

Benchmarking Engineering Capacity and Capability Across the Commonwealth

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Overview

The project addresses the need for engineering capacity and capability amongst rapidly developing Commonwealth countries where data is often unavailable.



Target Countries

- Small Island Developing States in the Caribbean and South Pacific
- African Commonwealth Countries
- South Asia: India, Pakistan, Bangladesh, Sri Lanka

The Problem

- Nearly half of the projected global urban population increase to 2050 will occur in Commonwealth countries
- Cities contribute 70% of global carbon emissions, making sustainable urbanisation essential
- Many Commonwealth nations lack sufficient numbers of qualified engineers, professional accreditation frameworks, and enforceable building codes
- Infrastructure projects often rely on international contractors, limiting local job creation, economic growth, and resilience
- Existing global studies (e.g. Global Engineering Capability Review) rarely cover small and vulnerable states, leaving policymakers without evidence to act

Proposed Solution

The project will:

- Collect **quantitative data** on engineering education, professional capacity, accreditation frameworks, and standards
- Compare this data against national development needs (urbanisation, renewable energy transition, economic growth)
- Conduct **gap analyses** to identify countries most at risk due to insufficient engineering skills or weak regulatory frameworks
- Create a **searchable interactive map** of engineering capacity across the Commonwealth
- Recommend tangible interventions, such as curriculum reforms (e.g. teaching low carbon and locally resourced materials), professional frameworks, and shared codes of practice

Impact

The initiative has four core purposes:

1. **Data Gathering** – Collecting evidence from small and vulnerable states often excluded from global studies
2. **Gap Analysis** – Comparing engineering capacity against development needs in climate adaptation and urbanisation
3. **Future Skills Analysis** – Engaging stakeholders to identify skills needed for safe, sustainable infrastructure
4. **Partnership Building** – Creating networks where members self-identify actions and share knowledge for lasting change

Key anticipated outcomes include:

- Strengthened regional frameworks (e.g. South Pacific Engineering Association)
- Identification of curriculum gaps in sustainable engineering education
- Sharing of best practices and codes
- Locally led, collaborative networks that disseminate knowledge continuously rather than at project end

Success Measures

The project will be successful if it:

- Produces a comprehensive evidence base and interactive map of engineering capacity and capability
- Empowers Professional Engineering Organisations through participation, analysis, and collaboration
- Strengthens partnerships, knowledge sharing, and common standards across the Commonwealth
- Identifies actionable solutions to build future skills in sustainable development, renewable energy, low carbon materials, and climate resilient infrastructure