

Study Project – Environmental Engineering

Workload: 12 ECTS, 360 hours

Topic:

Forestry trends in Kyrgyzstan –What is the potential of reforestation in the Naryn and Karadary River catchments?

Land degradation has caused significant economic losses in the mountainous regions of the Central Asian country of Kyrgyzstan. Especially, mudslides and avalanches pose a threat to the local population. Drivers of this land degradation are population pressure leading to cultivation of easily erodible land without necessary measure for soil conservation, as well as industrial wood harvesting, heavy livestock grazing and wildfires. Combined with the high vulnerability to climate change of the region, adaptation and mitigation strategies are of high importance. Reforestation of previously forested areas and afforestation of new ones are likely to protect from avalanches and mudslides and could help to mitigate flooding in downstream areas and reduce the severity of hydrological droughts. As a prerequisite to study the impact forests may have on the hydrological system of Central Asia, it is essential to understand to which degree afforestation and reforestation is possible in the region. This project is aimed at assessing this potential using the catchment areas of the Naryn and Karadarya rivers (Figure 1) as a case study. See below for a more detailed explanation of the study objective and tasks.

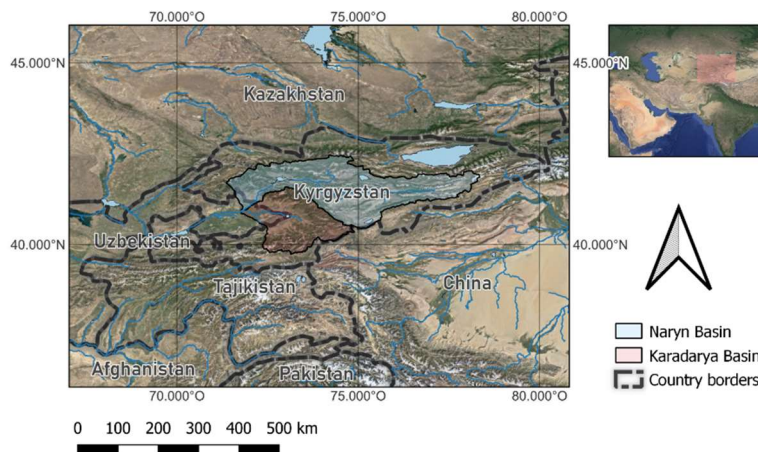


Figure 1: Overview of the Naryn and Karadarya River basins and their location within Asia



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Study Objective:

- Which policies exist in Kyrgyzstan concerning forestry? How are forests managed?
- What are recent trends of forestry in Kyrgyzstan? Where are the hotspots of change?
- What is the potential for reforestation?
- What type of forest would be suitable for afforestation?

Task:

- Review policies including the Sustainable Development Goals for Kyrgyzstan.
- Review scientific literature on the state of forests and development.
- Use remote sensing data to determine hotspots of deforestation and afforestation.
- Define potential areas for reforestation in the Naryn and Karadarya River catchments.

Requirements:

- Ability to work independently.
- Skills working with GIS should be available or self-taught during the project.
- (Russian language skills could be of advantage)
- The project should be written in English (however, German is also possible)

Time: As soon as possible.

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