



Lessons from Local community perspectives on Ecosystem Services and Disservices of Invasive Alien plant species

INTRODUCTION

- Increase and spread of invasive alien species (IAS) have impacted most biodiversity hotspots and caused a decline Ecosystem Services (ES) (NCAA, 2011; Nkwabi et al., 2018).
- IAS contribute both ES and ecological disservices (EDS) (Hassan et al., 2005).
- Understanding these impacts from local perspectives is crucial for effective management.
- We examined public perspectives of ES and EDS from five invasive plant species (*Eichhornia crassipes*, *Lantana camara*, *Chromolaena odorata*, *Argemone mexicana*, and *Ipomoea hildebrandtii*)

CONCEPT, METHODS AND STUDY AREA

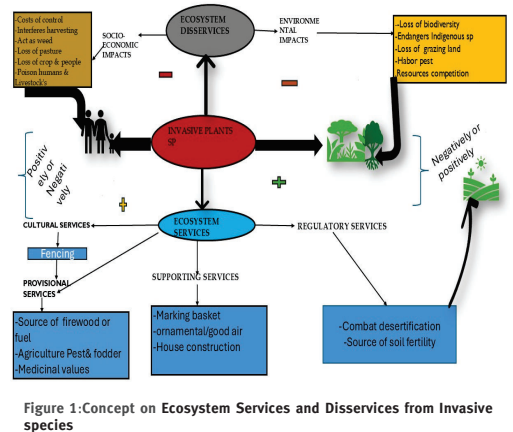
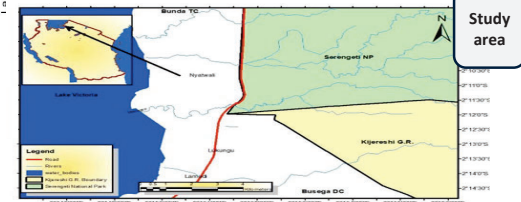


Figure 1: Concept on Ecosystem Services and Disservices from Invasive species

Methods and Design

- Mixed methods both (questionnaires and interviews)
- Randomly selection of respondents
 - Cross-section study design
 - 120 Respondents, 30 in each village
 - Data collected from the End of August to early October 2022



RESULTS

- About 81% of respondents noted negative impacts of the species, while 19 % acknowledged positive effects.
- *Eichhornia crassipes* was identified as the species that mainly impacts livelihoods.
- The study highlights education level and village location as key predictors of the likelihood of experiencing ecosystem services from IAS.
- The highest EDS were resource costs at 77%, reduced plant diversity at 74 %, and Biodiversity loss at 73%.
- The highest ES were medicinal value at 35%(regulatory services), Source of income and fodder at 33% and 41%, respectively.

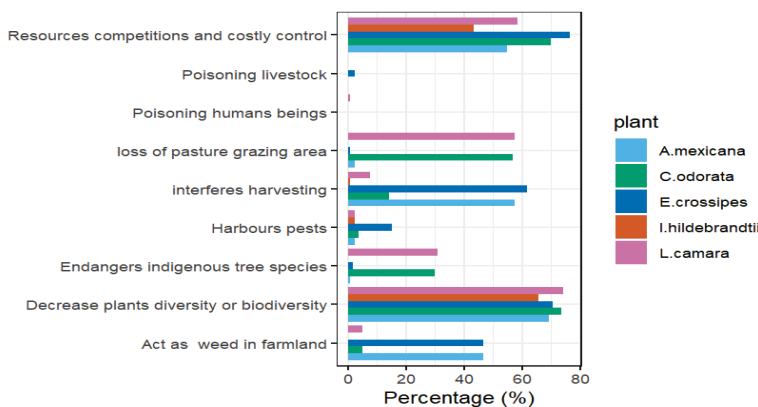


Figure 2: Results on Ecosystem disservices

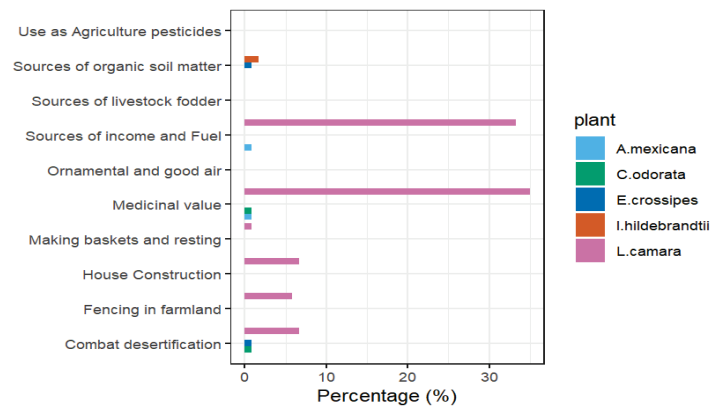


Figure 3: Results on Ecosystem services

DISCUSSION & CONCLUSION

- Our findings support the hypothesis that ecosystem disservices from invasive species outweigh ecosystem services.
- Our results demonstrate that EDS significantly outweighs any ES provided by invasive species.
- This conclusion underscores the importance of addressing and mitigating invasive species from the study area.

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