Municipal parks managers' development visions and attitudes towards urban forestry in South African towns

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RHODES UNIVERSITY
Where leaders learn

SETTING THE SCENE

- Role of urban planners & managers

- Visions of urban planners & managers

- Perceptions between officials & residents

- South Africa as an example

OBJECTIVES OF STUDY

a) Visions, perceptions & attitudes

b) Abundance of street trees

c) Relationship between street tree abundance & visions, perceptions & attitudes

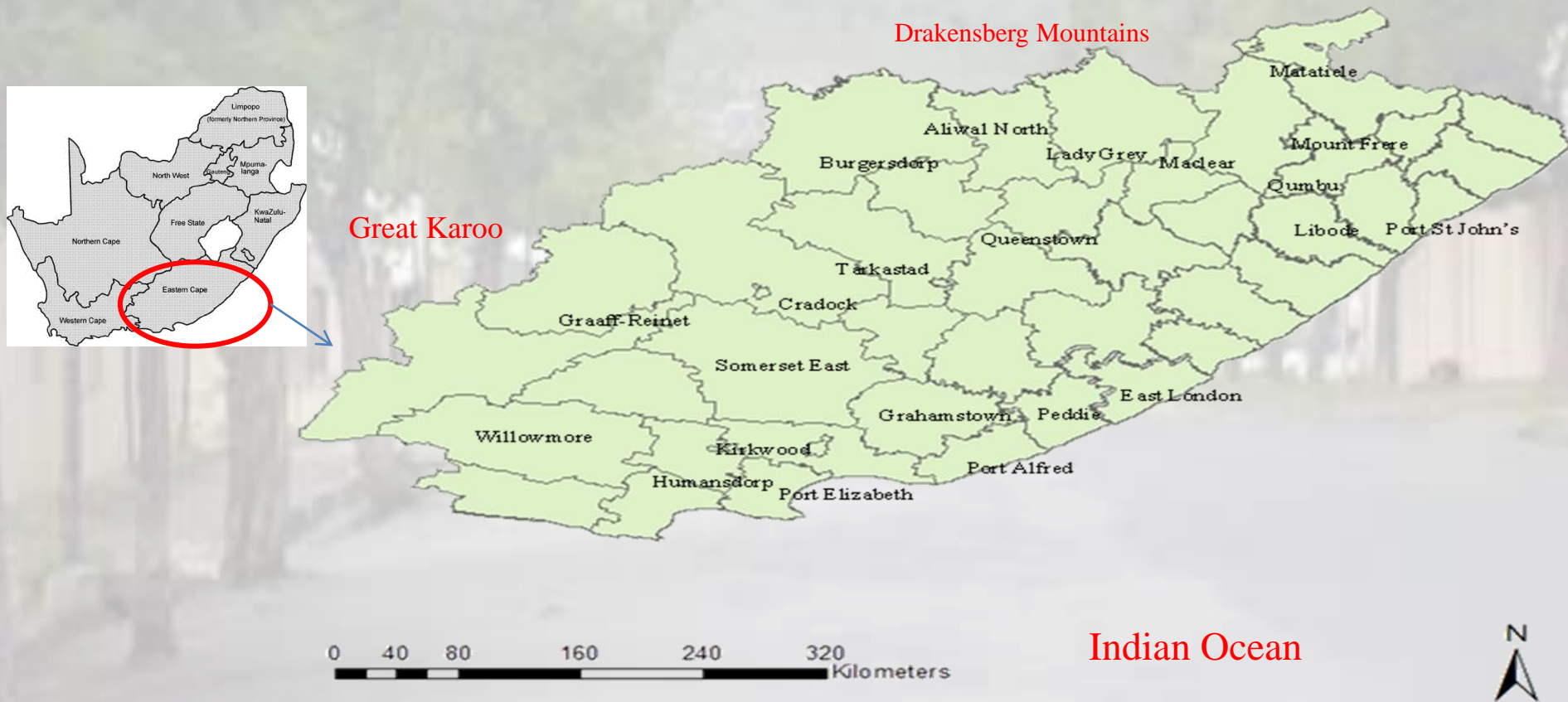d) Relationship between size & extent of urban forestry.

STUDY AREA

Figure 1: Eastern Cape map highlighting sample towns

METHODS

Street tree abundance

- Count on GIS (ArcMap) using aerial photos
- 100m x100m grid superimposed
- Total Area= number of grid squares, 20% random selection
- Google Earth

24 Sample Municipalities

Key informant interviews

- Face-to-face semi-structured (21% female, 79% male); different expertise
- Semi-structured approach, various topics covered
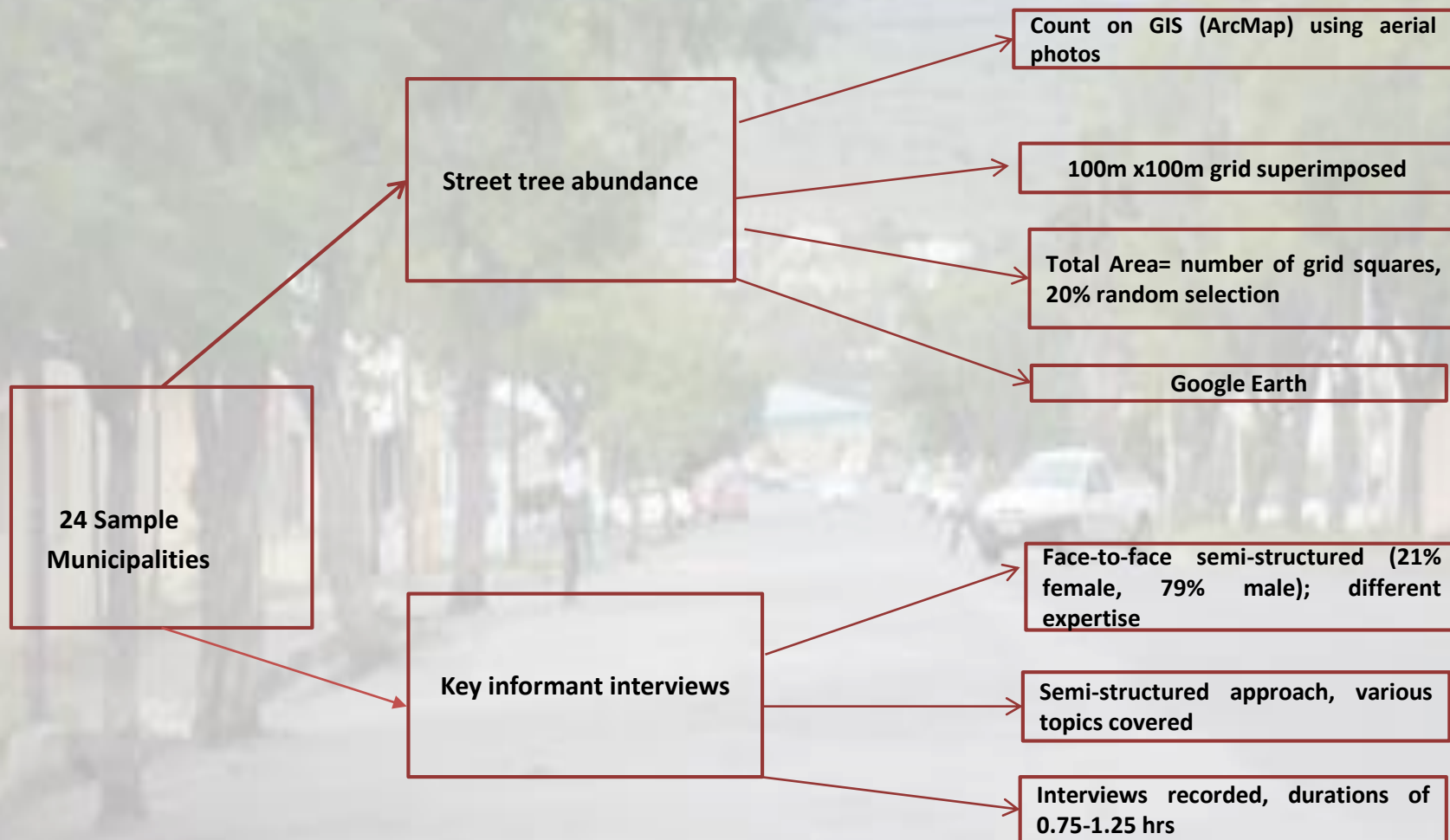- Interviews recorded, durations of 0.75-1.25 hrs

Figure 2: Methods used to collect data
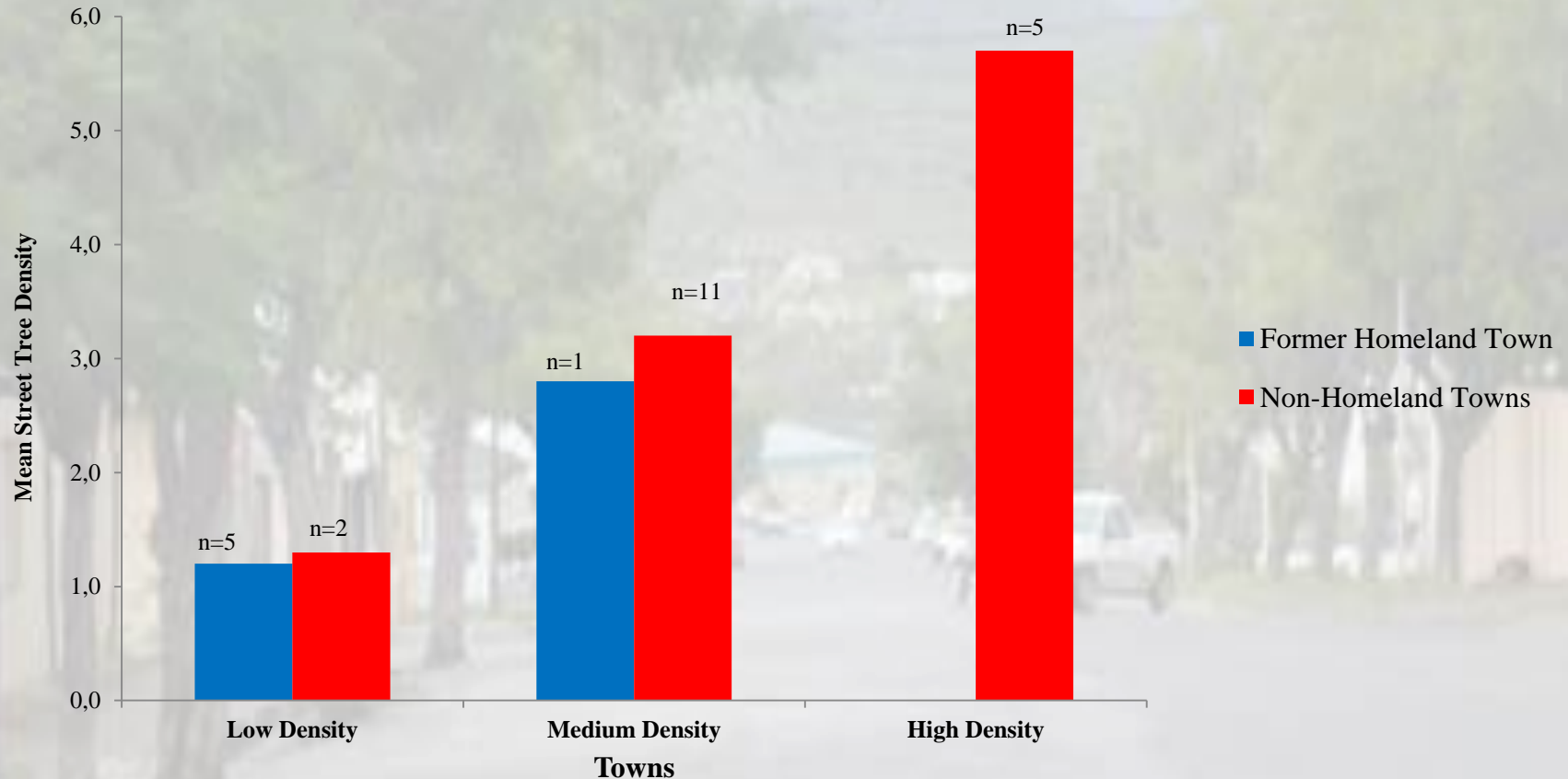
STREET TREE ABUNDANCE

Figure 3: Mean (± SE) number of street trees per hectare in 24 Eastern Cape towns classified based on mean tree density (n= number of towns).

STREET TREE DENSITY AND SIZE OF TOWNS

Table 2: Correlation matrix between mean street tree density and size and wealth attributes of 24 towns (correlation coefficients in bold are significant at at least the 0.05 level).

	Log population	Log area	Mean hh size	Hh mean annual income	% unemploy-ment	% adults with > primary schooling
Street tree density	**0.584**	**0.478**	-0.140	**0.914**	**-0.444**	0.047
Log population		**0.906**	-0.321	**0.765**	-0.253	0.216
Log area			**-0.415**	**0.714**	-0.268	**0.411**
Mean hh size				**-0.533**	**0.471**	-0.093
Hh mean annual income					**-0.600**	0.112
% unemployment						0.058

STREET TREE DENSITY AND SIZE OF TOWNS

- Significant variability in street tree density

- Towns with higher populations & relative affluence= higher street tree density

- Poorest towns-> lower density of street trees

- Former homeland towns= smaller areas & lower quality of UGS

MANAGERS' VISIONS

Table 3: Frequency of mention of trees as part of the visions of municipal parks' managers.

Number of times trees mentioned	Frequency	Percentage of respondents (%)
0	5	21
1	10	42
2	7	29
3	2	8

MANAGERS' VISIONS

Table 4: The frequency of mention of trees in managers' visions relative to current street tree density.

Vision	Street tree density (trees/ha)		
	(Low: <1.9)	(Medium: 2-3.9)	(High: >3.9)
Trees mentioned	7	8	4
No mention of trees	0	4	1
Totals	7	12	5

MANAGERS' VISIONS

- Eastern Cape one of poorest provinces in S.A. ∴ no surprise in results

- Majority of planners favour development more than environmental issues or greening

- "Environmental practices & green spaces rarely considered in urban branding portrayals of Danish towns"

MANAGERS' PERCEPTIONS ON STREET TREE DENSITY vs ACTUAL DENSITY

Table 5: Perceptions of managers in sample towns with regards to street tree density in comparison to actual street tree density.

Perceived street tree density by current manager	Actual street tree density (trees/ha)		
	Low	Medium	High
High tree density	4	11	5
Low tree density	3	1	0

MANAGERS' PERCEPTIONS ON STREET TREE DENSITY vs ACTUAL DENSITY

- Uniform perceptions and attitudes throughout sample, except for one manager.

- This one perception -> Broussard et al. (2008)

- Perceptions & attitudes of 96 % of the managers in favour of natural urban landscapes

CHALLENGES TO IMPLEMENTATION

Table 6: Limitations to implementing urban forestry as mentioned by 24 municipal parks' managers

Limitation	Proportion affected by limitation (%)
Vandalism	100
Lack of Space	100
Lack of Budget/Funds	96
Lack of Skilled Personnel	92
Lack of Equipment	88
Low Education of Population	17
Climate Change	13
Politics	4

BUDGETS & FUNDING FOR URBAN GREENING

Table 7: Approximate proportion of relevant department budget allocated to urban forestry and greening initiatives in the 23 towns whose managers revealed the figures.

Proportion of departmental budget allocated to urban forestry and greening initiatives	Number of towns/ municipalities	Street tree density of towns		
		Low	Medium	High
1-5%	15	3	9	3
6-10%	2	1	1	0
11-15%	4	2	1	1
16-20%	1	1	0	0
21-25% and more	1	0	1	0

PRIORITIZING URBAN GREENING

- Lack of adequate resources for establishment & maintenance of street trees

- Urban forestry accorded a low priority as evidenced with allocation of inadequate human & financial resources for it

- The role of municipal officials

- Understanding & recognition of the importance of trees in urban landscapes

- Cooperation between various government departments

- Mobilization of local & national resources

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