

Overview

The adoption of the 2030 Agenda for Sustainable Development and the agreements reached at the COP21 in Paris and the Financing for Development Summit in Addis Ababa, are unprecedented efforts of Member States to tackle development issues related to social inclusion and economic growth, while also considering present and future challenges for environmental protection, natural resource availability, and climate change in a holistic and integrated approach. The 2030 Agenda as a transformative plan of action entails a high level of complexity, which will require policy coherence and inter-institutional coordination for its implementation.

Ethiopia is committed to incorporate the sustainable development goals into its national development plans by adopting policies, strategies and organizational reforms that can enhance sustainable development. Ethiopia's Vision 2025, GTPs (I and II) and the Climate Resilient Green Economy (CRGE) are the central driving plans which explicitly outlines the importance of incorporating climate change issues on the country's development path. Many of these development paths focus on the three highly important and connected sectors relating to water, energy, and land (agriculture).

As part of this commitment, the Ministry of Water, Irrigation, and Energy (MoWIE) of the federal democratic republic of Ethiopia is determined to integrate SDGs and the associated targets into the ongoing GTP-II plan which continues until 2020 and beyond (GTP-III- 2021-2025 and GTP IV 2026-2030). In this regard, policy coherence is required for conducive institutional arrangements.

In response to a request from the MoWIE, UNDESA is implementing a joint capacity development project coordinated by the Economic Analysis and Policy Division (EAPD) and the Division for Public Institutions and Digital Governance (DPIDG), in partnership with the United Nations Development Programme (UNDP) and the United Nations Economic Commission for Africa (ECA). The project aims to support the government in transitioning from sectoral- to integrated policy making. It will support the government in adopting the Climate, Land, Energy and Water systems (CLEWs) integrated assessment for identifying and managing tradeoffs and synergies in policy and strategy formulation. If such interlinkages are not properly addressed and awareness among policy makers is not cultivated, this is likely to create challenges of competition between food or fuel, security of water supply and issues concerning land use for biofuel production. Hence, the importance of integrated planning and modelling approaches for sustainable development.

The CLEWs methodology

The pursuit of sustainable development objectives requires management of an intricate web of interwoven challenges, issues and concerns. Our societies and natural environment consist of highly interlinked systems that depend on, and interact with, each other. These interactions are highly complex and decisions that impact these systems will need to be taken while facing significant uncertainties. One of the means at our disposal for addressing complexity and uncertainty is to use mathematical models.

Models have been applied to inform policies for decades in a wide range of sectors and circumstances. These approaches are generally still applicable when formulating policies under the principles of sustainable development. However, the integrated nature of the sustainable development challenge has implications for how the models should be incorporated into decision-making and policy formulation processes. It also highlights the need for conducting more integrated and cohesive policy assessments either through harmonized use of separate methodologies or development of more cross-cutting and integrated frameworks.

The CLEWs tool is a customizable modelling tool designed for this purpose. It is a methodology for integrated assessment of resource systems that provide a means to analyze and assess the interlinkages that exist among energy, water and agricultural systems as well as their impacts on - and vulnerability to – climate change. It is designed to help identify and quantify the trade-offs and synergies that may exist in simultaneous pursuit of policy goals in each area to support a coherent and cohesive process for strategy and policy formulation. CLEWs incorporates a representation the relevant bio-physical processes of the energy-land-water-climate systems as well as a techno-economic representation of the human infrastructure and value chains that rely on, and interact with, these systems. It thereby provides a means to explore how decisions (investments, strategies, technology choice) made in pursuit of development goals in these areas compare across systems, sectors and goals. It allows for optimization of asset acquisition and operation and for assessing trade-offs and benefits among different goals.