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## Assessing the relevance of local market channels for potato diversity on the Peruvian Andes

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### Abstract

The Peruvian Andes host an impressive number of 3,300 potato varieties, mainly maintained by family farmers. The maintenance of this diversity relies on farmers' capacity to sustain their livelihoods through the commercialisation of their produce. Located in remote, poorly connected highland areas, local markets held weekly in villages and cities emerge as the main marketing channel for family farmers, often representing their only source of income. The paradoxical relationship between market linkage and agrobiodiversity maintenance is highlighted, where improved access often leads to a decline, as farmers tend to focus on the most economically profitable crop variety. However, commercialisation is crucial for farmers to secure their livelihoods. To address this dilemma, this empirical study set out to understand the heterogeneity of Andean markets and evaluate their relevance for supporting family farmers agrobiodiversity system by focusing on their main produce – the potato. Using an inductive mixed methodology, a cross-case comparison of local markets (n=35) was conducted across 10 study areas along the Peruvian Andes. Market-linked potato varieties were quantified using varietal richness as an indicator, and a market typology was generated through cluster analysis. In total, we recorded 150 potato varieties across all markets, ranging from 2 to 35 varieties per market. Contrasted with the prevalent modern potato varieties, the occurrence of colourful native potatoes at markets remained marginal. Market size and high shares of local produce, as well as increased participation and associativity of local producers, were aspects positively associated with higher diversity levels. Lower diversity was observed at small local markets located in potato production ‘hotspots’. The results demonstrate that better market-linkage conditions for potato diversity is mainly determined by spatial factors, as well as aspects related to accessibility, market-based organisational processes, and pricing. The study emphasises the need to strengthen the market-linkage of family farmers' produce by fostering associativity processes within the existing network of localised markets.

**Keywords:** Agrobiodiversity, family farming, local food systems