

# Exploring the spatial and temporal dynamics of land use in Xizhuang watershed of Yunnan, southwest China

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## Abstract

Over the last two decades, China has introduced a series of agricultural and forestland use reforms, aiming to feed the largest population in the world and maintain ecological services locally and nationally. This paper studies the impacts of local government driven reforestation on land use and land cover change, as well as its further impacts on livelihoods of upland farmers in Xizhuang watershed. An analysis of aerial photographs and ASTER satellite imagery from 1987 to 2002, respectively, showed that the forest has significantly increased at the expense of decreasing farmland. However, the monoculture reforestation of pine has caused both biophysical and socio-economic consequences. This case study also shows forestry decentralization in China remains incomplete. Land use and land cover change is also a political economic issue. Some of the reforms designed to protect forest resources have had a negative impact on rural livelihoods.

Keywords: Land use; Forest recovery; Livelihoods; Xizhuang watershed

## 1. Introduction

Land use and land cover changes have been extensively researched