

Commonwealth Marine Economies Programme

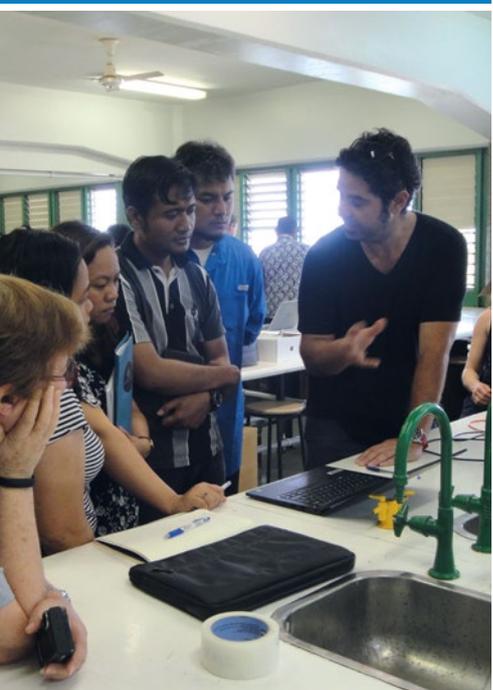
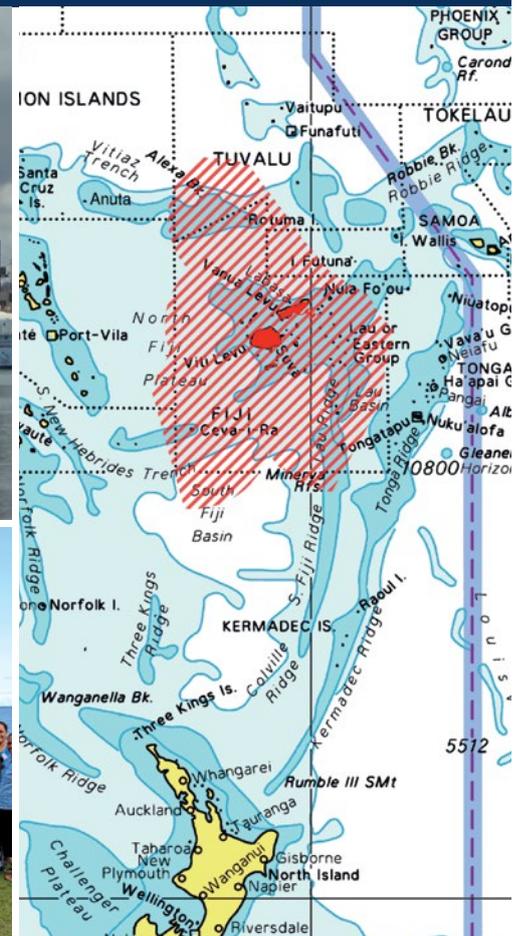


Funded by
UK Government

Enabling safe and sustainable marine economies
across Commonwealth Small Island Developing States

Fiji

Country review



Centre for Environment
Fisheries & Aquaculture
Science



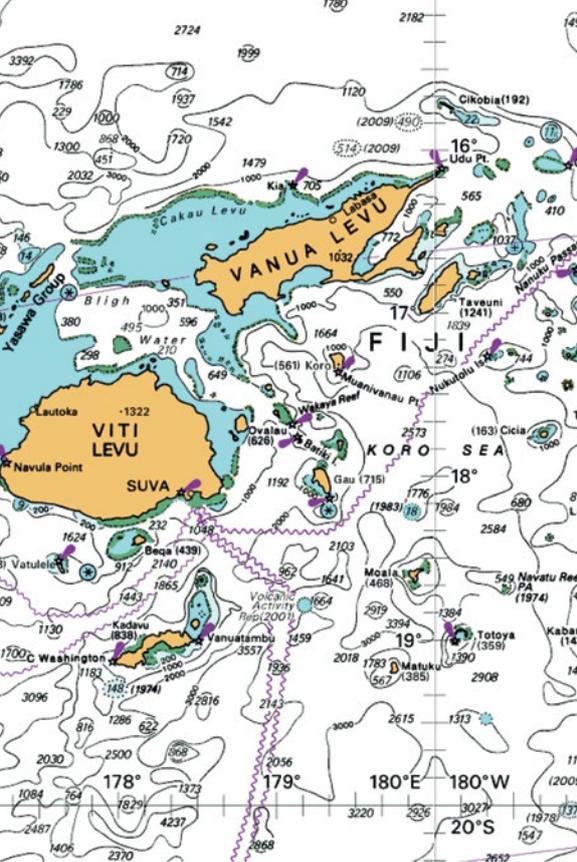
UK Hydrographic
Office



National
Oceanography Centre
NATURAL ENVIRONMENT RESEARCH COUNCIL



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Office



The CME Programme is designed to support sustainable, growing marine economies that create jobs, drive national economic growth, reduce poverty, ensure food security and build resilience against forces of nature. Funded by the UK Government and delivered by a partnership of world-leading marine organisations from the UK, the programme aims to ensure marine resources in Commonwealth SIDS are better understood and managed.

This review highlights opportunities where the UK can apply and leverage its world-leading expertise to make significant, cost-effective and lasting positive impacts on each country.

Relevant strategic plans

International – Fiji is subject to international requirements and obligations as listed under the UN Convention on the Law Of the Sea; Safety of Life at Sea; Conservation of Biological Diversity (Aichi Targets); Ramsar Convention on Wetlands of International Importance, International Coral Reef Initiative; The World Heritage Convention; The Regional Seas Convention; the SIDS Accelerated Modalities of Action (SAMOA) Pathway; and the 2030 Agenda for Sustainable Development (including Sustainable Development Goals; 2 – Zero hunger; 9 – Industry, innovation and infrastructure; 13 – Climate action; 14 – Life below water).

Regional – The two main regional organisations delivering geospatial outputs that operate in the Pacific are the Pacific Community (SPC) and the Secretariat of the Pacific Regional Environment Programme (SPREP), both of which are active in Fiji. The regional objectives of both organisations are outlined in their 2016-2020 and 2017-2026 Strategic Plans respectively, with relevant goals including: sustainable economic development; strengthened resilience to climate change; healthy and resilient island and ocean ecosystems; improved waste management and pollution control; and the commitment to, and best practice of, environmental governance.

National – National strategies for enabling the safe and sustainable development of Fiji’s marine environments include; the National Biodiversity Strategy and Action Plan for Fiji (2017-2024); the SGP OP6 Country Program Strategy for Fiji (2015-2018); the National Disaster Management Plan; and the National Climate Change Adaptation Strategy.



Challenges faced

Management of coastal and marine environments –

The lack of up-to-date, modern data has a number of impacts on the successful management of Fiji's marine estate and coastal protection, and presents additional risk and costs to shipping. In fisheries management there is a paucity of information on catches and numbers of ships. There is also a need to develop capacity in spatial planning and data management, and evaluate data to understand the cost and benefits of different policy options.

Data collection capabilities – Fiji is in the process of equipping its Navy with seabed mapping equipment, but have requested assistance in training for data acquisition and processing as well as developing survey programmes based on objective prioritisation.

Climate change impact assessment – Fiji's marine environments are vulnerable to the impacts of climate change through factors such as ocean acidification, sea-level rise and invasive species. Understanding, quantifying and monitoring those factors and their effects on local marine ecosystems is essential for developing appropriate risk mitigation and coastal planning strategies.

Protection and preservation of the marine environment – Maintaining the health and biodiversity of marine ecosystems within Fiji is key for sustainable development. In particular, the protection and preservation of seagrass ecosystems and coral reefs is of critical importance from both an environmental perspective and for their role in the tourism sector, and there is a need for more habitat/species data to facilitate development of new and manage existing protected areas, and a refinement of this information to support sensitivity mapping of features. Similarly, there is an increasing interest in the biosecurity of aquaculture products and concerns around the human health impacts of the fish-borne biotoxin ciguatera. Characterisation of the impacts of marine pollution on the health of the marine ecosystems and water quality is needed to help improve wastewater management practices, and to identify regions most at risk. Plastic pollution has been identified as a particularly important issue but little detailed information exists to enable management (including distribution).

Natural and environmental disasters – Fiji is at risk from tropical cyclones, with Cyclone Winston affecting 62% of the country's population and resulting in \$1.42b of damage (equivalent to 31% of GDP) in 2016. The storm completely destroyed some communities and inflicted extensive damage to housing, agriculture and health facilities across the islands.

Marine infrastructure and environments need to be better protected from the impact of storms and other natural hazards, and resilience built into coastal systems as a mechanism for mitigating these risks.

Training and capacity building – Improved awareness, skills and knowledge are required across marine sectors to enable Fiji to implement integrated ocean governance. There is also a need to increase both national and regional cooperation through the sharing of assets and knowledge in order to help reduce costs and improve decision makers' understanding.

Fiji – Activities and benefits

By providing data, training, advice and support, the CME Programme is designed to help address economic and environmental needs, leaving a lasting legacy of self-sufficiency in marine management.

Programme activities are split across six core themes, though potential action is not identified in every category in all Small Island Developing States.

Priority projects identified for Fiji include:

Marine data collection for environmental resilience, and safe and efficient trade (core output 1)

Activity – High quality hydrographic data collection, alongside use of satellite derived bathymetry in priority areas, with provision for later augmentation for habitat mapping, leading to new modern editions of navigational charts, improved compliance with international obligations and data supplied to local states to inform onward management of the marine environment.

Benefits – Improving overall safety of navigation – reducing risk to lives and the environment. Enabling cargo ships to reduce their under keel clearance with confidence, therefore reducing costs and thereby increasing profit. Helping encourage cruise ships to visit.

Activity – Mapping of key ecosystems (e.g. seagrass) areas for small and large-scale habitat maps.

Benefits – To enable decision makers to determine sustainable development priorities. Understand the importance of the ecosystems as storage for blue carbon.

Monitoring and risk assessment to increase climate change resilience (core output 2)

Activity – Installation of Ocean Acidification sensor equipment, including training, support and service.

Benefits – A state-of-the-art monitoring system will be established that provides real-time biogeochemical data to scientists and other stakeholders nationally and internationally, and directly supports UN SDG 14.3 ‘Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all level’ through indicator 14.3.1 ‘Average marine acidity (pH) measured at agreed suite of representative sampling stations’.

Activity – Enable assessment of impacts of climate change on key sectors and ecosystems. Define knowledge gaps.

Benefits – To enable the development of adaptation plans to reduce the impacts of climate change on the economy.

Activity – Enable effective sea-level monitoring to aid environmental resilience.

Benefits – To advise on infrastructure build and development of coastal defences.

Activity – Regional Climate Change Report Card.

Benefits – To provide climate change information to support effective climate change adaptation.

Decreasing pollution and improving human health (core output 3)

Activity – Model the distribution, concentration and impacts of pollutants on key coastal ecosystems.

Benefits – To advise through collaborations on priority actions to remove or reduce pollution.

Sustainable fisheries development (core output 4)

Activity – Support relevant regional agencies in the assessment of stocks.

Benefits – To enable sustainable exploitation of capture fisheries.

Natural capital assessment (core output 5)

Activity – To quantify the socio-economic value of key ecosystems.

Benefits – To enable cost benefit analysis of different policy options (e.g. placement of coastal infrastructure in relation to marine habitats).

Activity – Coastal resource mapping, water quality and data collection.

Benefits – Supports the estimation of the socio-economic value of ecosystem services provided by coastal habitats.

Science infrastructure development, training and knowledge exchange (core output 6)

Activity – Work with key maritime personnel to develop local hydrographic governance.

Benefits – Key elements of governance in place in line with IHO Phase 1 compliance, reducing potential barriers to international trade.

Activity – Seabed mapping data handover workshop.

Benefits – Ability of local personnel to understand and utilise acquired seabed mapping data in country.

Activity – Seabed mapping training for Fiji Navy.

Benefits – Help develop emerging indigenous capabilities to map and therefore manage Fiji's marine estate, and ensure data collected is to required standard for majority of onward uses. Help Fiji meet international obligations under SOLAS.

Activity – Develop capacity in spatial planning, data management, climate change monitoring and evaluate data to understand the cost and benefits of different policy options. Train staff to understand and monitor the impacts of climate change and sea-level rise.

Benefits – Enable staff to be self-reliant to monitor and manage the marine environment.

Programme outputs

If all of the potential activities were to be delivered, the CME Programme, working with key departments in Fiji, would result in the following development of marine capacity by the end of the scheduled Programme.

Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Limited, or no, characterisation of physical parameters in marine and maritime sectors.	The physical parameters of the key marine and maritime environments and sectors are mapped and quantified.	The physical parameters are analysed in terms of the biological, sociological and economic context, resulting in a more in depth appreciation of their vulnerabilities and opportunities/limitations for sustainable use.	Defensible policy is produced for the marine and maritime sectors that details consideration for the sustainable development of the ocean economy.	Full competency in undertaking the previous phases is developed and sustained across multiple sectors, leading to the safe and sustainable development of marine and maritime economies.

Output 1 – Marine data collection for environmental resilience and safe and efficient trade.

Output 2 – Monitoring and risk assessment to increase climate change resilience.

Output 3 – Decreasing pollution and improving human health.

Output 4 – Sustainable fisheries development.

Output 5 – Natural capital assessment.

Output 6 – Infrastructure development, training and knowledge exchange.

Expected impact

Through delivering these activities, outputs and benefits the CME Programme would help to facilitate:

Output 1 – Adherence to the UN convention on the Law of the Sea and Safety of Life at Sea; Reduction in the cost of imports and increase in the profitability of exports; Reduction in the risk of maritime accidents and damage to the environment.

Output 2 – Identification of communities and environments vulnerable to the impacts of climate change; Integration with regional and global hazard monitoring networks; Informed coastal management and planning decisions through delivery of a Pacific Climate Change Report Card.

Output 3 – Characterisation of the dispersion of sewage and industrial outfalls and their effects on water quality; Identification and prioritisation of pollution control mechanisms; Improved health of humans and marine ecosystems.

Output 4 – Reduced pressure on existing fish stocks and marine environments through collaborations with Pacific partners.

Output 5 – Enhanced awareness of the social and economic value of marine ecosystems; Quantification of the cost/benefit ratio of existing policy options, supporting decision making.

Output 6 – Confidence and ability to make sound independent decisions regarding the development of marine environments; Access to state-of-the-art marine equipment, models and techniques; Development of national and international networks.

Strategic outcomes

By better understanding and managing the marine resource potential within Fiji the CME Programme will help create jobs, drive national economic growth and reduce poverty through:

Prosperity – Diversifying revenue potential by opening up new economic opportunities.

Sustainability – Ensuring all marine and maritime activities are environmentally safe and sustainable.

Security – Making infrastructure and human capital resilient to natural disasters and climate change.

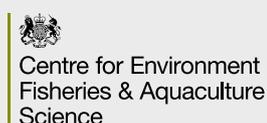
Legacy – Building the capacity of national authorities to plan and optimise their marine spaces.

Commonwealth Marine Economies Programme

The CME Programme is being delivered on behalf of the UK Government by a partnership of world-leading marine expertise.



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