

Woody Invasive Alien Species in East Africa: Assessing and mitigating their negative impacts on ecosystem services and rural livelihood

Research objectives

Many woody alien plant species were introduced in Africa in the 19th and 20th century to improve rural livelihoods. However, some of these plants have become invasive and threaten native biodiversity, the provisioning of ecosystem services and rural livelihoods. For example, *Prosopis* was initially known as 'the poor man's tree' but this has changed to 'god's anger'. The aim of this project is to help mitigate the negative effects of woody invasive alien species (IAS) on biodiversity, ecosystem services (ES) and human well-being in East Africa.



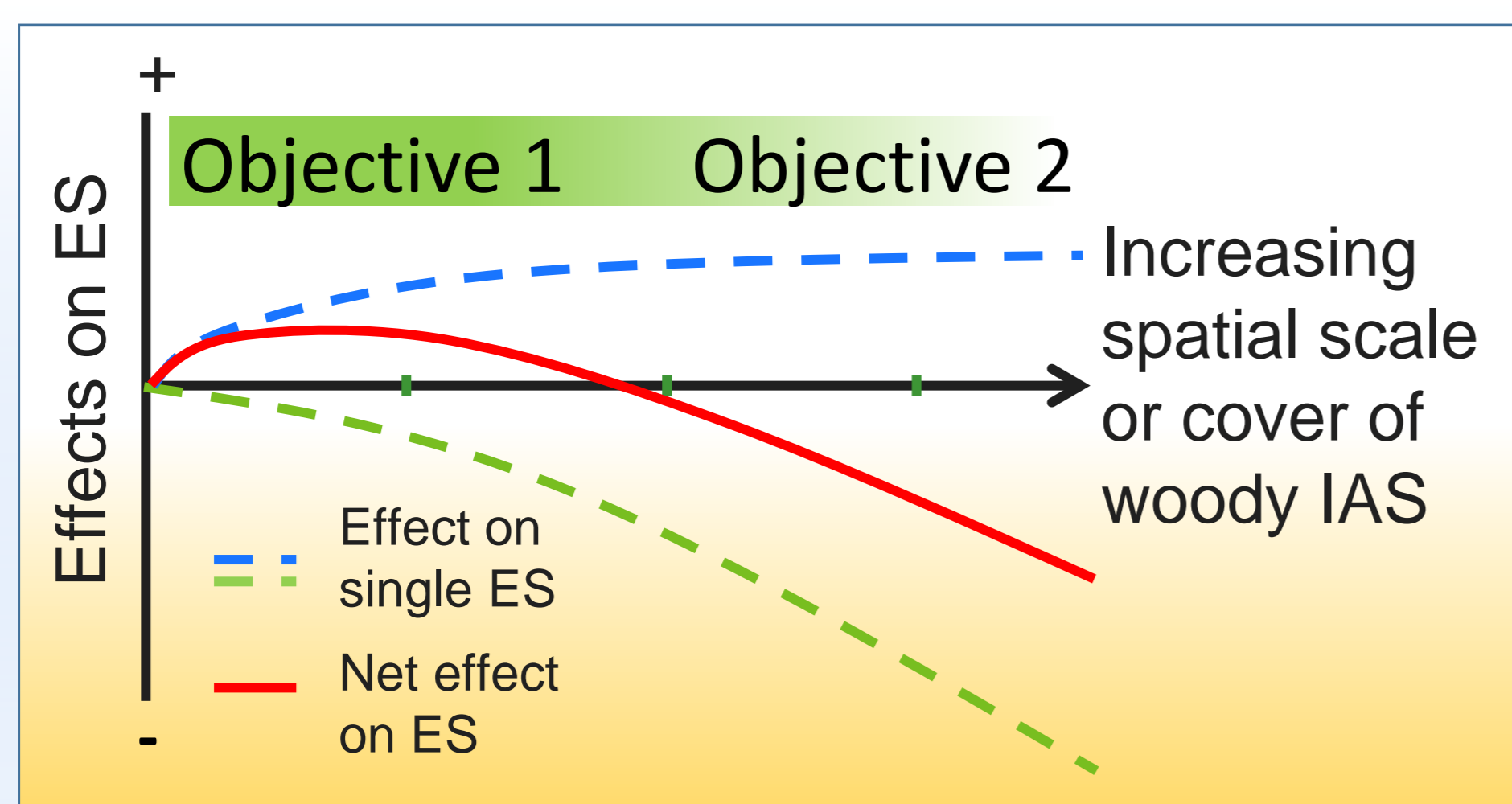
Objective 1: Understand **local processes** affecting the invasiveness of woody IAS, their effects on biodiversity, ES and the consequences for rural livelihoods.

Objective 2: Understand how effects of woody IAS on biodiversity, ES and rural livelihoods **upscale** from local to the sub-national and national level.

Objective 3: Develop, test and disseminate SLM strategies to **mitigate negative effects** of woody IAS to improve biodiversity, ES and rural livelihoods in East Africa.

Expected scientific contributions

- The impact of selected woody IAS at the local scale will be assessed for various ES, resulting in new knowledge and detailed understanding of mechanisms.
- Modeling the impact at larger spatial scales will allow informing and development of mitigation strategies, underpinned by active engagement with policy-makers.



The net effect of combined ecosystem service (ES) impacts of woody IAS may depend on spatial scale and IAS abundance. Determining the nature of this relations will help identify the most effective management measures and prioritize woody IAS and regions.

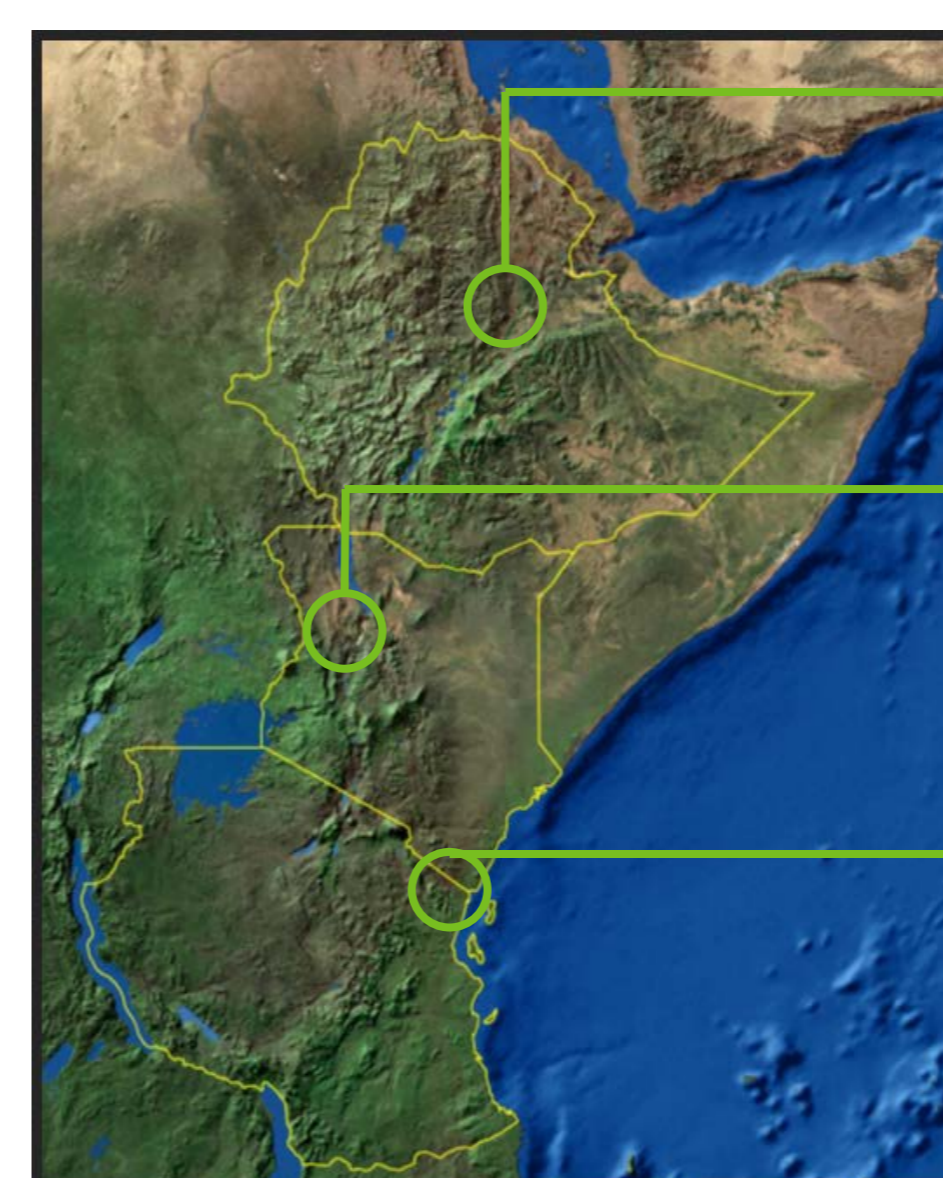
Development relevance

- SLM strategies will be developed and tested to implement management measures to mitigate the negative impact of woody IAS on ES.
- Testing of SLM strategies in the case study areas will be facilitated by creating local implementation groups consisting of local and subnational stakeholders.
- The project is expected to preserve, restore and/or create new income opportunities.
- Changes in stakeholder perception and knowledge, management activities and policies will be surveyed and evaluated to inform future promotion activities and maximise uptake.
- Ultimately, this will lead to rural development and poverty alleviation, though this long-term impact is not expected within the time frame of the proposed project.

Project organisation and team

- Existing and new partnerships, expertise in all key areas
- Twelve activities in three work packages to address R&D topics at multiple spatial scales
- training in transdisciplinary research and participatory knowledge transfer to translate research findings into tested management recommendations

Geographical focus: East Africa



Gabi Rasu : *Prosopis* invasion along Awash river and ethnic conflicts due to reduced access to grazing land and water

Baringo district : degradation of grazing lands and lawsuits against the government for sanctioning the introduction of *Prosopis*

East Usambara : global biodiversity hotspot: invasions into remnant forest blocks threaten biodiversity, and invasions into the surrounding agricultural land lead to forced land-use change

