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Climate, Land-, Energy-, Water-use simulations (CLEWs) in Mauritius - an integrated optimisation approach

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Abstract

The Climate, Land, Energy and Water (CLEW) framework is a set of methodologies for integrated assessment of resource systems. It was developed to provide a means to simultaneously address matters pertaining to energy, water and food security. This is done while both considering the impact that the utilization of these resources have on our climate, as well as how our ability to continue using these resources could be impacted by climate change.
CLEW is being applied in Mauritius to provide policy relevant analysis for sustainable development. The work aims to explore the interplay among the different elements of a national sustainable development strategy. A driving motivation is to address issues pertaining to policy cohesion, by exploring cross-sectoral impacts of individual policies and measures. The analysis explores how policies and actions intended to promote sustainability, have ramifications beyond the sector of the economy where it is applied. A primary concern is to ensure that efforts undertaken in pursuit of one policy goal do not inadvertently compromise progress towards attaining goals in other areas. Conversely there may be instances where an action has multiple benefits across various areas. Identifying such trade-offs and synergies can provide additional insights into development policy and support formulation of robust sustainable development strategies.
The agreed sustainable development goals clearly illustrate the multi-faceted and multi-dimensional nature of the development challenge, with many overlapping and interlinked concerns. This work focuses on the link between food, energy, water and climate policy, which has shown to be particularly closely intertwined. In Mauritius, the highly interlinked and interdependent nature of the energy and sugar industries for example, highlights the need for coherent and integrated assessment of the role of these sectors in support of sustainable development in the country. Promoting energy self-sufficiency, cutting carbon emissions, adapting to climate change and supporting incomes in the agricultural sector for instance are not separate goals, but interlinked ones, and a holistic and inclusive view of policy formulation is likely to lead to more sustainable outcomes. This presentation will share the findings and lessons learned from this work. .