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“Reconcile land system changes  
with planetary health”

## More than crops: how urban agriculture cultivates social cohesion

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### Abstract

In the face of rapid urbanisation and rising food insecurity, urban agriculture is increasingly considered as a necessary and thus sustainable approach to land use and food systems. It is a multidimensional practice, yet its social aspects remain underexplored. Hence, this paper presents four years of findings from a community urban farm in Mashhad, Iran, and examines how urban dwellers contributed to both agricultural productivity and social cohesion. The project was established in 2021 on one hectare of repurposed municipal land and involved 300 citizens as urban farmers (180 women and 120 men), who practised intercropping of vegetables, cereals, herbs, and fruits by using sustainable agricultural techniques. All participants were initially inexperienced in both farming and community-based collaboration. To evaluate changes in social dynamics, we applied a Social Cohesion Index (SCI) involving five core dimensions: trust, mutual aid, sense of belonging, participation in decision-making, and conflict resolution. We also assessed crop diversity, yield and productivity in different cultivation seasons. Survey and interview data showed that newcomers scored lower SCI in their first season of cooperation, and by the fourth year, SCI scores improved significantly, which demonstrates the importance of time and continuity in building trust and collaboration in community-based projects. Our findings show that the scores of women in most of SCI dimensions, including trust, sense of belonging, and mutual aid were higher than men. Interestingly, men had higher scores in the dimension of conflict resolution. Over the study period, crop diversity, yield, and productivity improved as farmers gained experience and soil fertility enhanced through compost and biofertilisers use. The Shannon Index increased by 30 percent from the first to fourth year, and there was an average increase of 20 percent in the yield. Additionally, women played a key role in reducing agricultural waste by using traditional food processing methods and producing secondary products.

**Keywords:** Community farming, SCI index, sustainable agriculture, yield