

Supported by:



based on a decision of
the German Bundestag

Applying the Water-Energy-Food Nexus to promote Ecosystem Based Adaptation in the Ewaso Ng'iro North River Catchment, Kenya (ENNEbA)

Project Number: 22_II_164_KEN_A_Water-Energy-Food Nexus

By Dr. Caroline A. Ouko
5th March 2025



Partners



Project Overview

Objective:

- ❑ Support the Government of Kenya (GoK), five county governments (Laikipia, Samburu, Isiolo, Meru, and Nyeri), local communities, and agro-based enterprises to promote Ecosystem-based Adaptation (EbA) practices and integrated planning for water, energy, agriculture, and land use

Focus Area:

- ❑ Ewaso Ng'iro North Catchment Area (ENNCA), a region highly vulnerable to climate change impacts.
- ❑ Project is covering Laikipia, Samburu, Isiolo, Meru, and Nyeri counties



Project Impact

- ❑ The key long-term impact (overall goal) of the project is “***people, animals and ecosystems in the Ewaso Ng’iro North Catchment Area are supported to have adequate water and energy, improved food security, and to become more resilient to the impacts of climate change, while developing within a low carbon green economy.***”
- ❑ This has been achieved through the active participation of a broad range of actors in policy and decision-making entities in the public and the private sector, local communities, and civil society at sub-national and national levels in co-developing action-oriented and science-based knowledge

Context and Challenges

Kenya's Water Scarcity:

- ❑ 80% of the land is arid and semi-arid (ASAL)
- ❑ Vulnerability to climate change impacts (droughts, floods, land degradation)

ENNCA Specific Issues:

- ❑ Over 3 million people depend on the Ewaso Ng'iro River
- ❑ Increasing pressures from infrastructure projects, agriculture expansion, and climate variability



Project Outputs and Outcome

- ❑ **Output I:** Different nexus (water, energy, agriculture) development scenarios for ENNCA (Ewaso Ng'iro North Catchment), are modelled, evaluated, and compared using the nexus toolkit
- ❑ **Output II:** Innovative Ecosystem-based nexus solutions are identified, validated, documented, and promoted among key stakeholders in the ENNCA region
- ❑ **Output III:** Increased awareness of cross-sectoral interactions (water, energy, agriculture and land) when implementing, upscaling, out-scaling and transferring ecosystem-based nexus solutions at the sub-national and national level
- ❑ **OUTCOME:** The relevant authorities and non-state actors are familiar with the Ecosystem based Adaptation (EbA) and nexus approaches and include these in development processes at the local (County) and national levels

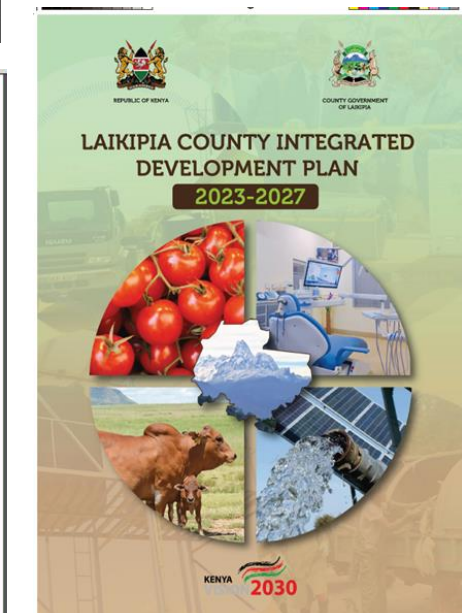
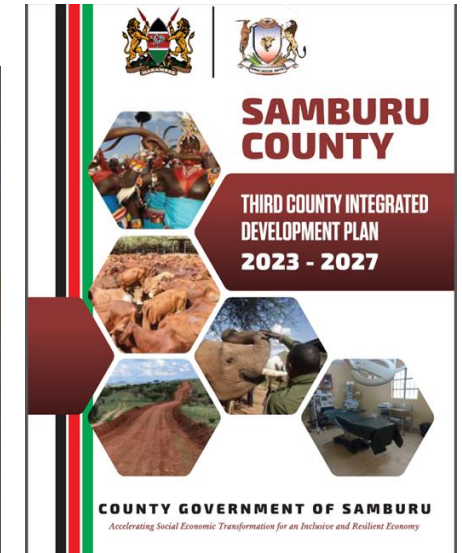
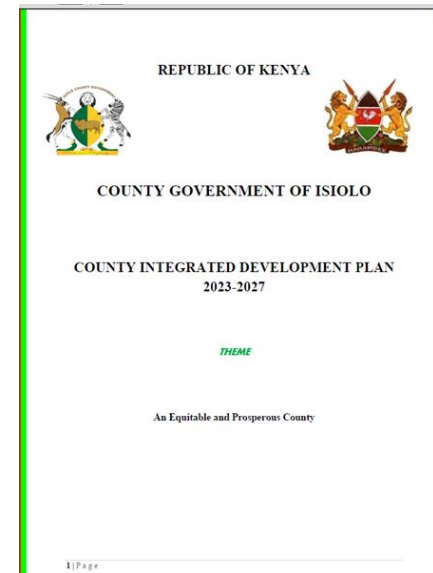
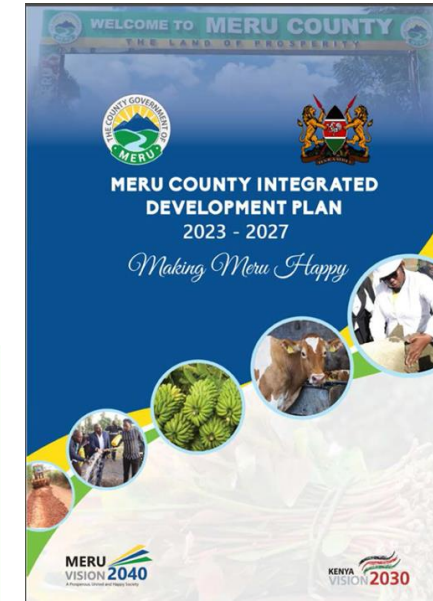
Development Policy Implications

National Policies and Strategies:

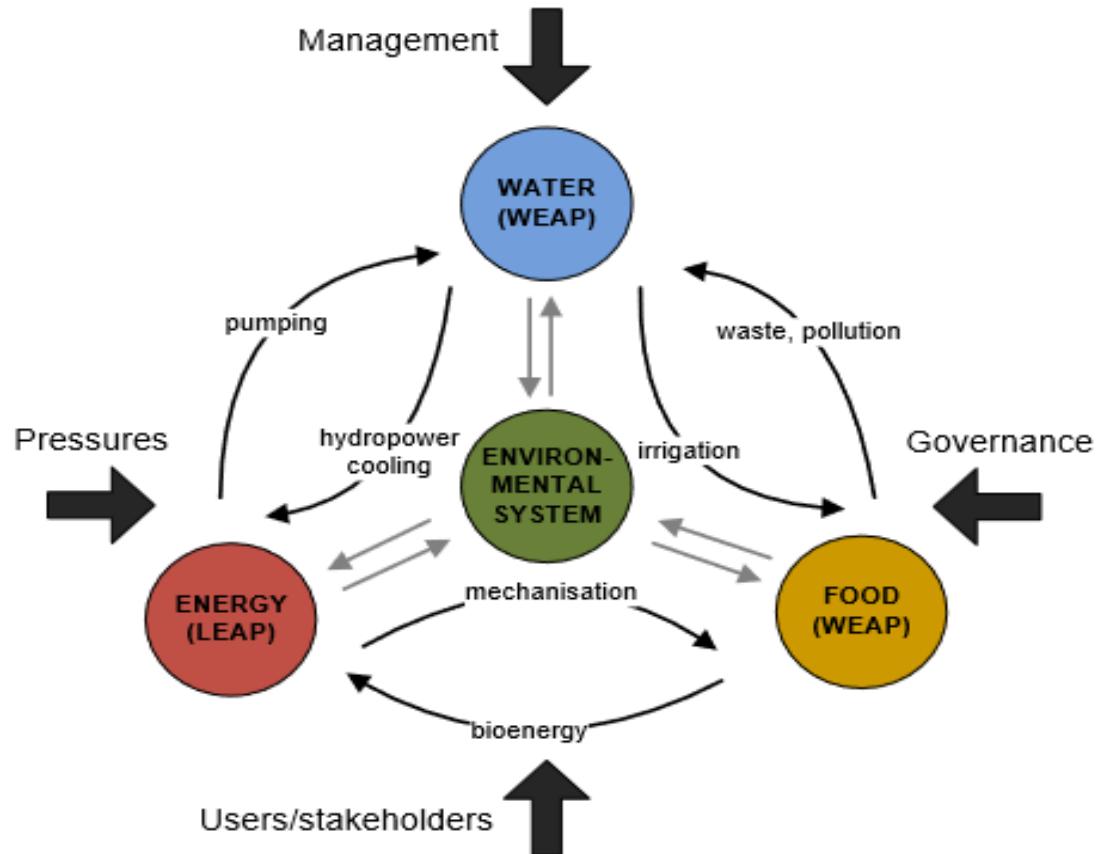
- ❑ Vision 2030: considering the three pillars
- ❑ National Climate Change Framework Policy 2023
- ❑ Low Emissions Development Strategy 2022-2050
- ❑ National Adaptation Plan (NAP 2016-2030)

County Integrated Development Plans (CIDPs):

- ❑ Align project activities with CIDPs of Laikipia, Samburu, Isiolo, Meru, and Nyeri counties



Applying the Water-Energy-Food Nexus Approach



❑ Interconnections of WEF Systems

- ❑ Analyze the complex relationships and tradeoffs between water, energy, and food systems within the catchment area

❑ Integrated Planning

- ❑ Develop holistic strategies that consider the interdependencies and optimise the use of these vital resources

❑ Sustainable Solutions

- ❑ Implement innovative, cross-sectoral interventions to enhance the resilience and sustainability of the catchment's ecosystem and communities

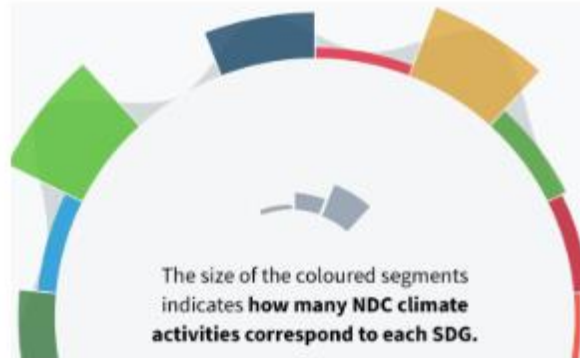
SEI Decision Support Tools – Water and Energy



LEAP

The Long-range Energy Alternatives Planning (LEAP) system is a powerful, versatile system for energy planning and climate change mitigation assessment.

 [Tool](#)  [Climate](#)  [Energy](#)



NDC-SDG Connections

Analyse and compare how climate actions correspond to the Sustainable Development Goals.

 [Tool](#)  [Governance](#)



WEAP

The Water Evaluation and Planning tool (WEAP) provides a comprehensive, flexible and user-friendly framework for policy analysis in water resources

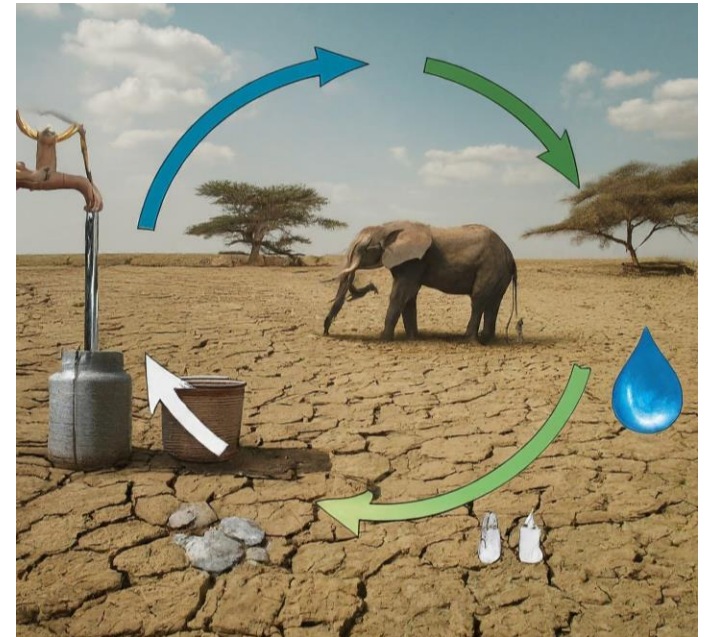
Our Approach: Ecosystem-based Adaptation (EbA)

Definition:

- ❑ EbA is the use of biodiversity and ecosystem services to help communities adapt to the adverse effects of climate change

Approach:

- ❑ Integrate EbA with the Nexus approach for water, energy, agriculture, and land use
- ❑ Co-produce knowledge with stakeholders for resilient livelihoods



Expected Outcomes

Improved Livelihood Resilience:

- Enhanced water and energy security, and food resilience in ENNCA

Policy Integration:

- Inclusion of EbA/Nexus approaches in county and national policies and development plans

Stakeholder Collaboration:

- Increased coordination across sectors and levels of government

Knowledge Dissemination:

- Effective dissemination of project findings to inform policy and practice

Stakeholder Engagement

Target Groups:

- ❑ Public Sector: National and county government experts, policy makers
- ❑ Private Sector: Agriculture, tourism, utility companies
- ❑ Civil Society: Local communities, NGOs, CBOs
- ❑ Academic Institutions: Research organizations and universities

Methods:

- ❑ Participatory workshops, training sessions, policy briefs, and scenario planning

Monitoring and Evaluation

Metrics:

- Water and energy availability
- Food security indicators
- Resilience to climate impacts
- Policy and strategy adoption

Feedback Loops:

- Continuous stakeholder consultation
- Regular review and adaptation of project activities



Conclusion and Call to Action

Conclusion:

- ❑ This project is an innovative approach to promoting resilience in the Ewaso Ng'iro North Catchment Area
- ❑ By using EbA and Nexus approaches, we can address the complex challenges facing the region
- ❑ The project will benefit millions of people, livestock, and ecosystems
- ❑ The success of the EbA project in ENNCA depends on collaborative efforts across sectors and levels of government, supported by informed and engaged stakeholders

Call to Action:

- ❑ Join us in promoting sustainable and resilient practices to ensure a secure future for Kenya's arid and semi-arid lands

Key Take Aways to Inform Upscaling

- ❑ The main challenge encountered is breaking the silo approach.
 - ❑ Multistakeholder engagement requires innovation, resources and patience
 - ❑ Informed stakeholders own the process, create an enabling environment and break barriers
- ❑ WEF nexus approaches must be context-sensitive, inclusive and aligned with local priorities
- ❑ There is always a struggle to balance local needs with external interventions
- ❑ Transboundary upscaling requires targeted policy dialogues – the 3 key sectors are governed differently. Competing/conflicting legislation
- ❑ Continuous capacity building is required for a critical mass to address intersecting themes of food-water-energy nexus

Supported by:



Federal Ministry
for the Environment, Nature Conservation,
Nuclear Safety and Consumer Protection



based on a decision of
the German Bundestag

Thank You!!

Questions?

