



Tropentag, September 10-12, 2025, hybrid conference

“Reconcile land system changes
with planetary health”

More than markets: territorial market networks as critical infrastructure for family agriculture resilience and agrobiodiversity conservation in the peruvian andes

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Abstract

This study examines the critical intersection of land use governance and territorial market networks in the Peruvian Andes, analysing how these socio-economic infrastructures sustain family agriculture and agrobiodiversity conservation. We carried out an extensive exploration of Andean marketspaces along the Qhapaq Ñan, an ancestral road network and an intra-ecological trade corridor on the Andes mountains, in which the exchange of produce from diverse geographies occurs. Through mixed-methodology, we scrutinized 35 Andean markets located across 11 departments of the Peruvian Andes to map potato commodity flows—the highlands’ primary crop—to visualise the spatially embedded nature of these market networks within specific land use contexts. Our results

present a market characterisation and an intrinsic cartography of the main produce of family farmers of the highlands, the potato. Our findings reveal how territorial markets operate as crucial mechanisms mediating between formal land governance frameworks and informal agricultural practices. Results demonstrate that these markets function not merely as economic exchange venues but as complex socio-territorial systems that directly influence land use patterns, farming intensity, and crop diversity maintenance. The distinctive socio-economic rationales governing peasant markets prove instrumental in supporting family agriculture viability while simultaneously preserving traditional land management practices that maintain agrobiodiversity. We argue that land use policies must explicitly recognise and incorporate these territorial market dynamics to achieve sustainable rural development objectives. This research emphasises the urgent need for integrated policy approaches that strengthen existing market structures, enhance market-linkage conditions for smallholders, and create supportive land governance frameworks that acknowledge the intrinsic relationship between market systems, family agriculture, and agrobiodiversity conservation in the Andean highlands.

Keywords: Agroecology, local food systems, peasant markets

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