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The development visions and attitudes towards urban forestry of officials responsible for greening in South African towns

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ABSTRACT

The planting and maintenance of trees in public areas of South African towns is the responsibility of local municipalities. Therefore, it is necessary to appreciate the visions and attitudes of municipal officials and decision-makers in charge of such activities for an understanding of the distribution and abundance of trees along streets and in urban green spaces. We hypothesised that the town size and relative wealth and current extent of trees in public places would influence the visions of such officials. We therefore conducted 24 semi-structured interviews with the officials responsible for urban tree planting in 24 towns in the Eastern Cape province, whilst also assessing the abundance of street trees via GIS counts. The density of street trees was variable, ranging from 0.5 to 9.5 trees/ha. There were significantly positive relationships between town size, relative wealth measures and street tree density. Several of the managers did not include environmental issues or trees in vision of the future for their town, although most did. There was no relationship between the managers' visions for the future and attitudes and current street tree density. Most of the managers experienced several constraints in trying to implement their vision, notably a lack of funds for urban forestry, limited space for tree planting in low-cost housing developments, vandalism, and lack of skilled personnel.

Introduction

Urban planners and managers play central roles in shaping the structure and appearance of towns and cities at multiple scales (Broussard et al., 2008; Gulsrud et al., 2013), from macro-scale zonation of city functional elements, down to micro-scale designation and management of individual trees and green spaces. Therefore, based on the quantity, location and nature of the infrastructure, aesthetics and services that they lobby for and deliver, urban planners and municipal mangers have considerable influence on the potential environmental sustainability of urban areas, ranging from transport efficiencies, to waste treatment, to integration of biodiversity elements and green spaces. Consequently, it is important that visions of such professionals are adequately voiced and understood because they may differ from those of the urban residents for whom they are planning and managing. For example, Broussard et al. (2008) found that residents placed higher emphasis on controlling development and promoting green space than did local officials in northern Indiana, USA. This corroborated some of the findings of Calavita and Caves (1994) and Ryan (2006) who found that markedly higher proportions of residents than planners were likely to express that their town was growing too fast with negative consequences for quality of life.

Given that there are often differences in the perceptions of urban dynamics and condition between officials and residents, it is important that mechanisms are in place for frequent communication where residents can voice their concerns and desires to the local officials. This is particularly pertinent in developing countries where many urban centres are experiencing high urban growth rates resulting from influxes of rural people seeking opportunities in towns and cities (Montgomery, 2008). In such situations town planning and development often struggles to keep up with the population growth (Angel et al., 2011). It may also be that green spaces and street trees are removed or encroached upon to accommodate the growing population (Nagendra and Gopal, 2010). In these situations, planning becomes reactive and focussed on the supply of basic infrastructure and services, with little opportunity to consider broader principles and needs, such as environmental sustainability and recreation. Yet, there is a wealth of literature emphasising that urban quality of life and attachment is strongly influenced by some of these very features, for example the proximity and quality of neighbourhood green spaces (Bonaiuto et al., 1999, 2006; Mazumdar and Mazumdar, 2009).

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South Africa is one such country. During the mid to late twentieth century, urbanisation rates were suppressed by racially discriminatory apartheid policies, under which land ownership and residency were racially segregated (Seekings, 2008). Most black South Africans were expected to live in ethnically defined, geographically separate, and strikingly underdeveloped homelands with the apartheid government expending significant resources to force them there. Those who were permitted to work and reside in urban areas outside of the homelands required a permit to do so (Robinson, 1997). Each urban area was zoned into racially segregated suburbs. Black South Africans were required to live in separate areas, locally termed 'townships' (Wilkinson, 1998). These were relatively high density suburbs, poorly serviced, with limited commercial activities and widespread poverty. In contrast, white South Africans (people of colonial European descent) resided in suburbs typical of any city in the first world. With the demise of the apartheid system in the early 1990s three changes rapidly took place. The first was the repeal of laws that restricted where Black South Africans could live and work. Thus, there was an enormous surge of people moving to urban areas (although many retain links with their rural homestead and kin (Bank, 2001; Tacoli, 2006)). Approximately 62% of South Africans now live in urban areas, up from 52% in 1990 (Statistics South Africa, 2012). Larger cities are typically better able to deal with this influx than smaller towns because of their greater income base and planning capabilities (Tuts, 1998).

The second change was a national programme by the newly elected government to address the racially defined backlogs of service provision and housing created during apartheid (Wilkinson, 1998; Hunter and Posel, 2012). The new government initiated a vigorous housing programme with several million units having been built to date. The emphasis was on delivery of large numbers of houses for the poor and previously homeless at as low a cost as possible (Gilbert, 2004). This was part of the post-apartheid Reconstruction and Development Programme (RDP), and hence these spatially separate and uniform housing developments are locally termed 'RDP' areas or suburbs. Occupancy of RDP housing is reserved for the indigent, with lists of eligible households maintained by local municipalities.

The third was a change in the structure and function of local governance. Before the 1994 democratic elections in South Africa the main tasks of local municipalities were land zonation and to provide services to urban residents (Sowman and Brown, 2006). After a new constitution was adopted in 1996 the mandate of municipalities was shifted towards a more developmental approach (Binns and Nel, 2002; Sowman and Brown, 2006). To achieve this, a new development planning model was adopted, with several elements akin to Agenda21 (Harrison, 2001). In South Africa this became known as Integrated Development Planning. Each local municipality must produce a new Integrated Development Plan (IDP) every 5 years. A key requirement of the IDP process is community consultation and participation, with the draft plan having to be presented and open for community scrutiny and input (Everatt et al., 2010). Each IDP also develops a list of priority projects for the 5-year period and allocates budget amounts in line with the prioritisation. The success of the IDP processes and levels of resident participation are variable, once again being better in the better resourced (usually larger) towns (Pycroft, 2000; Todes, 2004).

It is this mandatory consultative phase in the IDPs which offers a ready conduit for local residents to voice their concerns and desires pertaining to environmental planning and local conditions within their municipalities, especially if these are different to, or at odds with, the perspectives of local officials and planners. This is common in terms of issues relating to water provision (or lack thereof), water quality, sanitation and the like. But increasingly concerns regarding inadequate green space provision and recreation opportunities are also being voiced (Bam, 2013; Shackleton and Blair, 2013). This is pertinent in light of ample evidence showing marked disparities in the distribution of urban green space and street trees between and within South African towns. Poorer ex-homeland towns and the poorer RDP and township areas have far fewer green spaces and street trees than the more affluent areas (McConnachie et al., 2008; McConnachie and Shackleton, 2010; Kuruneri-Chitepo and Shackleton, 2011), even though residents value and appreciate them (Shackleton and Blair, 2013), and many have trees within their homesteads (Lubbe et al., 2010; Shackleton et al., 2014). If these disparities are to be addressed it will be important to understand the visions of, and challenges faced by, municipal officials in delivering the cultural, recreational and aesthetic benefits offered by street trees and green areas. In this sense a vision is seen as an official's framework for change towards a desired or imagined future or outcome, which guides choices regarding strategic direction and resource allocations (El-Namaki, 1992; Ache, 2000). Several authors have investigated the visions of municipal officials in relation to urban development, or have initiated processes to construct such visions, including in Germany (Ache, 2000), Finland (Ache, 2011), Norway (Jenssen, 2010) and Denmark (Gulsrud et al., 2013). Visions may be formal or informal; the former being recorded, approved by some necessary institution (such as the city council) and widely communicated, whereas an informal vision is usually a frame of reference used by an individual or group of individuals working together.

To this end, this paper reports on a survey of the development visions and operational challenges faced by parks officials in 24 local municipalities in South Africa's poorest province, the Eastern Cape. Building from the literature above, we considered that their attitudes and visions may be influenced by the relative size and affluence of their municipality and the current abundance of greenery within their town (which will also be positively related to town size (Conway and Urbani, 2007)). Specifically, we hypothesised that the current extent of urban greenery will be (i) positively correlated with town size and/or wealth, and (ii) negatively correlated with mention of urban greenery in visions of the future (i.e. the lower the current abundance of greenery, the higher will be the desire by officials to move towards a more green future).

Study area

This study was conducted in 24 towns in the Eastern Cape province of South Africa (Fig. 1). It is the second largest province in the country, covering 169 580 km^2 (Statistics South Africa, 2004). The northern and north-western parts of the province are characterised by arid areas of the Great Karoo, the north-eastern parts are characterised by the Drakensberg Mountains, and the southern and eastern parts of the province are bordered by the Indian Ocean (Statistics South Africa, 2004).

The Eastern Cape is situated in a region where the Mediterranean winter-rainfall climatic zone dominating the Western Cape gradually changes to the subtropical summer rainfall zone common over most of the country. Thus, at a provincial scale, there is a wide variety of climates (and accompanying vegetation biomes) from mainly winter rainfall in the west, to year round rainfall along most of the coastal areas and adjacent interior, to summer rainfall in the east and hinterland (ESDP, 2010). In the north-eastern interior of the province, which experiences summer rainfall, the days are cold and clear in winter but become hotter and drier towards the western parts of the province which experience rainfall that is spread evenly throughout the year (ESDP, 2010). As one moves from the west to the eastern regions and from the central interior towards the southern coast rainfall tends to increase, while the mountainous regions in the province also receive more rain than elsewhere