"Future Agriculture:
Socio-ecological transitions and bio-cultural shifts"

77 Million Trees for Kyrgyzstan

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Abstract

Forest area in Kyrgyzstan in the 1980s was 1.5 million ha, now it is only 1.1 million ha, i.e. 5.5 % of the total country area. Still, about one third of the population uses forests as source for wood or grazing land. Annual timber and fuel wood demand are estimated with 160 000 to 500 000 m^3 and 2 million m^3, respectively. 25 000 to 45 000 m^3 are supplied by the State Forestry Fund. The remaining wood is imported from Russia or cut illegally.

Agroforestry helps to increase the number of trees in the landscape where people live and need wood or other tree products. So people have less demand to use wood from forests and forest degradation can be avoided. Tree shelterbelts are a major agroforestry system all over Central Asia with Poplars as main species. After collapse of Soviet Union, large number of shelterbelt trees were cut.

For this study we assumed to lay shelterbelt grids of 1000×1000 m, 500×500 m, and 250×250 m hypothetically over all crop land of Kyrgyzstan. The 1000×1000 m grid would yield 400,000 m^3 timber per year and therefore could already meet most of the annual timber demand. The 500×500 m grid would result in 77 million trees with a total timber volume of 11.1 million m^3. The 250×250 m grid could meet annual timber and fuel wood demand.

Poplars are planted by the private sector without donor money, partly in shelterbelt like arrangements, as plantations. Rules and laws are unclear regarding agroforestry, which is the major obstacle for a further expansion of these systems.

Keywords: Agroforestry, Central Asia, forest degradation, GIS analysis, tree shelterbelt, wood supply

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