

Conservation of Plant Diversity in Agro-Ecological Production Landscape in Malawi

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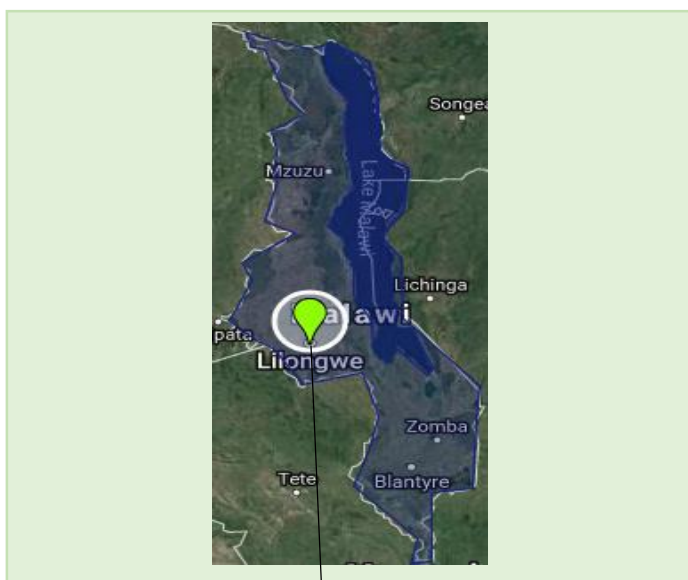
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Geographic and demographic information



Country	Malawi
Province	Central
District	Lilongwe
Size of geographical area	6,159 km ²
Number of indirect beneficiaries	1 346 360 persons
Dominant ethnicity	Malawians



Size of project area/study area	5.85 km ²
Number of direct beneficiaries/	300 people from 50 smallholder farms
Geographic coordinates (longitude and latitude)	-13.73707, 33.81401
Dominant ethnicity	Malawian

Ecosystem Types

Forest	Grassland	x	Agricultural	In-land water
Coastal	Dryland		Mountain	Urban/peri-urban

Important species in the site

Common name (Local name)	Scientific name	Description
Maize	<i>Zea mays</i>	Widely grown in pure or mixed stands for food, feed and sale. Dry maize stalks are grazed by cattle, goats and sheep in dry season.
Beans	<i>Phaseolus vulgaris</i>	Widely grown as protein source and for sale. Grown both as pure or mixed stands. Improves soil fertility through nitrogen fixation.
Groundnuts/Peanuts	<i>Arachis hypogaea</i>	Grown for food and oil from seeds, mainly as pure stands. Improves soil fertility through nitrogen fixation.
Velvet bushwillow	<i>Combretum molle</i>	Indigenous tree found in farmers' fields and important for building materials, firewood and fodder.
Camel-foot/monkey fruit	<i>Piliostigma thonningii</i>	Indigenous tree found in farmers' fields and important for building materials, firewood and fodder. Pods edible and liked by grazing animals.



General introduction

Malawi is an agriculture-based economy where 90% of the farmers are smallholder farmers who grow different crops for food and sale. The land they cultivate once flourished with rich plant diversity. But today growing population and increased demand for land for food and fodder, monocultures, building materials and firewood have destroyed many plants and vegetation. However, the smallholder farming land continue to preserve some indigenous plants which grow together with their crops. This practice has led to preservation of many indigenous plants across the agro-ecological production landscapes in Malawi.

The overall objective of the project is to study the conservation of plant diversity in the agro-ecological landscapes in Lilongwe, Malawi, specifically:

- To study plants farmers preserve on their fields;
- To document tree species and crops that grow in farmers' fields;
- To find out the main reasons why farmers prefer some indigenous plants over others;
- To study the role tree plants play in providing fodder for domestic animals such as goats and cattle during the dry season;
- To find ways and means of encouraging farmers to preserve more plant diversity in their fields.

Data collections involves interviews with farmers in the study areas in Lilongwe. Quadrats measuring 25 x 25 meters are used to document crops and trees growing in 50 farmers' fields. The study also involves the survey of domestic animals that feed on these trees and crop residues. The studies are carried both in dry and rain seasons.



Indigenous Trees in Farmer's Field with grazing cattle in Lilongwe, Malawi



Trees of *Combretum molle* in farmer's field in Lilongwe, Malawi

Contribution to Aichi Biodiversity Targets' Strategic Goal A

		Breakdown Target	How did you measure the outcome?	Result
Strategic Goal A	TARGET 1	People are aware of the values of biodiversity	Participation of the farmers in the interviews	50 smallholder farmers took part in the interviews.
		People are aware of the steps they can take to conserve and sustainably use biodiversity	Understanding of farmers on importance of plant diversity in their fields.	Farmers are starting to preserve more plants and planting some nitrogen fixing plants in their fields
	TARGET 2	Biodiversity values integrated into national and local development and poverty reduction strategies	Extension Planning Areas (EPAs) have been established by Ministry of Agriculture where biodiversity values are being taught to farmers.	With help of agriculture extension officers, some farmers are practicing conservation agriculture.
		Biodiversity values integrated into national and local planning processes	Same as above	Same as above
		Biodiversity values incorporated into national accounting, as appropriate		
		Biodiversity values incorporated into reporting systems		
	TARGET 3	Incentives, including subsidies, harmful to biodiversity, eliminated, phased out or reformed in order to minimize or avoid negative impacts		
		Positive incentives for conservation and sustainable use of biodiversity developed and applied		
	TARGET 4	Governments, business and stakeholders at all levels have taken steps to achieve, or have implemented, plans for sustainable production and consumption...		
		... and have kept the impacts of use of natural resources well within safe ecological limits		

Relations to other Aichi Biodiversity Target & SDGs

Please indicate the Aichi Biodiversity Targets other than the targets your working group focuses and SDGs that your activities contribute to if any. Use “●” and “■” to indicate the “direct” or “indirect” contributions to the targets.

CBD Aichi Biodiversity Targets (<https://www.cbd.int/sp/targets/>)

Strategic Goal A				Strategic Goal B					
●	●	■	●	●	■	●	●	●	■
Strategic Goal C			Strategic Goal D			Strategic Goal E			
■	●	●	●	●	●	■	●	●	■

UN Sustainable Development Goals (SDGs) (<https://sustainabledevelopment.un.org/sdgs>)

●	●	■	■	■	■	●	■	■
■	■	●	●	■	●	■	■	

Any difficulties you found during your assessment

The study areas are private property for the smallholder farmers who have the right to maintain tree species on their land or not. Sometimes trees are harvested for firewood and building materials when such trees play a vital role in reducing rainfall impact on the soil thus reducing soil erosion and improving water infiltration; while other leguminous trees such the Acacia species fix nitrogen that is beneficial to the crops. The small size of the study area makes it difficult to apply the CBD Aichi Biodiversity Targets and Indicators, as well as the UN SDGs.

Key messages for the CBD in planning for the post-2020 Targets

The Targets and Indicators are very important and should become standard tools for assessing biodiversity status. They should therefore be maintained as long-term assessment tools and beyond 2020. Parties should share their experiences in the use and application of the Targets and Indicators locally, regionally and nationally as well as across different ecosystems with other Parties through the CHM. Furthermore experience from Parties should help refine further the current Targets and Indicators.