



Education

SISSTEM - Sustainable Island Solutions through Science, Technology, Engineering and Mathematics (Aruba)

Problem addressed

The absence of local higher education in Science, Technology, Engineering and Mathematics (STEM) has led to a brain drain in Aruba. This drain limited the accumulation of knowledge based on the island itself, making the island largely dependent on external expertise and consultancies. This post-colonial dependence and the need to diversify the Aruban economy means there is a need for locally-based people with STEM skills.



Solution

Sustainable Island Solutions through Science, Technology, Engineering and Mathematics (SISSTEM) was developed at the University of Aruba, in collaboration with KU Leuven (Belgium). It consists of a Bachelor, Master and Graduate degree-granting programme, designed, at its core, to find sustainable solutions for small island states to overcome the STEM brain drain. SISSTEM aims to educate local and regional youth in STEM with the necessary technical skills to contribute to innovative sustainable development



Innovations and features

SISSTEM tackles sustainability challenges holistically, and includes several PhD research projects specifically focused on agriculture, food, nutrition, health, and the environment. Some examples of applied research projects are:

- Vertical farming;
- Life Cycle Analysis and impacts of food consumption in small island states;
- Land use and the water-energy-food nexus in small island states;
- Bioactive characteristics of Aruban flora.

SISSTEM also builds strategic partnerships to develop competencies in technological innovation for small islands.



Evidence and viability

- "This program has given me hope for the future, not only for small island states but also for the sustainable development of our future on this planet." – Celia Kusmus, SISSTEM student.
- Develop research initiatives and programmes that address local issues, by focusing on contextual requirements instead of applying conventional research approaches and curricula.
- Create local opportunities to undertake applied research that may attract migrant skilled natives.
- Build resilience through sustainable systems, research and education.



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