

## **Abstract**

This study arises from the insight that the critical role of green infrastructure in urban areas is often not focussed upon at the same level and intensity as “standard” infrastructure such as roads, water and electricity. The key research question guiding the study revolves around whether urban agriculture should be included in the design process of buildings in Johannesburg, and how this could subsequently address the inter-relationships between city and building scale, aesthetics versus biodiversity as well as addressing the critical challenge of water scarcity through the process of greening the city. With this in mind, this study argues for a potential shift in land use control, whereby urban agriculture could be strictly regulated as a specific land use typology similar to the commonly recognised uses such as industrial, commercial or residential.

An overall qualitative approach was undertaken using the theoretical underpinnings envisaged by Lehmann (2010) and the 15 principles of Green Urbanism, to gain an understanding of the role players and processes involved in the building cycle, as well as urban agriculture development. Key role players were identified, and interviewed, substantiating how policy insight is necessary in practice.

The focus of this research report was on the building, and specifically the potential that buildings may offer a contribution towards green infrastructure, by providing such outcomes as passive thermal control and food security. Key comparisons were made between cities that go beyond the implementation of urban agriculture as an “extracurricular” activity, and fully embrace the holistic view of green urban development and sustainable cities. Examples have been taken from London, Toronto and Singapore regarding how rooftop gardens and urban agriculture have been included into the urban fabric. Johannesburg has a few initiatives, which are greatly reduced in scale when compared to these other cities, however, the local context needs to be considered when investigating the reason for this. Considering the importance of the benefits of such programmes (such as food security and job creation), it can be concluded that this inclusion of urban agriculture in the planning phase should be prioritised as an important intervention for urban development.

*Key Words: Green Roofs, Urban Agriculture, Green Infrastructure, Policy and Practice, Johannesburg*