

Commonwealth Marine Economies Programme



Funded by
UK Government

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

Guyana Country review



Centre for Environment
Fisheries & Aquaculture
Science



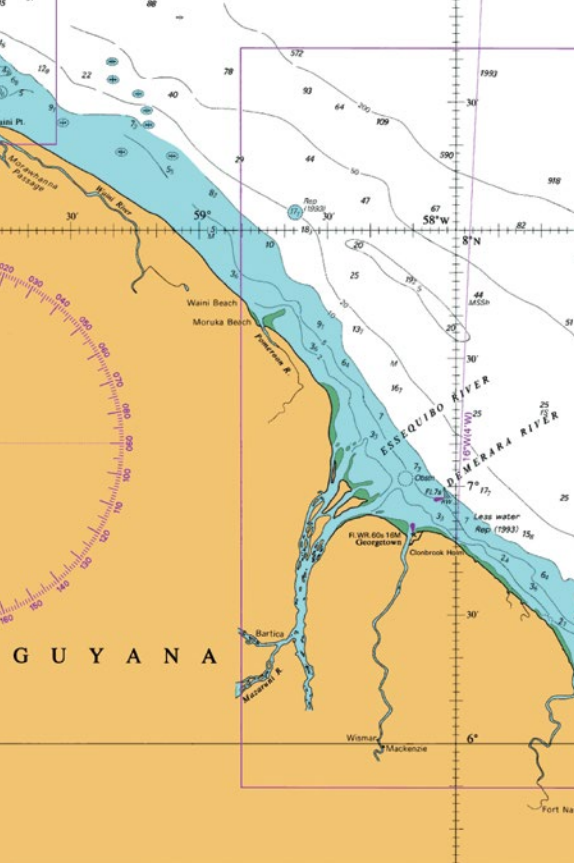
UK Hydrographic
Office



National
Oceanography Centre
NATURAL ENVIRONMENT RESEARCH COUNCIL



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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 – Guyana 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); SIDS Accelerated Modalities of Action (SAMOA) Pathway; and the UN 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 – Relevant regional mechanisms and bodies within the Caribbean include the Caribbean Regional Fisheries Mechanism; Caribbean Community Common Fisheries Policy; Caribbean Large Marine Ecosystem Programme; and the Caribbean Regional Oceanscape Project.

National – National strategies for enabling the safe and sustainable development of Guyana marine environments include: the National Sector Policy for Sea and River Defence; Blue Charter, and the National Biodiversity Strategy and Action Plan (2012-2020).

Challenges faced

Dynamic coastline and sea loor conditions – Guyana has three large rivers emanating from the northern Amazon basin that discharge in to the Caribbean Sea on the Guyanese coast. These rivers transport significant amounts of sediment, which is deposited in the estuaries and along the coast. The seabed within these areas is consequently very dynamic and prone to rapid change over short timescales.

Management of coastal and marine environments – The lack of up-to-date, modern data has a number of impacts on the successful management of Guyana’s marine estate. For example, to enable access to Guyana’s ports for merchant shipping, ongoing dredging is required. Currently, dredging campaigns are inefficient and lack normal assurance to guide operations. Modern data and modernised charts are therefore urgently needed to support sustainable activity including maintenance and capitol dredging for efficient trade, port development and oil and gas exploration and extraction.



Sustainable use of marine resources – There is an ongoing need to support previous activities conducted through the CME Programme regarding the MSC accreditation of the seabob fishery. In particular, the impacts of climate change on marine habitats need to be better understood to develop a range of mitigation strategies for different environmental outcomes. Advice and support on regulatory frameworks and environmental impact assessments is also needed to support policy development on resource extraction. It is also understood that there is a significant lack of data, assessments and trained staff to conduct ocean modelling and sea-level monitoring.

Safety and security – None of Guyana's seabed has been surveyed to modern standards. This is having a direct impact on the wider marine economy by hindering the shipping of key exports such as bauxite and timber. It is also restricting tourist access by cruise ship. To enable and encourage safe navigation for ships in Guyana's waters, official navigational charts for Guyana need to be modernised and updated.

Hydrographic coordination and data collection – The Guyana Maritime Administration has some seabed mapping capabilities, including staff with appropriate specialist education, but is primarily limited by inadequate survey platforms and equipment. Some government departments are also not aware of the importance to pass on data or maritime safety information to their National Hydrographic Office. There is consequently strong potential for improving hydrographic governance, so that requirements and data are appropriately shared to derive the maximum value and benefit.

Protection and preservation of the marine environment – Maintaining the health and biodiversity of marine ecosystems within Guyana is fundamental for sustainable development. In particular, oil discoveries within the Guyanese EEZ require improved knowledge of natural seabed resources to ensure their protection during development activities.

Climate change impact assessment – Marine and coastal environments are vulnerable to the impacts of climate change, most notably through factors such as sea-level rise, ocean acidification and invasive species. Sea-level rise is of particular concern in Guyana as most human settlement is concentrated in the coastal zone, and much of the capital, Georgetown, is below sea level, and so depends on dikes for protection against inundation from the Demerara River and Atlantic Ocean. Understanding, quantifying and monitoring the effects of climate change on local marine ecosystems is therefore essential for developing appropriate risk mitigation and coastal planning strategies.

Natural and environmental disasters – Although Guyana is outside of the main Caribbean hurricane belt, it is still highly vulnerable to natural disasters. Coastal infrastructure and marine environments therefore need to be better protected from the impact of forces of nature, with improved resilience built into systems to mitigate associated risks.

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

Guyana – 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 Guyana include:

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

Activity – High quality hydrographic data collection leading to new modern editions of navigational charts, improved compliance with international obligations and data supplied to local states. Areas of highest priority will be the approaches and lower estuaries of the Demerara, Essequibo and Berbice Rivers.

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.

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

Activity – Regional Climate Change Report Card.

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

Sustainable fisheries development (core output 4)

Activity – Support the MSC accreditation process of seabob fishery.

Benefits – To enable access to new markets where accreditation is required and increase the market price of existing products.

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

Activity – Provision of modern seabed mapping equipment to the Government of Guyana.

Benefits – In line with those described under Output 1, and in addition will allow for these benefits to be maintained into the future in Guyana's dynamic seabed environments.

Activity – Work with key maritime staff to develop local hydrographic governance and create a National Hydrographic Committee or similar.

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 staff to understand and utilise CME Programme acquired seabed mapping data in country.

Activity – Improve management regime for sustainable fisheries sector through data collection – leading to MSC accreditation.

Benefits – To enable local staff to be self-reliant on the accreditation process, and the ongoing monitoring required to retain accreditation.

Programme outputs

If all of the potential activities were to be delivered, the CME Programme, working with key departments in Guyana, 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; and availability of data to inform sustainable oil infrastructure development.

Output 2 – Identification of communities and environments vulnerable to the impacts of climate change; Integration with regional and global hazard monitoring networks; and informed coastal management and planning decisions.

Output 4 – Reduced pressure on existing fish stocks and marine environments; Development of new opportunities for aquaculture diversification; Enhanced economic potential of existing products; and access to insurance services following climatic events.

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