

Policy Coherence to Achieve the SDGs: Using Integrated Simulation Models to Assess Effective Policies

David Collste

PhD student

Stockholm Resilience Centre, Millennium Institute¹

david.collste@su.se

+46-701 91 71 82

Address: Stockholm Resilience Centre, Stockholm University, SE-106 91 Stockholm

Extended Abstract

Practical solutions for long-term strategic development planning are crucial for embarking on a successful path towards achieving the Sustainable Development Goals (SDGs, or Agenda 2030). Agenda 2030 provides an ambitious framework that guides development efforts for the next 15 years, and it is a complex one. Coherently addressing the 17 goals requires planning tools that can guide policy makers at the national level in developing effective strategies for dealing with the complexity. Given the integrative nature of the SDGs declared in the UN resolution, integrative modeling techniques are especially useful for strategic planning.

In this paper, I present and discuss the use of the system dynamics based Threshold 21 integrated SDG (iSDG) models. The iSDG models enable policy makers and planning officials at all levels of governance to design coherent strategies to achieve the SDGs. By concurrently simulating progress on all the 17 SDGs, the model enables broad, cross-sector and long-term analyses of the impacts of alternative policies.

I have used an iSDG model for Tanzania to analyze impacts of substantial investments in photovoltaic capacity. This intervention is analyzed with a focus on the impacts on three of the SDGs: SDG 3 (healthy lives and well-being), SDG 4 (education) and SDG 7 (energy).

The simulation results suggest that large investments in photovoltaic capacity positively affect the progress on life expectancy, years of schooling and access to electricity. More importantly, the progress on these dimensions leads to broader system-wide impacts on several important social, economic, and environmental indicators. The use of the iSDG model also reveals trade-offs between attainment of different goals that are critical to consider in the development of successful strategies.

While this one national example illustrates the simulated impact of an intervention in one specific area (energy policy), the iSDG model can support similar analysis for policies related to all the 17 SDGs, both individually and concurrently. The latter is especially useful in order to address synergies and trade-offs that may emerge from the interaction among policies in different areas.

Key words

Sustainable Development Goals, SDGs, System Dynamics, Integration, Threshold 21, Solar Energy, Photovoltaics, Life Expectancy, Years of Schooling, Electricity Access, Millennium Institute

¹ The study was partly conducted under an internship for the Millennium Institute 2015.