

The Water-Energy-Food Nexus in Kenya: Climate Change Impacts and Adaptation Strategies—A Review

Abstract

The water-energy-food (WEF) nexus is a novel concept, which aims at integrating three key drivers of development and human security. Effective management of these three resources requires careful assessment of synergies, conflicts and trade-offs which are inherent in the nexus. In Kenya, the achievement of sustainable development goals relies on the management of these key resources. Climate variability and climate change bring uncertainty to water, energy and food situations in the country. Over 75% of agricultural activities in the country are rainfed and thus risky in the face of the poor temporal and spatial distribution of rainfall. Energy reliability is low in Kenya due to the dependence on hydropower sources which are prone to climate risks. This review highlights the importance of the WEF nexus in the face of climate change impacts. Climate adaptation mechanisms for building resilience in cropping systems, water service and energy provision are key elements for the improvement of livelihoods. It is imperative to address sustainably and holistically the three key sectors through policy, legal and institutional frameworks and initiatives. Assessment models and tools are developed to monitor the attainment of targets under WEF.

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