WIBDI's key research activities revolve around: Organic certification and market access – identifying and developing niche markets for high-value, organically certified agricultural products like virgin coconut oil, cocoa and vanilla. WIBDI researches international standards and facilitates organic certification (e.g., with National Association for Sustainable Agriculture, Australia (NASAA) and Control Union) to ensure products meet the requirements of global partners like The Body Shop, Ethique and C1 Espresso. Technology and data collection: WIBDI researches and implements appropriate technologies to improve efficiency. Examples: using tablets for field officers to collect data, mapping farms from the air for easier monitoring and upgrading their server infrastructure.

		Sustainable entrepreneurship models: Research is conducted on the effectiveness of "sustainable entrepreneurship" and "community entrepreneurship" models within the Samoan cultural context, assessing their influence on individual economic well-being and community development.
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7.3 R&D Investment

Samoa's R&D policy system faces a critical structural weakness without an official reporting mechanism to track domestic fiscal investment. A comprehensive analysis of R&D investment could not be conducted due to the lack of domestic R&D expenditure data (see Table 7.3). International data sources including the World Bank and UNESCO Institute for Statistics indicate that Gross Domestic Expenditure on R&D (GERD) is largely unreported or unavailable.¹⁰⁹ Table 7.3 presents data collected from the 2025 Pacific Academy of Sciences (PAS) Survey on R&D expenditure from SROS and NUS.

Table 7.3 2025 PAS Survey R&D Expenditure for Government and Higher Education

Source of Funds	Sector		
	Government (SROS)	Higher Education (NUS)	Total (WST)
Government	5,169,561	100,000	5,269,561
Higher Education	Not applicable	210,372.86	210,372.86
Funds from abroad	1,138,711	Not applicable	1,138,711

There are currently no official government statistics for aggregate private sector R&D spending in Samoa. The lack of reported official R&D statistics conducted by Samoa's private sector does not mean that no innovation is occurring in Samoa. Samoan businesses generally do not have dedicated R&D departments or separate R&D budgets that fit international statistical definitions. Most "research" is informal, ad-hoc, or embedded in general operational improvements.

7.4 HR / People

Whilst personnel in various government agencies R&D activity as part of their responsibilities, R&D is not the core function of their individual roles. The following Tables 7.4 and 7.5, based on R&D Survey completed by SROS and NUS indicate that for the year 2025, total number of women outnumbered men by function and by level of qualifications.

¹⁰⁹ World Bank, 2025

Table 7.4 FY2025 R&D Personnel – Headcounts by Function, Sector of Employment and Gender

Sex	Function	Sector of employment		
		Government (SROS)	Higher Education (NUS)	Total
Males	Researchers	24	78	102
	Technicians & equivalent staff	2	93	95
	Other supporting staff	17	27	44
	Not specified (includes part time staff & volunteers)	-	23	23
	Total male R&D personnel	43	221	264
Females	Researchers	27	107	134
	Technicians & equivalent staff	0	60	60
	Other supporting staff	10	43	53
	Not specified	0	44	44
	Total Female R&D personnel	37	254	291

For the FY2025, SROS had overall employed more male than female R&D personnel compared to the NUS, however, both entities depict a higher proportion of males employed in the technicians & equivalent functions, whilst females dominate the researcher roles. Due to time limitations, it was not possible to obtain data on the total R&D personnel in other government entities, as well as the private sector entities and NGOs.

Table 7.5 FY2025 University Graduates by Level of Qualification, Field of Study and Sex

Sex	Qualification level	Field of Study				Totals
		Engineering & Technology	Medical & Health	Humanities	Other fields / Not specified	
Males	Bachelor's	20	22	25	28	95
	Master's	0	1	5	11	17
	PhD	0	0	0	1	1
	All other qualifications / Not specified	0	0	0	5	5
	Total male graduates	20	23	30	45	118
Females	Bachelor's	17	60	59	116	252
	Master's	0	5	3	10	18
	PhD	0	0	0	0	0

	All other qualifications / Not specified	0	0	0	5	5
	Total female graduates	17	65	62	131	275
Total	Bachelor's	37	82	84	144	347
	Master's	0	6	8	21	35
	PhD	0	0	0	1	1
	All other qualifications / not specified	0	0	0	10	10
	Total graduates	37	88	92	176	393

According to Table 7.5 above, of the combined total University graduates in FY2025 for both the SROS and NUS, 70% were female graduates with male graduates accounting for only 30%. However, in terms of field of study, male graduates outnumbered the female graduates, in the Engineering and Technology category. Majority (88%) of the graduates received Bachelor's degrees with only one male in the reported period, receiving a PhD (in Animal and Food Hygiene).

7.5 Outputs

Table 7.6 below depicts a total of 129 R&D outputs as reported by the SROS and the NUS, for the period from 1 July 2024 to 30 September 2025. The main R&D outputs were publications in international journals.

Patent applications filed and patents granted are an indication of innovation. In Samoa, the SROS has indicated that during the financial year 2025, it filed one patent application and was granted one patent by the Registry of Intellectual Properties.

Table 7.6 R&D Outputs FY2025

Outputs FY2025	Government (SROS)	Higher Education (NUS)	Total
Scientific Reports	8	0	8
Lectures & public presentations	12	40	52
Publications - National Journals	2	0	2
Publication - International Journals	1	64	65
Patents - Applications	1	0	1
Patents - Granted	1	0	1

7.6 Key recommendations for strengthening national R&D pathways in Samoa

1. **Mandate and Report GERD:** The Ministry of Finance must institutionalise the tracking and reporting of GERD using established international metrics (e.g., UNESCO Institute for Statistics guidelines). Making R&D a measurable economic input is necessary for securing its appropriate fiscal prioritisation within the national budget.
2. **Optimise SROS' pathways for export markets access and improved market access of value-added Samoan products:** Establish clear guidelines and policy mechanisms for activating the proposed Strategies and action plans in the SROS' Corporate Plan FY2025–2027 for improved market access pathways for Samoan value-added products for export through the creation of a Food Innovation Centre (FIC), active promotion and participation in the teaching of Food Science and Product Development through the FIC and develop value added products that are in demand and align with current and future market trends.¹¹⁰
3. **Establish a Sovereign R&D Continuity Fund:** Advocate for the creation of a small, dedicated national line item for critical research continuity, ring-fenced to support the core mandates of ministries like the Ministry of Health – NCD research and MAF (climate adaptation science). This fund, even if modest, would ensure research programs maintain momentum independently of project-based ODA.
4. **Targeted Fiscal Incentives:** Design and implement highly targeted fiscal incentives, such as R&D tax allowances or duty exemptions on specific inputs, exclusively for private sector activities related to renewable energy technologies and sustainable agriculture. This approach ensures tax policy directly supports high-priority national R&D objectives.¹¹¹
5. **Expedite Official Implementation of the NSTIP:** Following the official launch of the NSTIP on 28 January 2026, the Government of Samoa must prioritise the implementation of the cross-sectoral NSTIP and where necessary, enact legislative provisions to enable the implementing agencies to effectively implement the objectives and mechanisms in the policy. This unified framework is essential to clarify institutional roles, standardise metrics and maximise coordination among all actors, including NUS, SROS and key ministries.¹¹²
6. **Implement Unified Research Data Management (RDM) Framework:** The rigorous data sovereignty provisions successfully implemented by the Ministry of Health¹¹³ can be integrated into a comprehensive, national RDM policy applied consistently across all ministries and research institutes (SROS, NUS). This will ensure interoperability, security and sustained national access to vital knowledge assets generated across the entire R&D ecosystem.
7. **Strengthen Public Sector Linkages for Technology Transfer:** Policy must mandate formal, structured twinning or policy exchange arrangements between technical ministries (e.g., MAF, MCIT) and relevant regional or international counterparts.

¹¹⁰ Scientific Research Organisation of Samoa (SROS), 2025, pp. 41–42

¹¹¹ Organisation for Economic Co-operation and Development [OECD], 2016

¹¹² UNESCO, 2017

¹¹³ Samoa National Health Research Committee [SNHRC], 2021

Such arrangements are critical for ensuring continuous technology transfer, R&D capacity building and effective acquisition of the external technological resources necessary to meet ambitious goals like the 2030 renewable energy targets.¹¹⁴

¹¹⁴ Department of Foreign Affairs and Trade [DFAT], 2024

8. Solomon Islands R&D National Profile



Figure 8.1 Map of Solomon Islands¹¹⁵

8.1 Country Overview

- **Capital:** Honiara
- **Population:** 750,000 (2024)¹¹⁶
- **GDP per capita:** USD2,149 (2024)

Solomon Islands is a parliamentary democracy in the West Pacific region. It is an archipelago comprised of over 900 islands and with an EEZ covering approximately 1.5 million km². Solomon Islands' diverse population speaks more than 70 different languages. In 2024, the capital of Honiara had a population of approximately 92,344. Demographics from 2024 show that 37% of the population are children under 15 and 35% are young people between the ages of 15 and 34.¹¹⁷

Solomon Islands is the third largest economy in the Pacific region. Its currency is the Solomon Islands Dollar (SBD).¹¹⁸ Its main economic sectors are forestry and agriculture.¹¹⁹ Development aid funding comprises 20% of GDP, the seventh highest in the Pacific Islands region and 13th among 125 countries.¹²⁰

During the global pandemic period Solomon Islands implemented a closed border policy between 2020 and 2022. The closing of national borders affected the

¹¹⁵ Pacific Community [SPC], 2025, Solomon Islands

¹¹⁶ Ibid

¹¹⁷ Ministry of Environment, Climate Change, Disaster Management and Meteorology, Climate Change Division [CCD], 2025

¹¹⁸ In December 2025, SBD traded at approximately 0.12 USD, 0.10 Euro, 18 JPY and 0.09 GBP

¹¹⁹ Pacific Community, 2025, *Gross domestic product*

¹²⁰ Lowy Institute, Solomon Islands

research sector as government priorities shifted towards a comprehensive public health response. Approximately 149 deaths related to COVID-19 were reported.¹²¹

8.2 R&D

Solomon Islands Government has set research priorities in the areas of climate change, forestry and agriculture are referenced in Solomon Islands National Development Strategy 2016–2035.¹²² Solomon Islands does not have a national R&D strategy however the government has established research units within several ministries to progress their research agenda.

As a Pacific nation, Solomon Islands has governance-level membership with regional science agencies; the SPC, Pacific Islands Forum Fisheries Agency (FFA) and SPREP. These agencies are active in Solomon Islands who are participating in a range of project and programs at this level.

Higher Education

Solomon Islands research initiatives and capability is largely concentrated at the Solomon Islands National University (SINU). SINU is the country's only university and was established through the amalgamation of technical training colleges, some of which were established before Solomon Islands gained independence. SINU has a broad research scope across five faculties, nine schools and 38 departments (see Figure 8.2).¹²³

A review of the SINU Research Office in 2018 resulted in a strategic plan aimed at strengthening research performance across the university “to recognise, augment, mobilise and promote the full complement of research skills and resources available at SINU.”¹²⁴

In 2023, the value of SINU's research projects was over SBD2.9 million including collaborations with several external agencies including universities and development agencies. Between January and June 2024, SINU was involved in 11 research projects for a total value of SBD1,475,229.53. SINU produced 19 publications between 2023 and 2024.¹²⁵

The Solomon Islands Ministry for Education and Human Resources Development (MEHRD) issues research permits for foreign researchers looking to conduct research in the country regardless of the field of study.¹²⁶

¹²¹ United Nations Satellite Centre UNOSAT UNITAR, “COVID-19 Dashboard for Solomon Islands”

¹²² Solomon Islands Ministry of Development Planning and Aid Coordination, 2016

¹²³ Solomon Islands National University [SINU], About SINU

¹²⁴ Solomon Islands National University [SINU], Strategy, planning and objectives

¹²⁵ Solomon Islands National University [SINU], 2023

¹²⁶ Solomon Islands Ministry for Education and Human Resources [MEHRD], Procedures for applying for a research permit

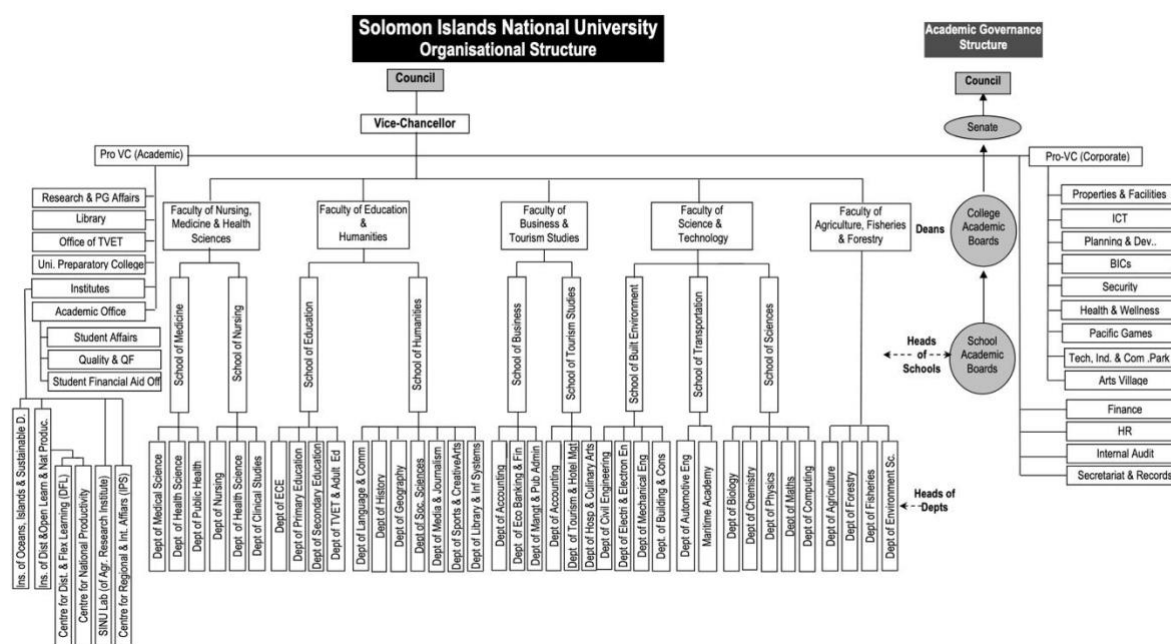


Figure 8.2: Solomon Islands National University Organisational Structure¹²⁷

Solomon Islands is a governing member of USP, a publicly funded research university with campuses across 12 national jurisdictions including Honiara. Solomon Islands were the third highest contributor to USP after Fiji (first) and Vanuatu. In 2024 Solomon Islands contributed SBD 3,028,235 to USP, a 7% increase on the contribution in 2023.

The USP Research and Innovation Office has five strategic research themes for the period 2025 to 2027. There are currently no active projects in Solomon Islands under these themes.¹²⁸ In 2024, 2,826 Solomon Islands nationals were enrolled at USP with 11% on scholarship. Of these, 83 were postgraduate students with 22 of them research postgraduates.¹²⁹

Ministry-led R&D

Solomon Islands Ministry for Forestry and Research has two research units.¹³⁰ The Herbarium section is responsible for all research activities, and the Forest Development and Reforestation division houses a plantation research section.

The Ministry of Fisheries and Marine Resources aims to develop sustainable fisheries and aquatic resources for the benefit of all Solomon Islanders including research on fisheries with potential for development. It includes an aquaculture division responsible for cultivating freshwater and saltwater populations to improve livelihood and food security.¹³¹

¹²⁷ Solomon Islands National University, 2022.

¹²⁸ University of the South Pacific [USP], The research & innovation office

¹²⁹ University of South Pacific, 2024, p. 54

¹³⁰ Solomon Islands Ministry of Forestry and Research, About the Ministry of Forestry and Research

¹³¹ Solomon Islands Government, Ministry of Fisheries and Marine Resources

The National Statistics Office (SINSO) is responsible for collecting and analysing official data and statistics. It also leads in promoting R&D into techniques and tools for collecting, processing and analysing data.

8.3 R&D Investment

Solomon Islands Government has allocated funds in its 2025 budget to support R&D initiatives across 13 government agencies. The *2025 Financial Policy Objectives and Strategies* document identifies R&D as a priority under Human Development and Mind Set to “support our local institutions to develop an appetite for R&D.”¹³²

In 2025 a total of SBD18,567,733 or about 0.9% of the total budget is committed to ministerial budget lines that have at least one research and innovation related activity as a direct output. This means R&D receives less than 1% of the annual budget. The details of spending, outlined in Table 8.1 below, catalogue the ministerial allocation by activity.¹³³

Table 8.1: Solomon Islands details of research-related government allocation for 2025

Ministry/Department	Purpose	Allocation (SBD)
Ministry of Forestry and Research	Herbarium and Botanical Garden for useful plants research and documentation of Solomon Islands flora	665,552
	Research & Communications Unit of the Ombudsman Office	258,000
Ministry of Agriculture	agriculture research on pesticides and coconut rhinoceros beetle eradication	556,308
	Agriculture Information Unit research for advocacy and awareness of agriculture development	202,263
Ministry of Education and Human Resource Development	Strategic Plan Unit to implement Form 3 maths survey, school grants survey in central Makira, a research symposium to encourage scholars to showcase educational research findings, and 10 Research Committee meetings.	1,261,443
Ministry of Finance and Treasury	Statistical Services including monies tagged for supporting dissemination of research and produce HIES physical products.	5,650,818
Ministry of Health and Medical Services	National Health and Training Research	100,344
Office of the Prime Minister and Cabinet	Parliamentary Entitlements Commission including research and database analysis and	1,566,727

¹³² P10 Financial Policy Objectives

¹³³ Solomon Islands Government. 2024 Financial Policy Objectives and Strategies

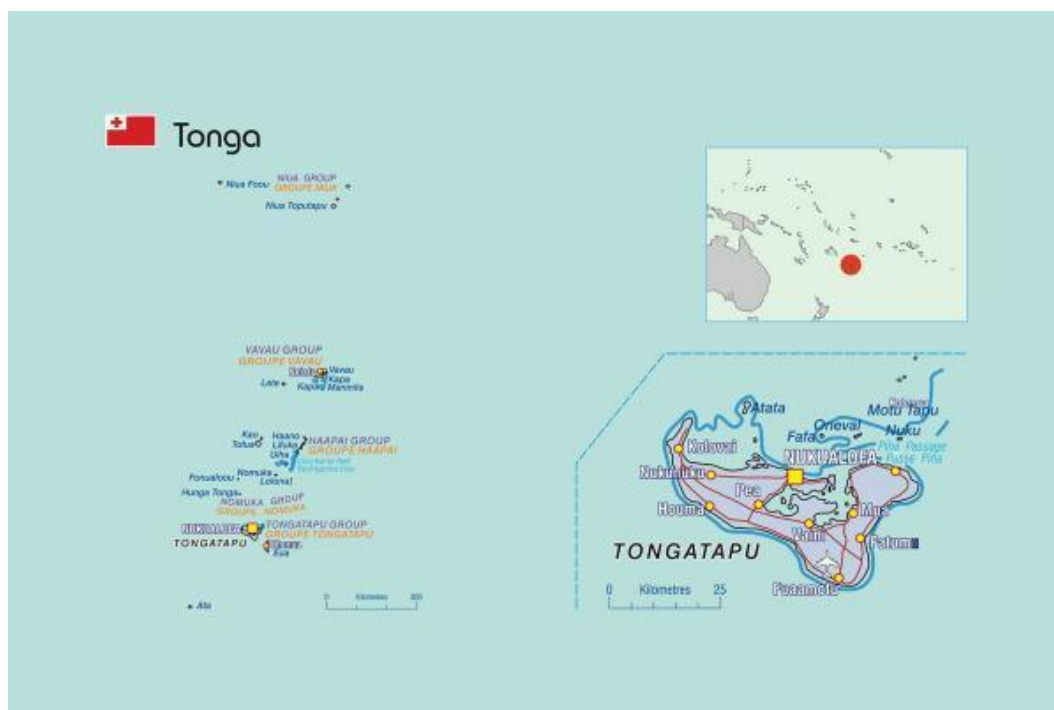
	advice to assist Commission in decision-making	
Ministry of Commerce, Industry, Labour and Immigration	Business and Cooperatives to conduct a review and formulate a new framework to complement continuous research for development	1,217,246
	E-Commerce including for research and analysis to understand the complexities of e-commerce taxation	32,000
Ministry of Fisheries and Marine Resources	Statistics and Information	94,611
	Aquaculture including Tilapia fisheries development, seaweed farming and hatchery productivity	1,245,429
Ministry of Traditional Governance, Peace and Ecclesiastical Affairs	Policy, Planning and Programme Development Division to facilitate and coordinate research and analysis on conflict issues, policy and programme development along with monitoring and evaluation	255,751
Ministry of Mines, Energy & Rural Electrification	Geology including development of a national Geothermal Policy for Solomon Islands	871,898
	Water Resources Management including hydrological data collected for hydropower (renewable energy), water supply feasibility studies as well as floor risk early warning systems	518,718
Ministry of Women, Youth, Children and Family Affairs	Research, Policy, Planning & Information Division	97,402
Ministry of Environment, Climate Change, Disaster Management and Meteorology	Environment and Conservation including coordination and conduct of bio-research and bio-prospecting research and species assessments and for conservation of high biodiversity conservation values and endangered species	2,944,717
	Climate Change research	1,069,582
Total	Research	18,608,809

8.4 Key recommendations for strengthening national R&D pathways in Solomon Islands

Solomon Islands' existing R&D sector focuses on climate change, forestry and agriculture. It is also tied into regional research initiatives, most of which are funded by development partners. The following recommendations aim to boost activity in the national R&D sector and builds on the existing R&D architecture:

2. Develop a R&D agenda which sits alongside the National Plan. Solomon Islands has an established research infrastructure and have identified R&D priorities in the fields of climate change, forestry and agriculture in the national plan. Research units located within government departments and academia would benefit from an overarching strategy noting that priorities like sustainable forestry, fisheries and food security are all transdisciplinary in nature.
3. There are untapped benefits within the existing R&D networks that Solomon Islands agencies are part of. Consider a mechanism like a R&D symposium for parliamentarians to boost the profile of R&D in Solomon Islands and attract public investment.
4. Continue utilising regional public goods to strengthen research capability in the Solomon Islands. Agencies like SPC and FFA were established by PICTs to help them achieve their development goals. Solomon Islands is already actively participating in regional conservation and sustainable development which in turn is providing new insights into growing climate resilience crops to help the country adapt to the effects of climate change.
5. Establish a centralised repository of local research to monitor and promote R&D initiatives in Solomon Islands.

9. Tonga R&D National Profile



*Figure 9.1 Map of Tonga*¹³⁴

9.1 Country Overview

Tonga is a multi-island independent state. Tonga is comprised of 169 islands spread out across approximately 800 km from north to south. It is surrounded by Fiji and Wallis and Futuna to the northwest, Samoa to the northeast, Niue to the east and New Caledonia and Vanuatu farther to the west.¹³⁵

- **Capital:** Nuku'alofa
- **Land area:** 749 km²
- **Population:** 103,972 (2024)
- **Adolescent population (ages 10–19):** 24,000 (2024)¹³⁶
- **GDP per capita:** USD4,858 (2024)

9.2 R&D Policy Context

The Government of Tonga does not currently have in place a national R&D policy or strategy. However, progress has been made in the national development agenda to include research as a priority area. The draft Tonga Strategic Development Framework III 2025–2035 (TSDFI), which is scheduled to be finalised by Cabinet in 2025, identifies Research and Innovation (R&I) as one of the cross-cutting strategic pathways vital for Tonga’s development towards a resilient nation by 2035.

Findings from TSDFII national dialogues, identified the importance of developing an institutional culture of R&I in Tonga. This includes developing a national research

¹³⁴ Pacific Community [SPC], 2025, Tonga

135 Ibid.

¹³⁶ UNICEF, 2025, Tonga data set.

policy to guide all research partnerships and nurturing a research culture. For example, in the public service, the concept of R&I is unfamiliar to the majority of public servants. This underscores a need for socializing and capacity building in R&I across the country. This will enable people to recognise the value of research evidence-based data in policy-making, decision-making, practices, intervention and advocacy, a quality distinct from general data collected through workshops, trainings and dialogues.¹³⁷

This important policy focus builds on existing research permit processes in place. The Office of the Prime Minister administers research permit requirements as part of its process for research consent (see Section 9.7)

9.3 R&D Investment

Research investment by the government is not readily available in public reports for SDG 9.5 indicators. While it was possible to determine expenditure by examining national departments reporting, it was not possible to do this in the time available to complete the assessment.

Like other Pacific states, research may be embedded within individual government mandates and business plans. The Statistics Department produces its national data and poverty measurement.¹³⁸ The Ministry of Agriculture, Food, Forestry and Fisheries engaged in research on sustainable land management as well as climate resilience. The 2024/25 budget committed TOP8.0 million (Tongan Pa'anga) under its Public Private Partnership (PPP) allocation. This included TOP1.8 towards an agriculture sector project with Phase 1 investing USD70,000 to conduct research evaluating the biogas produced from local livestock waste and green vegetation.¹³⁹

Scholarships through the Tonga National University are an ongoing offering for higher education students. Priorities for funding include candidates with high-quality research plans and five scholarships were awarded for Master's-level research candidates in 2023–2026. It was expected that the recurrent budget allocation for government-funded scholarships at TOP3.3 million in FY2024 would be exceeded by 36% or TOP1.2 million by the end of engineering.¹⁴⁰

9.4 HR / People

The tertiary sector of Tonga comprises three accredited institutions. The Tonga National University was formed in 2023 with the merging of several former institutions: The Tupou Tertiary Institute and the USP Tonga Campus were established in 1971. However, the number of academic qualifications for all sectors held by Tonga nationals in 2024 was not readily known. Nevertheless, public sector workforce capability in 2021 showed the number of qualifications held within the 4,254 employees of the Tonga public service.¹⁴¹

¹³⁷ M. Paea, personal communication, 25 October 2025

¹³⁸ Statistics Department, 2020

¹³⁹ Government of Tonga, 2024, p. 93

¹⁴⁰ Ibid., p.27

¹⁴¹ Office of the Public Service Commission, 2022, p. 9

Figure 9.2 below shows the percentage of qualifications held by 20 ministries of the Tonga government.

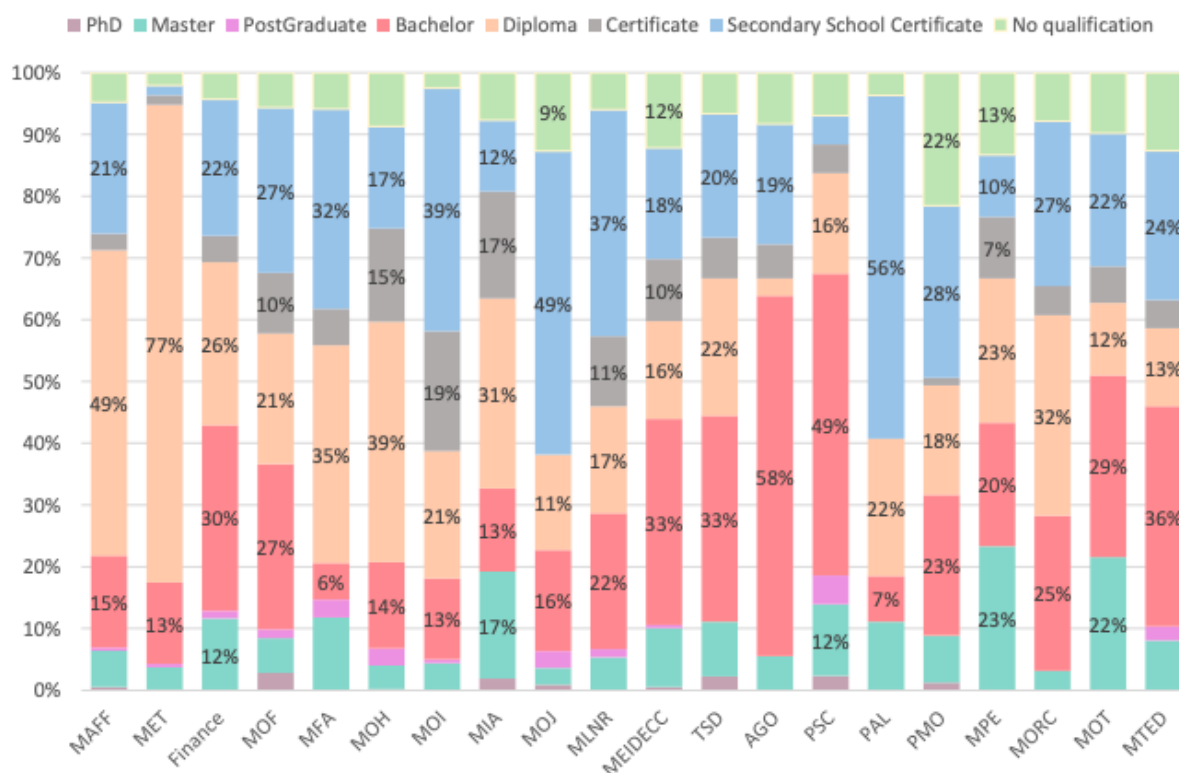


Figure 9.2 Higher Academic qualification held by Ministries as of June 2021¹⁴²

Table 9.1 below shows qualifications by gender for 2021 for the public sector.

Table 9.1 Public Sector Workforce Capability by Qualification in 2021¹⁴³

Qualification	Female (%)	Male (%)
PhD	46	54
Master's	65	35
Post-graduate	79	21
Bachelor's	59	41
Diploma	8	92
Certificate	59	41
High School Certificate	58	42
No qualification	25	75

Source: Office of the Public Service Commission (2022)

This information was supplemented with 2024 data from USP that had 1060 EFTS with 30% male and 70% female. These records added to a trend of increasing enrolments from 2014 to 2024.¹⁴⁴

The majority of EFTS were enrolled in undergraduate studies with 16 EFTS enrolled in the Postgraduate by thesis (see Table 9.2).

¹⁴² Ibid., p. 100 Figure 22

¹⁴³ Office of the Public Service Commission, 2022, p. 91

¹⁴⁴ University of South Pacific [USP], 2024, p.58

Table 9.2 Tonga Nationals EFTS by level of study 2024¹⁴⁵

Level of Study	EFTS
Postgraduate (Thesis)	16
Postgraduate (Coursework)	63
Undergraduate	684
Sub-degree	287

Source: USP (2024)

The top five programmes based on EFTS included Bachelor's degrees of Commerce, Science, Arts and Law followed by School based foundation business programme (see Table 9.3).¹⁴⁶

Table 9.3 Top Five Programmes 2024

Programme of Study	EFTS
Bachelor of Commerce	159
Bachelor of Science	107
Bachelor of Arts	97
Bachelor of Law	91
School based Foundation Business	62

Source: USP (2024)

9.5 Outputs

A Google Scholar search was carried out of Tonga nationals authored publications. This helped to estimate the number of academic publications for 2025 by Tongan nationals. In total, nine publications were identified. No patent information was identified for 2025.

Although data has not been included in this analysis, the Institute of Education at the USP-Tonga Campus holds the Kukū Kaunakā repository. This is a collection of Doctorate and Master's theses written by Tongan scholars.¹⁴⁷

Tonga also established the Tonga Research Association (TRA) – Kautaha FeKumi 'a Tonga (formerly the Tongan History Association).¹⁴⁸ In 2025, they held a conference, themed *Navigating Anga Fakahonua and Lulu'i 'o e Fonua* from 30 October 30 to 1 November 2025, in San Mateo, California.

In May 2025 the SPC hosted its first regional research symposium on Agriculture and Forestry in Nuku'alofa, in Tonga. Its key outputs included:

- the publication of the Symposium proceedings
- launch of the Journal of Agriculture and Forestry in the Pacific
- a key outcomes and recommendations document supporting the *Hearing Pacific Voices* component of the Regional Research Agenda
- a Pacific research network was established to support and inform the *Partners in Research* component of the Regional Research Agenda

¹⁴⁵ Ibid., p.59

¹⁴⁶ Ibid

¹⁴⁷ USP, Institute of Education, Kuku Kaunaka

¹⁴⁸ Tonga Research Association, About

9.6 Key recommendations for strengthening national R&D pathways in Tonga

In support of Tonga's research developments the following recommendations should be considered:

1. Adopt and support implementation of a comprehensive R&I policy aligned with the Tonga Strategic Development Framework III (2025-2035).
 - Support investment, capacity and partnerships across all sectors with awareness and training programmes
 - Integrate research evidence into policy-making and decision-making processes.
2. Strengthen Research Governance with streamlined research permit processes under the Office of the Prime Minister and centralised research registry for tracking research projects.
3. Enhance R&I Investment with dedicated government funding with transparent reporting in annual budget submissions.
4. Explore co-financing partnerships with international and private sectors including regional research entities and opportunities for collaboration.
5. Expand Human Resource Development with increased scholarships and incentives for postgraduate studies, especially in STEM with attention to Retention programs and career pathways for researchers.
6. Promote Knowledge Sharing among sectors and actors by:
 - Encouraging publications and create/align a national research repository with existing repositories.
 - Host regular conferences and foster collaborative networks as shown in the Agriculture sector.

9.7 Guidance for Future Researchers

Researchers should consult the relevant government department well in advance of undertaking any research. Applications should be submitted to the Prime Ministers Office (PMO). Please consult the PMO website for more information.

The proposal¹⁴⁹ will be sent to relevant government ministries for feedback. You must comply with any additional requirements or laws and visa requirements. It is important to engage with the key relevant government agencies.

¹⁴⁹ https://pmo.gov.to/wp-content/uploads/2021/02/Tonga-Statistics-Department_English.pdf

Appendix 4: Tonga List of 2025 Publications

An online search of Google Scholar identified 10 journal articles with Tongan authors published in 2025:

- Abdollahi, D., Alizadeh, M. M., Schuh, H., & Tsai, L. C. (2025). Three-dimensional reconstruction of ionospheric disturbances using Tikhonov regularization after 2022 Tonga volcanic eruption. *Earth and Space Science*, 12, 9, e2025EA004247.
- Faleolo, R., & Vehikite, E. I. (2025). Koe folau'o Futukava mei Tonga ki Aositelelia: The voyage of 'Footocava' from Tonga to Australia. *Australian Journal of Biography and History*, 9, 55-64.
- Hausia, E. p. F., Matapo, J., & Gaffney, J. S. (2025). Self-Efficacy Perceptions of Tongan Students and Their Teachers within Year 11 Business Studies. *New Zealand Journal of Educational Studies*, 1-21.
- Malijan, G. M. B., Chen, M., Ong, G. X., Cerrado, J. P. B., & Park, K. (2025). A scoping review of health research in four Pacific Island countries and areas (Cook Islands, Fiji, Guam and Tonga) from 2014 to 2024. *The Lancet Regional Health-Western Pacific*, 59.
- Mitchell, E., Áke, C., Underhill, S., & Burkhart, S. (2025). Motivators and Facilitators of Fruit and Vegetable Intake in Tongan Adults. *Nutrients*, 17,9, 1510.
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- Zürn, W., Rosat, S., Hinderer, J., Boy, J.-P., & Littel, F. (2025). Observation and Modeling of the Gravity Signals of the January 15, 2022 Hunga-Tonga Air Wave \$\$ A_1 \$\$ at Two Stations Near Strasbourg, France. *Pure and Applied Geophysics*, 182,11, 4531-4539.

10. Vanuatu R&D National Profile

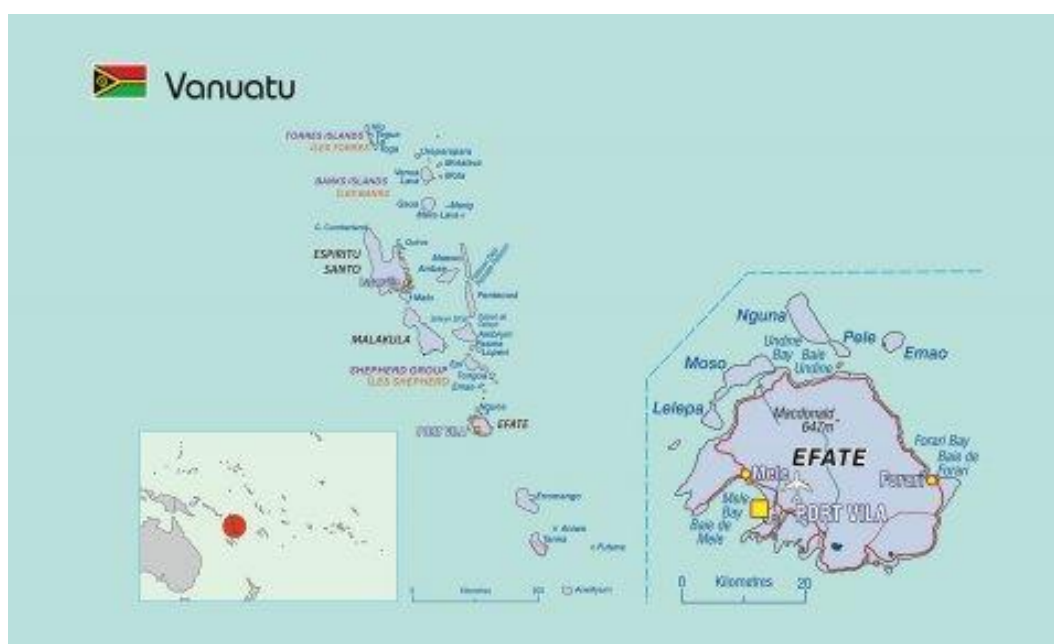


Figure 10.1 Map of Vanuatu¹⁵⁰

10.1 Country Overview

Vanuatu is an archipelago of more than 80 islands located in the South Pacific Ocean between Fiji and the Solomon Islands. It is classified as a lower-middle-income SIDS.¹⁵¹

- **EEZ:** 680,000 km²
- **Land Area:** 12,190 km²
- **Population (2024):** 342,300¹⁵²
- **GDP per capita:** USD3,387¹⁵³

Vanuatu's economy relies heavily on tourism, agriculture and services with increasing efforts toward digital transformation and climate resilience.

10.2 R&D Policy Context

Public Sector

Vanuatu does not have a dedicated national research and innovation strategy, however, the *Vanuatu Digital Government Master Plan (2021–2030)* includes R&D – enabling actions such as open data sharing frameworks and investments in ICT infrastructure for research and education.

¹⁵⁰ Pacific Community [SPC], 2025, Tonga

¹⁵¹ Ibid.

¹⁵² UNICEF, 2024

¹⁵³ World Bank, 2024

Like most other Pacific states R&D was integrated into sectoral plans – particularly environment, climate resilience, health and education. Key agencies engaged in research include:

- Vanuatu Bureau of Standards (science and innovation in product quality)
- Department of Environmental Protection and Conservation (climate and biodiversity research)
- Vanuatu Meteorology and Geo-Hazards Department (applied science, disaster risk reduction)

Academia

The National University of Vanuatu (NUV), launched in February 2020, provides the platform to integrate post-school education and training institutions including the Vanuatu Institute of Teachers Education, Vanuatu Institute of Technology, Vanuatu Agriculture College, Vanuatu Maritime College, Vanuatu Nursing College and Vanuatu Police College.

Despite the disruptions caused by COVID-19, NUV made progress in providing the infrastructure and operations to support future growth particularly in STI. There are currently two faculties: The Faculty of Humanities and the Faculty of Science and Technology. The Faculty of Science and Technology encompasses:

- School of Science
- School of Agriculture
- School of Maritime
- School of Engineering & Technology
- School of Medicine & Nursing

Table 10.1 Number of academics by qualification type 2024

Qualification	Academics Total
PhD	3
Master's	25
Postgraduate	6
Bachelor's	2
Diploma	2
Certificate	0
Total	38

Source: National University of Vanuatu (2024)¹⁵⁴

Key STI milestones up to 2024:

- March 2021 – Launch of the Bachelor of Environmental Science
- March 2022 – NUV provides free access to eLearning platforms
- October 2022 – Launch of the Digital Research Portal
- June 2023 – First NUV seminar “*Towards Improved Seasonal Rainfall Prediction in the Tropical Pacific Islands*”
- November 2023 – Hosting of Scientific event (no description available).

¹⁵⁴ National University of Vanuatu, 2024

- December 2023 – Investment to support STI including computer lab, renovation and refurbishment of the library and purchase of computer and other furniture for student learning estimated close to VT10 million (Vanuatu Vatu) funded by the government
- May 2024 – Signing of MOU with Vanuatu Intellectual Property Office

Key priorities to address current challenges:

1. From the NUV Annual Report 2020 – 2023 published in 2024 priorities include Human Resource support – purchase of a Human Resource Information System to assist with HR management and support recruitment plan for 2024 and beyond.
2. Research and academic recruitment – Secure grants and funding to recruit additional academic personnel including an ICT diploma coordinator and adviser.
3. The other main higher education institution is the Vanuatu Campus of the USP. USP conducts applied and community-based research on education, environment, linguistics, health and sustainable development.

Research partnerships also exist with:

- Australia’s Commonwealth Scientific and Industrial Research Organisation (CSIRO) – climate and agriculture
- SPREP – biodiversity monitoring
- University of Newcastle and University of Melbourne – climate adaptation and health research

Despite increasing collaboration, local research capacity remains limited due to resource constraints and small tertiary enrolment numbers.

Private Sector

Empirical data on private R&D investments are limited. Most innovation occurs in agriculture, tourism technology and renewable energy through donor-funded partnerships. Initiatives like the Digital Vanuatu Platform (2023) and Innovation Hub under the Ministry of Trade aim to promote entrepreneurship and applied research, especially for small businesses adopting digital tools.

Civil Society

CSOs actively participate in community-led and applied research, particularly in environment, gender and disaster resilience. Notable groups include the Vanuatu Association of NGOs (VANGO), CARE Vanuatu and Live & Learn Environmental Education, which collaborate with academia and government partners on participatory research frameworks.

10.3 R&D Investment

There is no official figure for Vanuatu’s R&D expenditure as a proportion of GDP (SDG indicator 9.5.1). Funding comes largely from international development partners such as the French national research entity, Australia’s Department of Foreign Affairs

and Trade, New Zealand's Ministry of Foreign Affairs and Trade, Fonds Pacifique and the Green Climate Fund.

10.4 HR / People

There was no national database for researchers (SDG indicator 9.5.2). Most researchers were based within government departments, tertiary institutions or development projects. According to the Ministry of Education and Training (2020) Vanuatu *Education Statistics* Report, only 8% of the working-age population held tertiary qualifications¹⁵⁵.

10.5 Outputs

Research publication activity remains modest but is steadily growing due to regional partnerships. A 2025 search of Google Scholar and ResearchGate found 42 publications authored or co-authored by researchers affiliated with Vanuatu, focusing on:

- Disaster risk reduction and community resilience
- Volcano and seismic monitoring
- Traditional ecological knowledge
- Education and indigenous language preservation

Patent activity remains negligible. However, small-scale innovations in agriculture, food processing and digital finance have emerged through donor-supported programs such as V-Lab's Innovation Challenge (2023-2025).

10.6 Key recommendations for strengthening national R&D pathways in Vanuatu

To support the development of national R&D activities the following recommendations should be considered:

- Develop a National Research and Innovation Policy aligned with SDG 9.5 and Vanuatu 2030 – The People's Plan.
- Strengthen research coordination by establishing a National Science and Innovation Council under the Ministry of Education and Training.
- Leverage partnerships with USP, SPC, SPREP and regional universities for research training, data collection and infrastructure support.
- Improve data gathering on SDG 9.5 indicators through integration with the Vanuatu National Statistics Office.
- Invest in digital and open data systems to enhance visibility of local research and enable knowledge exchange.
- Encourage gender-inclusive participation in STEM and research sectors.

¹⁵⁵ Ministry of Education and Training, Vanuatu, 2021

Conclusion

This baseline assessment report aims to inform stakeholders – national, regional and international – on supporting PSIDS to strengthen R&D pathways and national STI policy and planning. While information and data are scarce, policy developments across PSIDS demonstrate the importance of national R&D activities in support of national development goals and plans.

Across the ten PSIDS key findings demonstrate significant variations in R&D sector maturity influenced by small populations, significant data gaps, limited fiscal resources, geographic isolation and reliance on donor funding for R&D and STI policy developments. In some countries such as Papua New Guinea and Fiji there are a number of well-established R&D institutions and assets that exist while in other PSIDS such as Nauru and Niue there are very few institutions, line ministries and private organisations engaged in R&D activities. In other countries such as Samoa and the Cook Islands there are some research institutions and line ministries that require mechanisms to turn siloed R&D activities into system-wide impact.

R&D activities are embedded in sectoral priorities such as climate change, agriculture and health with outputs across all PSIDS exceeding 600 publications despite modest investments. Human capacity remains a persistent challenge with fragmented workforce data. Data available highlights the need for more advance qualifications for all PSIDS and in particular for women in STEM fields

Recommendations emphasise developing or strengthening national R&D and STI policies, supporting mandatory SDG 9.5 reporting, enhancing cross-sector and transdisciplinary partnerships and building low-cost digital infrastructure for data management. Prioritising gender inclusive capacity building and leveraging regional networks are identified as areas for opportunity to advance progress.

Mandatory SDG 9.5 reporting requires support from stakeholders to ensure that national governments can easily capture and record data and information with limited resources and capacity. In practice this could include utilising low-tech and low-bandwidth solutions that can connect or align with existing administrative databases with routinely collected data would be ideal so data flows once and is reused. Building human and institutional capacity, starting with UNESCO national focal points to use simple tools, instruments and templates accompanied with standard operating procedures with clear definitions and examples.

Science, research, technology and innovation have the potential to achieve existing national sustainable development goals more effectively. Moving forward, PSIDS governments, with support from development partners should prioritise R&D as an enabler of sustainable development. Potential actions include establishing centralised repositories, incentivising public-private corporations and fostering gender-balanced research careers. PSIDS can leverage shared efforts for scale through regional organisations and frameworks to support STI advancement and application through challenges of funding shortages and persistent data gaps.

This report has helped to identify STI strengths and weaknesses within and across the ten PSIDS. While some STI gains have been made over the last five years in a few countries most PSIDS require additional support to help develop their R&D ecosystem. This baseline report serves as a future resource to support subsequent reports and country briefs for future monitoring and advocacy tools for policy makers to prioritise R&D as a pathway for inclusive sustainable development.

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