



Tropentag, September 16-18, 2026, hybrid conference

“Towards multi-functional agro-ecosystems
promoting climate resilient futures”

Food sovereignty across a rural–peri-urban gradient: Transformations of traditional agroforestry systems in the High Atlas of Morocco

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Abstract

Traditional agroforestry systems in mountain regions support livelihoods, biodiversity, and local food systems. However, urbanisation, market integration, and climate stress are reshaping these systems and their contribution to food sovereignty. This study examines how food sovereignty is configured across a rural–peri-urban gradient in the High Atlas Mountains of Morocco and how these transformations interact with traditional agroforestry landscapes.

The research compares three communities representing different socio-economic contexts: Isslk (remote rural village), Ait Blal (rural town), and Imi Nifri (peri-urban town). Data were collected through 45 semi-structured interviews with farmers, cooperative members, local leaders, and traders. The analysis applies six food sovereignty dimensions—resources, production models, commercialisation, food consumption and the right to food, agrarian policies and civil society organisation, and gender—to assess how agroforestry systems contribute to autonomy, food provision, and livelihood resilience.

Results reveal differentiated configurations along the gradient. In Isslk, relatively open access to land and pastoral resources supports culturally embedded food systems, yet infrastructural constraints and climate stress limit productivity and increase reliance on external food sources. Ait Blal exhibits comparatively strong food sovereignty, where diversified agroforestry, terraced farming, and communal labour practices sustain ecological multifunctionality and partial food self-sufficiency. In Imi Nifri, proximity to markets enhances income opportunities and food availability but drives specialisation, mechanisation, and reduced diversification, increasing dependence on external markets.

Across all sites, climate stress, market integration, labour migration, and policy incentives emerge as key drivers shaping agroforestry systems and food sovereignty dynamics. These drivers generate both adaptive transformations, such as diversification and local processing, and erosive changes, including declining communal practices and increasing market dependence. The findings highlight a structural tension between food security and food sovereignty, underscoring the need for policies that strengthen diversified agroforestry systems and sustain local knowledge in rapidly transforming mountain regions.

Keywords: Agroforestry landscapes, food system governance, mountain agroecosystems, rural–urban gradient, traditional ecological knowledge

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