With a warm climate, plenty of sunshine, and fairly fertile soils, the resource that most strongly limits the ecological productivity in Laikipia district is water. Rainfall patterns govern vegetation dynamics, animal populations, and the welfare of humans who depend on the environment for their livelihoods. On the group ranches in northern Laikipia, the combination of low rainfall, vegetation loss, land degradation, high livestock densities, limited pastoral mobility, insecurity, and poverty create especially large challenges for conservation, development, and sustainability.

Addressing these challenges requires natural and social science research, application of research findings to predict patterns of future change, participatory action to bring about desired future scenarios, and the implementation of policies that support sustainable trajectories. The Water, Savannas, and Society Initiative (W3S) is being founded to address these challenges. Its second goal is to collaborate with the Ewaso Water Project research components that support and supervision for eight of the project's research teams. Below we outline three of the Ewaso Water Project research components that are currently underway.

**Ewaso Water Project: Studying the Linkages between Hydrology, Ecology, and Society**

By Dr Lizzie King

The Ewaso Water Project is being developed to study the linkages between hydrology, ecology, and society in the Ewaso Niro River valley. The project aims to understand how livestock and wildlife interact with each other and with the environment, in order to improve natural resource management and help address the challenges facing pastoralist communities in Laikipia district.

**Field Research Components**

1. **Ecohydrology:** This component focuses on understanding the interactions between rainfall, vegetation, and soil moisture. The aim is to improve our understanding of how these interactions affect grazing and pastoralist livelihoods.
2. **Grazing Practices, Conservation Areas, and Customary versus Formal Rules:** This component examines the role of grazing practices, conservation areas, and customary versus formal rules in shaping pastoralist land use.
3. **Preliminary Observations:** This component will examine the potential for improved sustainable grazing practices and pastoralist livelihoods.

**Research Objectives**

- To identify and characterize key linkages between hydrology, ecology, and society.
- To develop and test strategies for improving sustainable grazing practices and pastoralist livelihoods.
- To build strong partnerships between local communities, researchers, and organizations.

**Research Findings**

- The research team is currently working on several group ranches, with particular attention to grazing set-asides and conservation areas.
- By comparing the characteristics of grazing rules and their impact on land use, the research team hopes to identify strategies for improving sustainable grazing practices.
- The research team is also studying the potential for improved sustainable grazing practices and pastoralist livelihoods.

**Research Products**

- Publications in scientific journals.
- Presentations at conferences.
- Reports to local communities and organizations.
- Recommendations for policy makers.

**Contact Information**

For more information on the Ewaso Water Project, contact Dan Rubenstein (dir@princeton.edu) or Lizzie King (lizziek@africaonline.co.ke)