



# **Austrian - African University Network: engagement for mutual benefit for a sustainable future**

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# BOKU - University of Natural Resources and Life Sciences

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- Since 1872 we do research and teaching in:
  - (i) protect the environment and secure live on earth
  - (ii) management of natural resources
  - (iii) secure food supply and health
- 8 Bachelor, 26 Master, 4 Doctoral Programs
- Faculty and staff: 2860, Students 12.500 (25 % foreigners)

***...we have a long tradition and strong co-operations with African Universities***

Austrian – Africa Uninet

# Two Best Practice Examples of the BOKU cooperation with African Partners

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- Land use change and its consequences for sustainable development in the Amhara Region, Ethiopia
- Sustainable management of water and fish resources in Burkina Faso



# Example 1: Land use change in the Amhara Region, Ethiopia (lead by H. Hasenauer & D. Godbold)

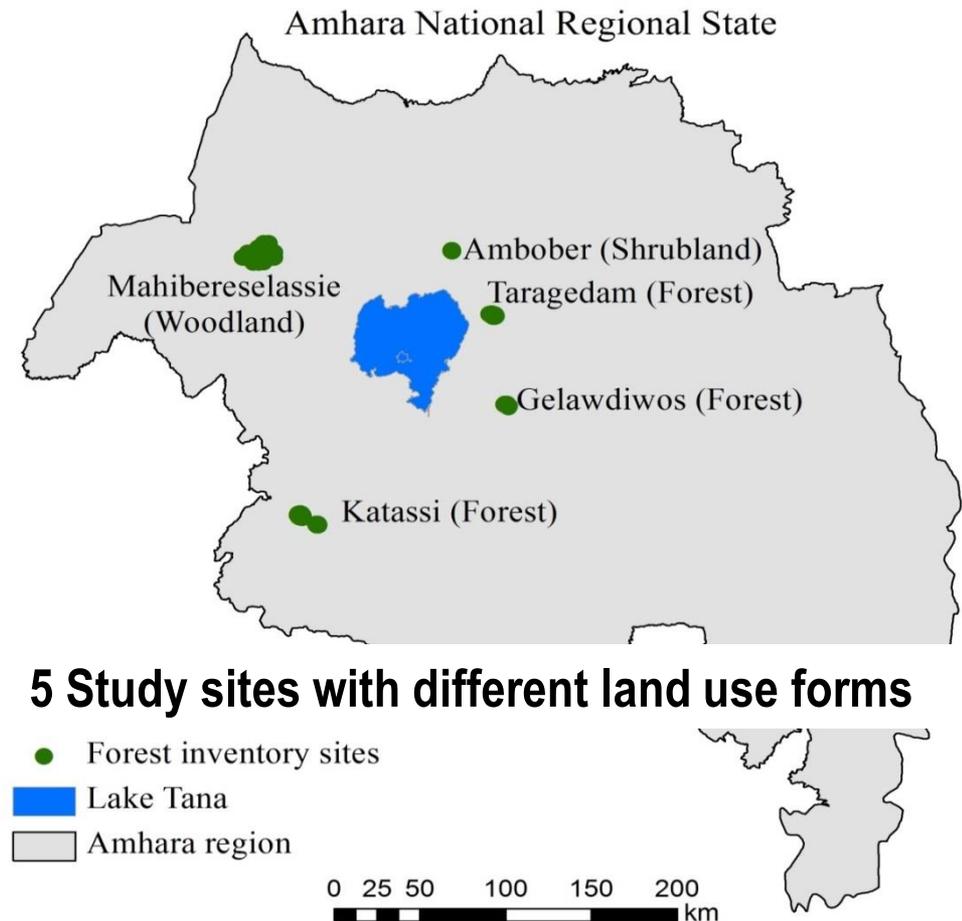
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- Ethiopia's forest cover was once 40%
- currently it is less than 10% and decreasing.
- Causes are:
  - The growing population depends on forests
  - Land use change for agriculture
- Historically reforestation efforts have a tradition
- E.g. the government wants to plant 1000 Mill. trees ?

# Land use change in the Amhara Region - Objectives



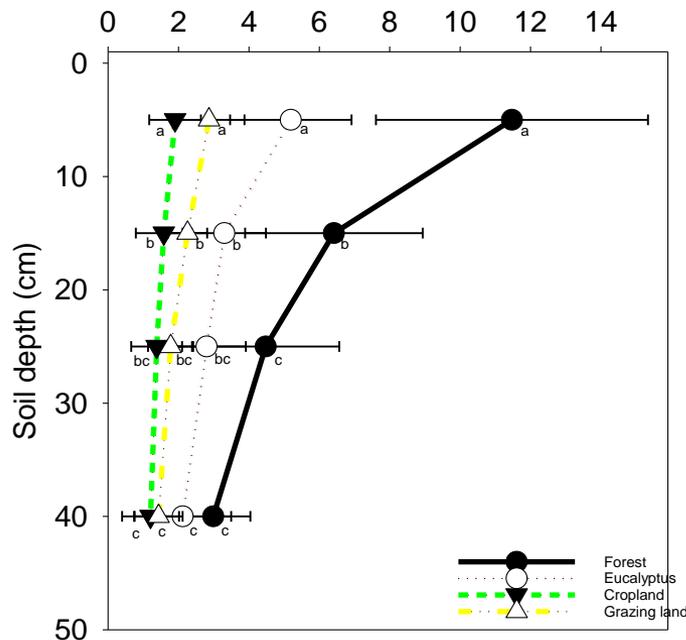
- Assess degradation effects by land use type in the Amhara Region, Ethiopia
- Potential reforestation in the region.



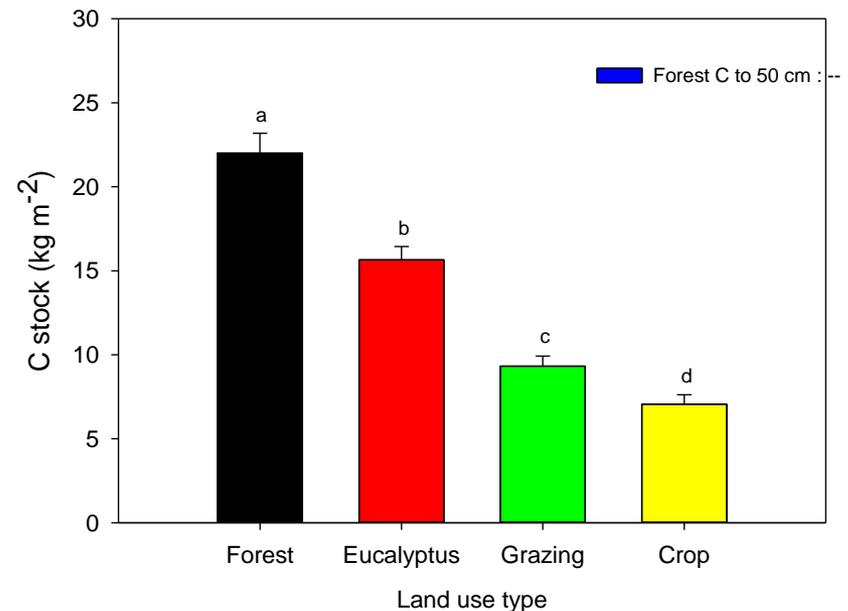
# Results: Degradation Effects

## Soil conditions (C & N) by land use type

### Summed vertical distribution



### Total C storage (50cm)



**Key message:** removing forests erodes the two top soil layer which relates to about 40 % of the C and N pools

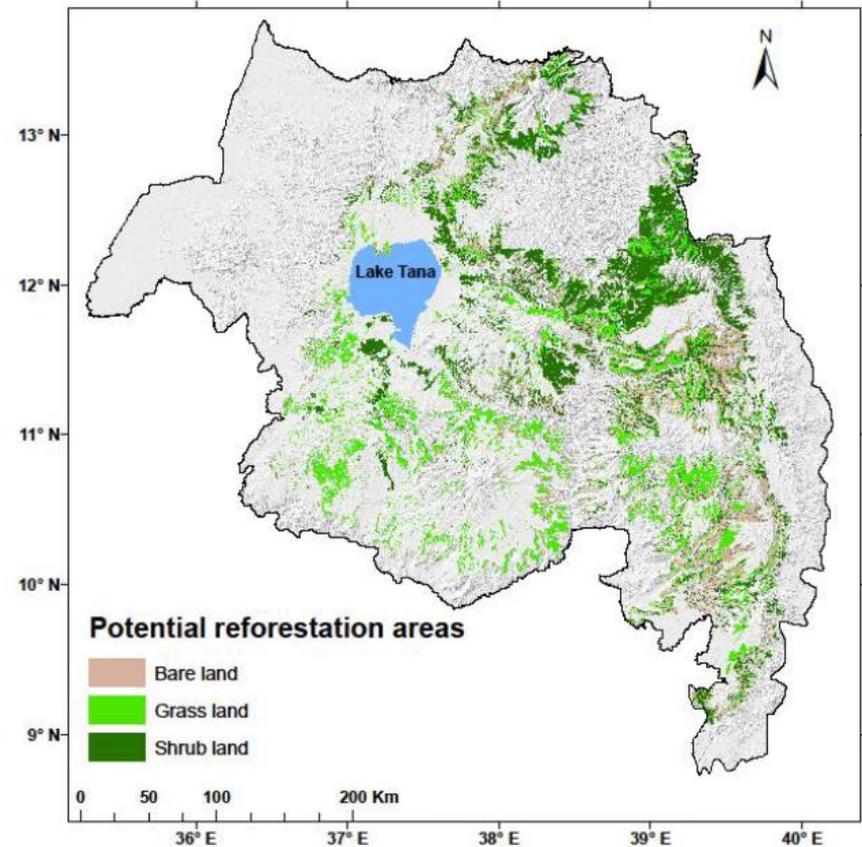
# Results: Potential reforestation area in Amhara Region of Ethiopia

3,4 Mill ha suitable

- 0,7 Barland
- 1,2 Graslan
- 1,5 Shrubland

Carbon storage if everything is replanted

- 177 Tg C total potential
- 11 Tg C in the soil
- 166Tg C in the aboveground



# Example 1: Summary

The current management is not sustainable - why?

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- Increase in agriculture land due to a growing population
- Enormous soil degradation effects
- Loss in productivity and resource supply
- Reforestation programs (including management) are needed



# Example 2: Sustainable Management of Water and Fish Resources in Burkina Faso (lead by A. Melcher)

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In Burkina Faso the pressure on freshwater ecosystems is high to feed a growing population

Austrian  
Development Cooperation



**appear**

Austrian Partnership Programme  
in Higher Education and Research  
for Development

**oead**

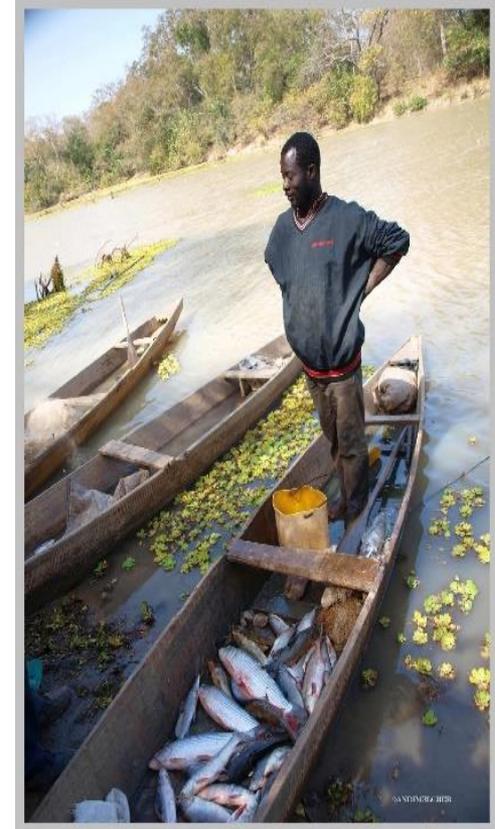
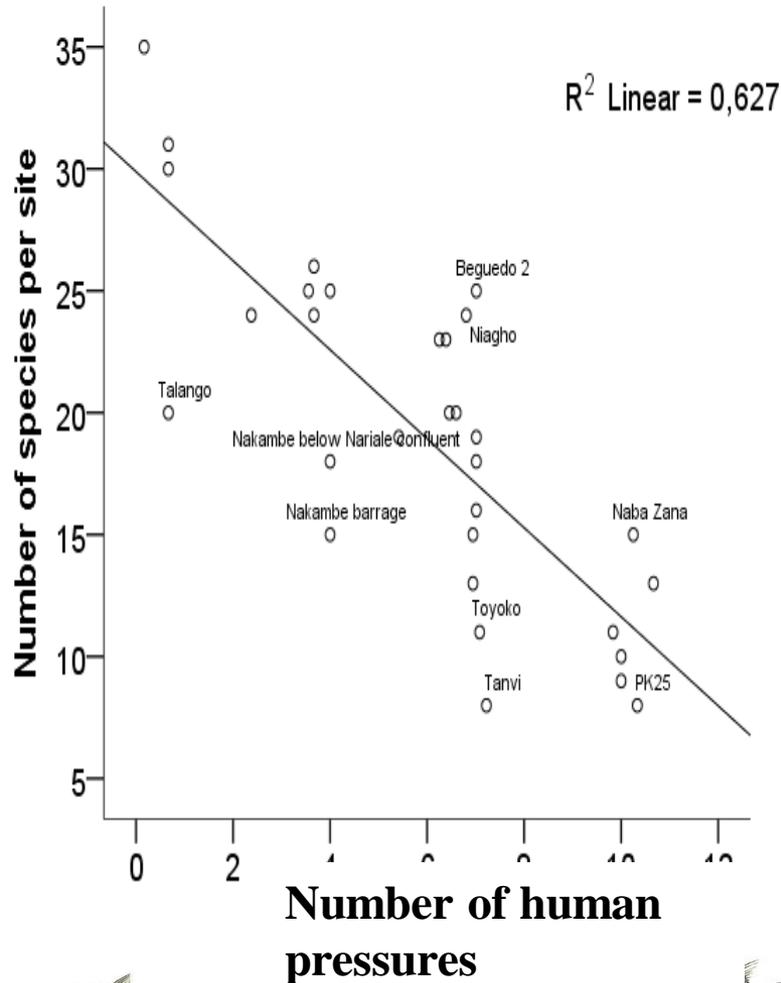
# Fish is an important source for food because

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- Protein
- Nutrition
- Farmers
- Gender
- Market
- Bio-Indicators
- Religion



# Results: Fish species decrease with number of human pressure



# Example 2 Summary



- High traditional knowledge on water and fish
- Little scientific knowledge on water ecology and human impacts
- Capacity building and adaptive management is needed
- Science and know how makes the difference
- Think globally act locally – think long term but act now

**[WWW.SUSFISH.BOKU.AC.AT](http://WWW.SUSFISH.BOKU.AC.AT)**

# The Austrian – Africa UniNet

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## Mission

Initiate a cooperation between Austrian and African higher education institutions

## Organization

- Financed by the Austrian Ministry of Science
- Operated by Austrian Development Agency
- Led by BOKU

africa  
uninet



 Bundesministerium  
Bildung, Wissenschaft  
und Forschung

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# The Austrian – Africa UniNet

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## Activities

- Exchange Professors
- Exchange Students
- Promote joint projects
- Organize conferences
- Promote networks



# The Austrian – Africa UniNet

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## Who can apply:

Austrian and African Universities with a master program

## Next Steps:

- Invitation is out
- Kick off Meeting will be on Jan 30 to 31, 2020
- Reception by the Minister & invitation to the BOKU Ball

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**Thanks for  
your attention**