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“Solidarity in a competing world —  
fair use of resources”

## Scaling Sustainable Modernisation in Mountain Agriculture: Agroforestry Experiences in Kaule, Mid-Hills of Nepal

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### Abstract

Modernisation as a transformational strategy towards sustainable development has to promote further improvement of mountain farmers' livelihoods while at the same time ensuring ecological sustainability and inducing social equity. In this context, a multiyear joint project with local farmers was launched in spring 2009 to introduce agroforestry practices in the village Kaule, Nuwakot District, mid-hills of Nepal. Practical components of the project included trainings and workshops on agroforestry, restructuring of terrace fields for conversion to agroforestry, and monthly meetings for open discussions among involved households. The project was accompanied scientifically to analyse socio-economic and ecological impacts. This paper presents scientific findings and summarises the experiences during the transition to sustainable land management from an interdisciplinary perspective, and gives evidence of increased willingness to adopt sustainable agricultural practices, and of the obtainment of environmental benefits and increased livelihood security. Participation of the farmers in the entire process, beginning with the definition of goals, the envisioning of a desired future and the integration of local knowledge, skills and resources was found to be of key importance for the project success. During the transition process, a diversification of marketable crops and additional income generation further enhanced the willingness to adopt new agricultural practices. After the adoption of agroforestry, soil quality and soil productivity have been significantly ameliorated, with positive effects appearing shortly after the conversion from conventional monocropping systems. We also assessed significantly higher species richness, beta diversity and cover of trees and shrubs in the agroforestry system. We conclude that the transition from conventional terrace cultivation to agroforestry practices has the potential to generate significant environmental and socio-economic benefits, thus contributing to sustainable modernisation processes in mountain agriculture.

**Keywords:** Agriculture, agroforestry, backcasting, innovation diffusion, modernisation, mountain agriculture, soil fertility, sustainability, transition management