



The Importance of Green Infrastructure in Small and Medium-sized Towns:

LESSONS FROM SOUTH AFRICA

Researchers find that green infrastructure is used for a range of provisioning and cultural services, among other benefits.

Global policy and design discourses to reduce urban ecological footprints and promote sustainability have recognised the potential role of green infrastructure as key in contributing cost-effectively to sustainable cities and human wellbeing. Despite this, there is little data about the role and value of green infrastructure in the medium and small-sized cities of developing countries.

Given the high rates of urbanisation experienced in sub-Saharan Africa, a team of researchers from Rhodes University investigated the extent and use of green infrastructure in South African small and medium-sized towns using the social-ecological lens. The study was funded by the National Research Foundation.

Using geographic information systems (GIS), nine towns in the Eastern Cape Province were mapped to pinpoint the location of green spaces. In addition, random households were interviewed to assess the level of satisfaction about the abundance and distribution of public green infrastructure within their towns.

The [study](#) found:

- The multiple benefits obtained from green infrastructure include recreational purposes, aesthetics, and spiritual and mental health. The distribution of formal public green spaces is inequitable across different areas of the towns and populations;
- Approximately 60% of the town surface area is made up of green spaces. This includes infrastructure such as school grounds, church yards, and trees planted along the streets. The bulk is located under private tenure (74%) rather than in public spaces.


- The provision and use of green infrastructure is influenced by spatial and social factors. The poorer areas have markedly lower proportions of public green spaces and trees. Similarly, they have lower areas of private green spaces because of the higher density of housing structures.

According to the researchers, the lower availability of green spaces in poorer areas coincides with a greater reliance on green infrastructure for provisioning services than in the more affluent areas or towns. Provisioning benefits such as firewood, fruits and medicines are not only important contributors to daily needs of households, but they also provided more than half of the 'value' needed to recover from shocks such as floods.

The provision and use of green infrastructure is influenced by spatial and social factors

Although the small towns are economically poor, they appear to be rich in green infrastructure. However, the study argues that any constraints on the amount of, or access to, green infrastructure could severely impact the resilience and vulnerability of poor households. In view of this, households interviewed were willing to take several

measures to secure or improve the availability or maintenance of public green infrastructure, including the planting of trees, or willingness to pay for, or cultivate, green infrastructure.

Whilst the findings are specific to South Africa, the study has relevance to other sub-Saharan African countries, which face similar challenges such as high rates of population growth, inadequate planning and governance systems, increasing urban poverty and concentration of people in medium- and small-sized cities and towns. 

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