

Driving factors of landscape transformation in Abaya-Chamo sub basin, Southern Ethiopia

Shibire Bekele Eshetu^{1,2}, Hirut Bedilu Nigusse³,
Marcos Lana⁴, Stefan Sieber^{1,2}, Katharina Löhr^{1,2}

¹Leibniz Centre for Agricultural Landscape Research (ZALF), Germany,

²Humboldt Universität zu Berlin, Germany,

³Ethiopian Wildlife Conservation Authority (EWCA), Addis Ababa, Ethiopia,

⁴Swedish University of Agricultural Sciences, Uppsala, Sweden



Degraded landscape of Abaya catchment
Photo by: Shibire Bekele Eshetu, 2022

Introduction

- Abaya-Chamo basin (ACB) is an area that covers the southern section of the main Ethiopian Rift and adjacent highlands.
- It is predominantly found in the Southern Nations, Nationalities, and Peoples' (SNNP) Region and, to a lesser extent, in the Oromia Region.
- Although the area is characterized by various types of land use practices, there had been considerable transformation of land use and land cover in the landscape.
- The objective of the research is:
 - To analyze the land use changes over the last three decades.
 - Identify the driving factors in order to improve restoration approaches of the degraded landscape.

Methodology

- The research is conducted in Abaya-Chamo basin of the Southern Nations Nationalities and Peoples' Region (SNNPR) of Ethiopia
- Data collection methods and data analysis:
 - Satellite image analysis of last 30 years
 - Ground truthing through field observation and key informant interviews

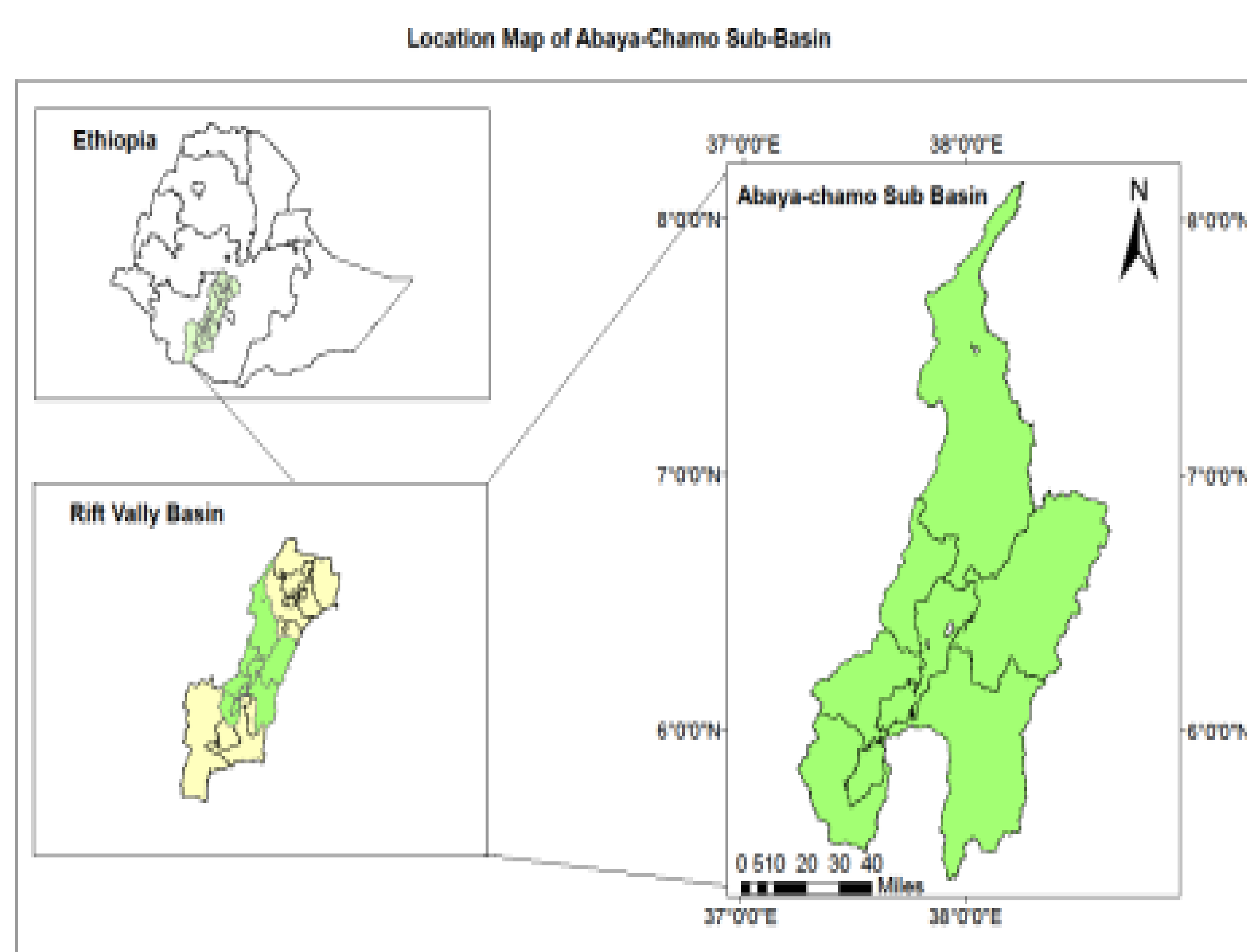


Figure: Map of Abaya-Chamo basin located in the Southern part of Ethiopia

Results

- The drivers of landscape transformation are economic, political, cultural, demographic and technological forces.
- Forest land slashed by 0.49%
- Barren land in the sub-basin increased by 0.46%.
- 10.3% of the shrub and grasslands has been converted to other land uses
- Expansion of farm land has taken the largest share in this transformation.



Agricultural practice in Chamo catchment
Photo by: Shibire Bekele Eshetu, 2022



Figure: Three decades land use land cover change in the Abaya-Chamo sub basin

Conclusion and Highlights

- Stakeholders are now practicing reforestation of degraded land of the sub basin.
- The land use transformation through restoration has to be supported by land use policy.
- Agroforestry and Agroecology farming systems can be a way forward as restoration options to support the livelihood of the community.