STEM Education in Papua New Guinea:
Assessing PNG's National Schools of Excellence Policy

Papua New Guinea launched the National Schools of Excellence (NSOE) policy in 2020, introducing STEM curricula across six schools in 2021. While fostering student innovation and securing international university scholarships, successful long-term implementation requires addressing infrastructure gaps, teacher proficiency issues, and formal policy frameworks.

IMPLEMENTATION FINDINGS:
Successes & Systemic Challenges

Student Innovation & Pedagogical Shift

Instruction shifted to guided, project-based learning, enhancing research skills and student-led problem-solving.



Global University Pathways

High-performing STEM graduates earned prestigious offshore scholarships to study at universities abroad.

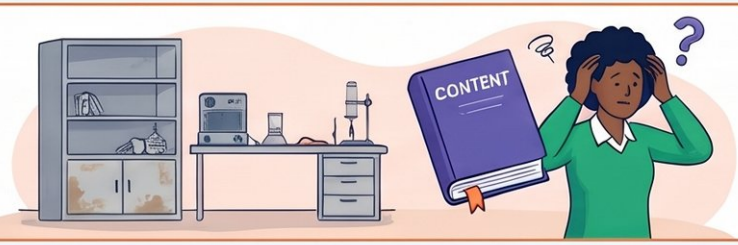


International STEM Benchmarks & PNG's Path

Rwanda	Singapore	PNG (Proposed)
Competency-based curriculum	Market-driven interdisciplinary STEM	Comprehensive STEM curriculum cycle
10 training institutions with Kigull Innovation Center partnerships	Regular teacher upskilling with integrated school-industry-government ties	Mandatory teacher policy, continuous upskilling, and industry partnerships

Facilities & Proficiency Gaps

Implementation faces inadequate laboratory facilities, excessive compressed content, and insufficient teacher training.



PROPOSED NSOE STEM POLICY & FRAMEWORK

Educator Capability & Student Standards

Establishes formal policies for teacher qualifications, continuous upskilling, remuneration, and student entry requirements.



Infrastructure & Government Support

Mandates budgetary support for modern laboratories, curriculum review cycles, and statutory monitoring bodies.



Industry Ties & Career Pathways

Connects STEM projects to industry collaborations, university degree pathways, and national STEM fair competitions.

