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"Reconcile land system changes
with planetary health"

Economic, social, and environment factors shaping urban agricultural resilience

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Abstract

The world's population has grown significantly in recent decades, with this growth occurring unevenly between urban and rural areas. Urban agriculture has emerged as a promising response to contemporary challenges such as climate change, food insecurity, and rapid urbanisation. By producing food locally and fostering community engagement it plays a critical role in enhancing the sustainability and resilience of urban systems. This study investigates the key economic, social, and environmental factors influencing the resilience of urban agriculture in Mashhad, Iran. A mixed-methods approach was employed, combining exploratory factor analysis (EFA) to identify underlying motivational dimensions with ordinal logistic regression to evaluate their relative influence. Data were collected from a structured survey distributed among urban farmers and practitioners in various districts of the city. The EFA results revealed three major categories of motivation: (1) economic and social motivations (including income generation, food affordability, and job creation), (2) health and community-oriented motivations (such as nutritional benefits and social interaction), and (3) environmental and personal motivations (including environmental stewardship and mental well-being). The regression analysis demonstrated that economic drivers—particularly local food production, job creation, and income security—were the most significant predictors of urban agricultural resilience. Social and environmental motivations also showed positive, albeit less pronounced, effects. The findings highlight the importance of multidimensional policy approaches that strengthen these motivational factors. Urban policymakers are encouraged to invest in financial support mechanisms, training programs, and green infrastructure that collectively enhance the capacity of urban agriculture to withstand and adapt to various shocks. Promoting inclusive participation and aligning policies with local needs are also vital for building resilient urban food systems.

Keywords: Environmental motivations, Exploratory Factor Analysis (EFA), Ordinal Logistic Regression, Resilience, urban agriculture

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