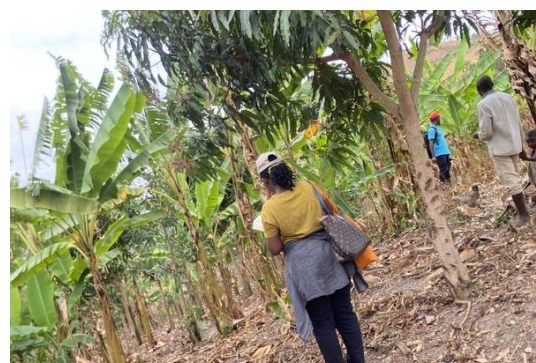


# POLICY BRIEF

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## PROTECTING THE DIVERSITY OF WOODY PLANT SPECIES FOR BIODIVERSITY CONSERVATION AND LOCAL LIVELIHOODS

Woody plant species in savanna areas are experiencing significant degradation due to the demand for agricultural land and unsustainable land management practices. Agroforestry (AF) systems offer a promising solution by combining agricultural practices with tree conservation to support biodiversity and improve livelihoods. Yet, the rapid loss of woody species due to agricultural expansion, charcoal burning and climate change threatens both local ecosystems and the livelihoods of communities that depend on these resources.



### OVERVIEW

The study focused on the diversity of woody plant species in three main AF systems in Isingiro District: silvoarable, silvopastoral and agrosilvopastoral. The aim was to assess species richness, abundance and diversity, and to evaluate the contributions of these systems to local household livelihoods. Findings reveal that AF practices can aid in biodiversity conservation while providing essential socio-economic benefits, indicating the potential for sustainable approaches to land use in savanna landscapes.



### POLICY RECOMMENDATIONS

1. Enhance Farmer Training and Financial Support
2. Promote Indigenous Species in AF Systems
3. Strengthen Research on AF Impacts and Species Diversity

**1.** Provide farmers with targeted technical training in AF practices to improve adoption rates and the long-term sustainability of these systems. Offer financial incentives, including grants or subsidies, to assist farmers in acquiring quality seedlings and equipment.

**2.** Develop programmes that encourage the planting and management of indigenous/native woody species which offer both ecological and economic benefits. This will reduce dependence on fast-growing exotic species that may disrupt local ecosystems.

**3.** Conduct research on the ecological roles of specific woody species and assess the long-term sustainability of AF. Implement guiding policies to enhance biodiversity and the related socio-economic benefits.

## KEY FINDINGS

### Woody Species Diversity

The silvopastoral (SPT) system exhibited highest woody plants count (an average of 293 woody plants per hectare), followed by the agrosilvopastoral (ASP) system (198 plants/ha) and the silvoarable (SAR) system (142 plants/ha). However, no significant difference in abundance was found among the systems. The SPT system showed the highest species richness with 44 species, compared to 28 species in the SAR system and 27 in the ASP system. Diversity analysis indicates that the SAR system supports higher overall species diversity, making it the most ecologically beneficial of the AF systems evaluated.

### Contribution to Household Livelihoods

AF systems were found to support households by providing firewood, animal fodder, fruits and construction materials. Over two thirds of the 90 respondents indicated economic benefits as a primary motivator for adopting AF systems. However, limited technical support (reported by 63% of the 90 respondents) and insufficient financial resources have hindered the wider adoption and maintenance of AF practices.

### Species Trends and Changes (2011-2020)

Over the past decade, species composition in the study area has shifted, with an increase in exotic species (e.g. *Eucalyptus grandis*) and a decline in indigenous species (e.g. *Combretum molle*). This highlights the pressures on native woody plants, driven by socio-economic preferences and ecological constraints, which can impact the long-term sustainability of biodiversity in AF systems.

## NOTE

This policy brief summarises the findings from a study conducted in Kabingo sub-county, Isingiro District, which assessed the diversity of woody plant species within agroforestry systems in Uganda's savanna regions. The study highlights potential areas for policy intervention to enhance biodiversity conservation and local livelihoods through agroforestry. The brief indicates both ecological and socio-economic factors, although further longitudinal studies are recommended to better understand species dynamics in response to changing environmental conditions and socio-economic pressures.

## CONCLUSION

The study demonstrates that agroforestry (AF) systems can significantly contribute to biodiversity conservation and household livelihoods in Uganda's savanna regions. However, to fully leverage AF's potential, there must be an increase in technical support, financial incentives and research-driven policy reforms. AF systems that incorporate a diversity of native woody species can enhance ecological resilience, support sustainable agriculture and align with Uganda's national climate and development goals. Therefore, integrating AF practices into national land-use strategies will be crucial for promoting a sustainable environment and improving the well-being of communities in savanna areas.

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