




## Chapter 11

# A case study of deteriorating services in two South African townships and possible implications for spatial justice for cities in the Anthropocene


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### Abstract

This chapter explores the implications for spatial justice in the Urban Anthropocene of the deteriorating services in two South African townships, eMbalenhle and Lebohang, in the Mpumalanga province of South Africa. Utilising data from Nova's Re-baseline Services Report, literature, and government



policies, the chapter investigates how service distribution disparities and the recognition of diverse community needs and identities intersect to shape spatial injustices in urban environments. The findings reveal significant inequities in access to services, highlighting challenges in access to water, electricity, waste disposal, and housing. The analysis emphasises the need for inclusive and equitable urban planning and policymaking that acknowledges and addresses the unique challenges of different groups, particularly in the context of rapid and informal urbanisation. This study contributes to the discourse on urbanisation in Africa, offering insights into the complexities of achieving spatial justice in the Anthropocene era.

Following a theoretical overview and methodological exposition, the chapter presents an analysis of the two townships' context and a detailed discussion of the spatial justice dimensions. The chapter concludes by highlighting key takeaways that are crucial for policy consideration.

Keywords: climate change vulnerability, CSR (corporate social responsibility) programmes, eMbalenhle, Lebohang, service delivery failure, service disparities, spatial justice

### **1. Introduction**

The Anthropocene, characterised by human-induced changes to the Earth's systems (Rockström et al., 2009; Steffen et al., 2007), presents unparalleled challenges (Elo et al., 2024) that demand a fundamental re-evaluation of our approaches to development<sup>1</sup>. Not only has human activity affected more than three-quarters of the Earth's landscapes, but it has also exacerbated already existing inequalities (Watson et al., 2016, p. 2930). As the global population surpasses eight billion, a significant shift towards an older and more urbanised demographic profile is emerging, particularly concentrated in the cities and towns of Asia, Africa, and Latin America (Balk, 2022; UN, 2019). Alongside this demographic evolution, climatic challenges are accelerating. The Intergovernmental Panel on Climate Change (IPCC)

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1 Editors' note: Shares ideas with Chapter 1.

anticipates a future marked by more extreme weather events, such as intensified storms, increased flooding, persistent droughts, and rampant wildfires (IPCC, 2023a; 2023b). The impact of these changes in urban areas is twofold; while cities, with their compactness, stand at the frontline in the mitigation of and adaptation to climate change, they also position residents at increased risk of exposure to these climatic hazards (IPCC, 2023b). These trends pose significant challenges to sustainable development, particularly in the world's fastest-growing, least-developed countries, where resources are already under pressure. Efforts to achieve the Sustainable Development Goals (SDGs)<sup>2</sup> (UN, 2015) are challenged by the anticipated population doubling by 2050 in many of these nations, which includes countries especially vulnerable to climate change and sea-level rise (UN, 2019). These regions face developmental constraints and heightened vulnerability to climate-related hazards, emphasising the necessity for adaptation strategies grounded in equity, inclusivity, and rights-based approaches (IPCC, 2023b).

Recent years have seen expansive growth in scholarship surrounding the environmental consequences of the Anthropocene (Bulkeley, 2021), with a multitude of reports (e.g. Arga Jafino et al., 2020; Clement et al., 2021), including those from the IPCC, grounded in robust scientific research, urging immediate action to address the consequences of (human-induced) climate change. This body of work has increasingly recognised the importance of social justice and equity issues (e.g. Swilling, 2020; Swilling & Anneck, 2012), revealing that the most vulnerabilities to climate impacts are not evenly distributed; urban communities, particularly the economically and socially marginalised, bear the brunt of climate adversities. These vulnerabilities are rooted in inequalities linked to a myriad of factors, including gender, ethnicity, and socioeconomic status, and are further magnified by historical contexts such as colonialism (IPCC, 2023b). A minority, primarily in developed countries but also increasingly in developing countries, bears historical responsibility for much of this environmental

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2 Editors' note: The reader will probably recall the Planetary Well-being Goals of Chapter 1.

degradation, yet the consequences are felt most sharply by the disadvantaged, both in specific locales such as South Africa and across the globe (Malm & Hornborg, 2014; Satterthwaite, 2009; Sultana, 2022).

Transformative change in socioeconomic and technological systems, as suggested by Swilling (2020), Swilling and Anneke (2022) and others (Díaz et al., 2019; Köhler et al., 2019), is urgently needed, keeping in mind that the “old world of North and South” may be vanishing in the Anthropocene (Hamilton, 2017). By bringing the principle of spatial justice more central to spatial planning, planning can play a prominent role in this transformative change. This chapter thus puts spatial justice forward as a framework able to facilitate a more just and fair approach to spatial planning, capable of integrating social and environmental justice. The experiences of eMbalenhle and Lebohang townships in Mpumalanga, South Africa, emphasise the importance of incorporating spatial justice into urban planning as a response to the challenges posed by the Anthropocene. Situated near the Sasol Secunda plant, a significant source of global greenhouse gas emissions (Sguazzin, 2020), these townships symbolise the critical intersection of social justice and climate change mitigation, highlighting the necessity for urban development strategies that not only address the physical impacts of climate change but also prioritise equitable outcomes for vulnerable communities. The degradation of service provision (electricity and water), the inadequacy of waste management services, and the scarcity of affordable housing in eMbalenhle and Lebohang are amongst the pressing issues that emphasise the urgent need for a re-evaluation of how urban services are distributed and managed.

Drawing on data from Nova’s Services Reports and insights into the lived experiences of township residents, the primary aim of this study is to systematically investigate the disparities in service distribution, the intricacies of policymaking processes<sup>3</sup>, and the (non)-acknowledgement of diverse community needs within the two townships. By

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3 Editors’ note: Compare with Chapter 10.

employing a detailed analysis of service provision data and policy documents, alongside interviews with community members and stakeholders, this research intends to uncover the underlying factors contributing to spatial injustices. Additionally, it will evaluate the effectiveness of existing interventions, such as the Sasol air quality offset programme, in addressing the identified disparities.

This chapter unfolds in several sections, each building towards a comprehensive understanding of spatial justice in the context of urban service provision. Following this introduction, we delve into the theoretical support of spatial justice and review the literature on service provision and urban equity. Following this, the methods section describes the socioeconomic and geographical contexts of the two South African townships under study, outlines the data sources, including Nova's Services Reports, and details our analytical approach. The results section presents the findings on service distribution disparities, policymaking processes, and the recognition of community needs and identities. Next, the implications of these findings for spatial justice are discussed, and in conclusion, the main takeaways are presented, reflecting on the broader implications for urban policy and planning in the Anthropocene era.

## **2. Justice, Space, and the Politics of Urban Inequality**

### **2.1 Spatial Justice**

Justice serves as a foundational pillar for social sustainability, echoing John Rawls' (1999) assertion that justice supports the virtue of social institutions just as truth does for thought systems. Influenced by scholars such as Edward Soja and Mustafa Dikeç, the discourse on spatial justice highlights the importance of examining the socio-spatial structures that underlie the distribution of the burdens and benefits of urban development and our life together in society. Soja (2010a), in particular introduced the idea of spatialisation of justice, emphasising the interconnectedness of social and spatial

processes, calling for a “spatial turn” in the social sciences, where the spatial dimension is prioritised over the historical dimension (Soja, 2010b, p. 13), alluding to the “broader spatialisation of our basic ideas of democracy and human rights, as in the revival of Lefebvre’s notion of the right to the city” (Soja, 2009:1). The central argument in Soja’s call for spatial justice is that the spatiality of (in)justice affects society and social life just as much as social processes shape the spatiality of (in)justice. Without an explicit emphasis on the spatiality of (in)justice, many opportunities for theoretical and empirical analysis and spatially informed social and political action are lost. The emphasis on the spatial dimension is intentional and focused, though temporary (Soja, 2010a, p. 17).

Spatial justice is a multidimensional concept, encompassing distributive justice (the equitable spatial allocation of resources and burdens), procedural justice (fair governance and procedures within the built environment), and recognition justice (the respect and acknowledgement of diverse identities and experiences). These three dimensions are not exclusive and should be addressed together, as inequitable distributions of benefits and burdens, lack of recognition, and limited participation in decisions all work to produce and reinforce injustices and claims for justice (Schlosberg, 2004). Spatial justice is also a multi-scalar concept, defined within the two extremes of the human body and the physical planet, therefore addressing justice debates from individual practices and behaviours to planetary environmental injustices (Soja, 2010a, p. 31). Therefore, the tripartite multi-scalar framework addresses both the formal and informal mechanisms governing spatial relationships, highlighting the significance of spatial justice in fostering equitable urban spaces (Rocco, 2023).

### **2.2 Sustainable Development, Service Provision, and Urban Equity**

Despite progress in sustainable development, global inequalities persist in access to basic services such as water and sanitation. Currently, 2.2 billion individuals lack access to safely managed drinking water, while 3.5 billion lack proper sanitation, and an

additional 1.5 billion lack basic hygiene services (UN, 2023). Inequalities in water and sanitation<sup>4</sup> access persist globally, with many urban centres across Eastern Europe, Latin America, Asia, and Africa still lacking essential water services (Koop & Van Leeuwen, 2017). While access to clean water and sanitation has improved for rural populations in recent decades, the situation in urban areas has either stagnated or worsened (UN, 2023). Similarly, waste management in cities presents large discrepancies when compared globally: The global average municipal solid waste collection rate varies from 50% to almost 100%, and the global average rate of municipal solid waste management in controlled facilities is between 18% and 94% (UN, 2022). In addition, cities in Central and Southern Asia and sub-Saharan Africa present a large gap between the collection rate and management of waste, indicating that many municipalities still rely on dumpsites (UN, 2022). The lack of access to basic services is often compounded by the burdens of urban growth. Air pollution, for example, is associated with increased industrial activity and motor vehicle traffic (Amegah & Agyei-Mensah, 2017; Petkova et al., 2013). These global trends overlap and reinforce spatial inequalities across regional and city-level scales (Nijman & Wei, 2020).

At the city level, various scholars have shown that disadvantaged communities have lower access to urban services and infrastructure (Nicoletti et al., 2023; Pereira et al., 2019). Spatial inequality in service delivery is also a common feature in African cities (Adama, 2012; Cole et al., 2018; Oskam et al., 2021; Rodina & Harris, 2016). Inequalities in water access and usage are stark, with significant variations at the ward, town, and national levels (Cole et al., 2018). In addition, it has been shown that social factors, particularly water access and income, outweigh natural factors such as rainfall in influencing per capita water use (Cole et al., 2018). Disparities in access to water are also prominent within informal settlements, with higher socioeconomic status households more likely to have access to piped tap water and lower socioeconomic status households

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4 Editors' note: Compare Chapter 6 which deals with a more rural environment.

relying on inferior, often unsafe, water sources (Oskam et al., 2021). Similarly, the urban poor in African cities are also the ones bearing the burden of insufficient or lacking solid waste management<sup>5</sup>, including illegal waste dumping (Niyobuhungiro & Schenck, 2022; Polasi, 2018), and associated unhealthy living conditions (Kubanza & Simatele, 2016; Niyobuhungiro & Schenck, 2022). Moreover, growing evidence not only shows that the impacts of climate change push people and communities into further vulnerability (Kalina, 2020; Sultana, 2022) but also that sustainability transition interventions come to reinforce existing inequalities (Kraaijvanger et al., 2023; Sundaram et al., 2024).

In response to increasing urban inequalities over the past decade (Nijman & Wei, 2020), academics from various fields have turned their attention to questions of justice in cities, echoing old critical research scholarship (Harvey, 1973). Perhaps because distributive injustices clearly manifest in space, the distributive aspect of spatial justice has received more attention so far. The growing volume of data about urban activities, combined with an increasing computational capacity, also contributes to the prominence of distributive spatial studies. However, it is crucial to have a comprehensive perspective on spatial justice that considers the spatial processes through which injustices are (re)produced, not only through the lenses of distributive justice (how benefits and burdens are distributed across space and how space influences such distributions), but also procedural justice (how space influences representation in decision-making, and how decision-making sustains spatial inequalities) and recognition justice (how space contributes to oppression of people and communities across race, gender, and class, and how oppression shapes space for the benefit of a privileged minority).

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5 Editors' note: Chapter 5 discusses cases to show that this is a rural problem as well.

### 3. Case Study and Methods

#### 3.1 Locating eMbalenhle and Lebohang

The Govan Mbeki Local Municipality, situated in the southeastern part of Mpumalanga province and abutting Gauteng province, operates within a complex socioeconomic and environmental context. Approximately 150 km east of Johannesburg and 300 km southwest of Mbombela, the municipality covers a strategic location that influences its development and challenges. It is characterised by a mix of agricultural, rural areas, and urban conglomerates, including Leandra, the Greater Secunda, and Bethal, alongside the townships of eMbalenhle and Lebohang. This area has a significant industrial base, notably dominated by the petrochemical and mining sectors, primarily because of the presence of the Sasol complexes and the world's largest underground coal mining complex (Govan Mbeki Municipality, 2024a).

Govan Mbeki Municipality's economy is the fourth largest in Mpumalanga, contributing 10.9% to the provincial economy and 40.7% to the Gert Sibande district economy in 2021. However, despite its economic contributions, Govan Mbeki Municipality faces critical challenges in service delivery, which have been a concern for its residents and have led to interventions from the National Treasury and the Department of Cooperative Governance and Traditional Affairs. The municipality has been identified as one of the struggling municipalities in terms of meeting its service delivery obligations, which include managing a growing debtor's book and negotiating significant debts with Eskom and Rand Water, the electricity and water providers. To address these issues, a Financial Recovery Plan (FRP) has been implemented. The 2022/2023 report states that 87% of the activities of the FRP have been achieved, and further actions are planned for the 2023/2024 financial period (Govan Mbeki Municipality, 2024a). However, despite its economic achievements, the municipality fails to address the well-being of its most vulnerable residents. The townships of eMbalenhle and Lebohang are notably affected by declining service delivery standards in water, sanitation,

electricity, and waste management, which will be discussed in detail in Section 4. In addition, eMbalenhle and Lebohang have experienced a substantial increase in the growth of informal areas between 2019 and 2022, with the addition of 1,300 and 1,400 informal houses, respectively (Nova Institute, 2023b), further pressuring local urban service systems.

The Integrated Development Plan (IDP) of the Municipality indicates that the municipality is aware of the challenges with service provision, particularly in sanitation, water, and solid waste management: “People of Govan Mbeki, in particular those of Bethal/eMzinoni, have a right to get a better supply. A supply that is sustainable and qualitative” (Govan Mbeki Municipality, 2024b, p. 44). However, the expansion of informal housing amid deteriorating access to essential services highlights a pressing issue of spatial injustice, which requires addressing not only the immediate service delivery concerns but also the underlying factors contributing to service deterioration. This is a complex challenge that demands focused action through targeted policies and collaborative interventions in a united effort from the multiple levels of government, the private sector, and community stakeholders, keeping in mind that there could be factors, for example, political, economic, and social reasons for people migrating to these two communities, that may be difficult to address through government policy. Being part of Mpumalanga, the Province’s Spatial Development Framework (PSDF) is also relevant for the municipality of Govan Mbeki Municipality. It operates within the legislative context established by the Spatial Planning and Land Use Management Act (Act 16 of 2013) (SPLUMA)<sup>6</sup> (RSA, 2013), designed to rectify historical spatial inequalities and encourage sustainable settlement patterns. Although the PSDF invokes the principle of spatial justice only twice, its integration in the framework could be the utilising for more elaborate policy articulation. The PSDF’s principle of spatial justice outlines the need to correct historical spatial inequalities by including previously marginalised areas. It emphasises the importance of restoring equitable land access to those who have been historically

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6 Editors’ note: Discussed in Chapter 9.

disadvantaged. Moreover, the PSDF advocates for a systematic approach to the incremental upgrading of underdeveloped areas and the establishment of secure tenure Mpumalanga Province, 2019). Mpumalanga's PSDF and other relevant policy documents are further analysed in the results section below.

### **3.2 Understanding eMbalenhle and Lebohang**

To investigate the dynamics of service distribution disparities (with a focus on four aspects: access to water, access to electricity, waste disposal, and housing), policy frameworks, and the recognition of community needs and identities, several methods are used. The methodological design integrates quantitative and qualitative data to construct a detailed picture of the current situation and shifts over time. The Nova Institute's General Household Survey (GHS) in 1,150 households across four communities establishes the baseline against which changes in service provision from 2013 to 2022 can be assessed. In-depth interviews with 46 households and focus groups provide rich narratives that reflect the diverse life experiences of the residents, highlighting their needs and how they perceive the impact of policy and service delivery on their daily lives.

A re-baseline study conducted in 2022 supplements the initial data, offering a comparative lens through which to view demographics, health and well-being, services and infrastructure, education, and safety and security indicators for both townships. This comprehensive reassessment enables a nuanced analysis of the progress or regress in key areas affecting spatial justice.

To address the disparities in service provision and their implications for justice, it is essential to explore not only the distributional dimensions of justice but also the procedural aspects that support these disparities. This exploration involves an examination of various policies that directly influence these issues. Amongst the policies reviewed are strategic documents and legislation with both broad and direct implications.<sup>7</sup>

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7 Editors' note: This is in line with the broad definition of policy used in Chapter 10.

The National Development Plan (NDP) (RSA, 2012) and the Govan Mbeki Integrated Development Plan (Govan Mbeki Municipality, 2024b), along with the Mpumalanga Spatial Development Framework (Mpumalanga Province, 2019), offer strategic guidance at the national, municipal, and provincial levels, respectively. Legal frameworks such as the National Environment Management: Air Quality Act (39 of 2004) (RSA, 2004) and the National Environmental Management Act (107 of 1998) (RSA, 1998), alongside the Air Quality Offsets Guideline (RSA, 2016), provide a national legal basis for addressing environmental concerns. Additionally, municipal bylaws and policies, exemplified by a limited selection discussed in this chapter, such as the Govan Mbeki Spatial Planning and Land Use Management, Public Participation, Electricity, and Control and Management of Informal Settlements bylaws, play a crucial role in shaping local governance and public engagement in these critical issues (see Table 6).

The third dimension of spatial justice, recognition, will be addressed by combining the survey results with the policy analysis by critically enquiring whether policy documents reflect or recognise the lived experience of residents.

After the presentation of the results of the analysis in the next section, the discussion within this chapter will engage in a critical dialogue on how the three dimensions of spatial justice – distributional, procedural, and recognition – are addressed or remain unmet within the policy and service delivery frameworks. The empirical data collected through the Nova Institute’s efforts, together with the policy analysis, supports our discussion, facilitating the examination of the interplay between urban planning, service provision, and the lived realities of communities in the shadow of industrial development.

**Table 6:** The documents applicable to the Govan Mbeki municipality accessed for analysis

<b>The National Development Plan (NDP)</b>	<b>Strategic</b>	<b>National</b>
Spatial Planning and Land Use Management Act	Statute	National
Govan Mbeki Integrated Development Plan	Strategic	Municipal
Mpumalanga Spatial Development Framework	Strategic	Provincial
National Environment Management: Air Quality Act, 2004	Statute	National
National Environmental Management Act, 1998. Air Quality Offsets Guideline	Statute	National
Govan Mbeki Spatial Planning and Land Use Management	Bylaw	Municipal
Public Participation	Bylaw	Municipal
Electricity	Bylaw	Municipal
Control And Management of Informal Settlements	Bylaw	Municipal

### 3.2.1 Demographics of eMbalenhle and Lebohang (Table 7)

The communities of eMbalenhle and Lebohang have experienced changes over nearly a decade, with data from 2022 revealing shifts in demographic and socioeconomic patterns compared to 2013. eMbalenhle, in 2022, saw a decrease in the average number of persons per household and a slight reduction in the number of households per stand, indicating possible shifts in living arrangements or population density. The working-age population (15 to 64 years) remains a majority, with a small uptick observed. Notably, the percentage of orphans, both maternal and double, has decreased, suggesting improvements in parental survival or effective orphan care strategies. IsiZulu and isiXhosa remain the predominant languages, reflecting cultural continuity. However, there is a marked increase in unemployment, rising to over half of the population, with nominal household incomes increasing slightly since 2013, but the median income has decreased.

## Development in the Anthropocene

While nominal mean household incomes in eMbalenhle and Lebohang have shown a slight increase or decrease, respectively, over the past decade, the real purchasing power of these incomes, when adjusted for inflation, reveals a significant decline. In eMbalenhle, the mean income rose marginally from R2,251 in 2013 to R2,464 in 2022, yet the median disclosed income saw a sharp decrease from R2,000 to R1,400 in the same period. Conversely, in Lebohang, both mean and median disclosed incomes decreased from R2,206 to R2,035 and from R1,500 to R1,450, respectively. This decline in median incomes is particularly alarming when considering inflation; the 2013 median income of R2,000 in eMbalenhle would equate to R3,157 in 2022, meaning that the current median income of R1,400 represents less than half of its former value, adjusted for inflation. Similarly, in Lebohang, the 2013 median income value of R1,500 should have been R2,368 in 2022, emphasising a significant rise in income poverty in both communities. Furthermore, the decrease in household sizes in both communities could impact the perception and reality of income poverty when analysing per capita incomes and comparing them to the StatsSA poverty lines.

**Table 7:** Key demographic data (point estimate) for Lebohang and eMbalenhle

	eMbalenhle		Lebohang	
	2022	2013	2022	2013
Number of persons per household	3.4	3.98	3.13	4.19
Number of households per stand	1.81	2.3	1.11	1.05
Age (mean)	28.15	26.48	29.06	26.69
age 15–64	68.91%	68.70%	66.90%	61.10%
Sex female	52.48%	50.10%	55.48%	52.40%
Orphans maternal	2.91%	5.90%	3.20%	8.00%
Orphans double	1.60%	2.40%	1.84%	3.10%

	eMbalenhle		Lebohang	
	2022	2013	2022	2013
main language isiZulu	66.09%	64.91%	91.74%	81.58%
main language isiXhosa	10.74%	7.58%	2.00%	1.69%
main language Sesotho	8.68%	9.10%	1.83%	4.95%
Employment economically active population % full-time employed	25.90%	30.30%	21.16%	28.70%
% male full time	12.14%		9.72%	
% female full time	8.18%		6.42%	
% unemployed	55.61%	58.80%	67.38%	60.50%
Mean nominal income of household (all sources) R1,000 = 49 euro	R2,463.58	R2,251.12	R2,034.81	R2,206.41
median	R1,400.00	R1,450.00	R2,000.00	R1,500.00
Lower bound poverty line (LBPL) (less than R945/month in 2022; R587 in 2013))	68.00%	55.90%	65.77%	75.00%
Perceived good health (scale 0–10)	7.14	7.10	7.55	7.10

Lebohang's households have also seen a reduction in size, and most of its residents are of working age, although the percentage has decreased slightly since 2013. The female population has seen an increase, and the employment rate has improved marginally. IsiZulu has become even more prevalent as the main language. The household median income has seen an increase, yet a significant proportion of the population, almost 66%, remains below the lower-bound poverty line. Interestingly, perceptions of good health in Lebohang and eMbalenhle have remained relatively stable (Nova Institute, 2023b).

### **3.3 Interventions in eMbalenhle and Lebohang through Sasol Secunda's air quality offset plan**

Sasol, a global energy and chemical company, operates one of its largest facilities in Govan Mbeki Municipality. The implementation of air quality offset measures by Sasol emerges from a necessity to adhere to the Department of Environmental Affairs' revised Minimum Emissions Standards (MES) under the National Environmental Management: Air Quality Act (NEM: AQA)<sup>8</sup>. These standards aim to curtail atmospheric emissions and mitigate their impact on public health and the environment. While Sasol's initiative is positioned within the legislative mandate to improve air quality around its industrial operations, including the townships of eMbalenhle and Lebohang, the effectiveness of these measures and aims, as described in their offset plans, needs critical examination.

For companies operating within South Africa, compliance with the NEM: AQA, and its amendments is crucial. The Act provides a proactive approach to managing air quality, requiring businesses that emit pollutants to obtain atmospheric emission licenses (Chapter 5). This process involves assessing the potential impact of their operations on air quality and implementing necessary mitigation measures to minimise adverse effects. Companies must meet national Minimum Emission Standards (MES), adhere to specific pollutant emission limits, and submit detailed reports on their emissions. In some instances, companies may apply for a postponement to the compliance timeframes for the MES. There are three relevant types of applications (RSA, 2016):

- an application for postponement of MES-compliance timeframes anywhere in South Africa.
- an application for a variation of a license (that could facilitate increased emissions) anywhere in South Africa.
- an application for an atmospheric emission license for a new listed activity in areas where National Ambient Air Quality Standards are being or are likely to be exceeded. The portion of South Africa where this application is relevant

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8 Editors' note: Discussed in some detail in Chapter 10.

to offsets is formally declared Priority Areas. Areas with “poor” or “potentially poor” air quality were formally listed in relevant tables in the proposed 2012 National Framework and in discussions of areas with poor or potentially poor air quality in the published National Framework for Air Quality Management in the Republic of South Africa 2017.

In a move towards innovative environmental protection, the introduction of air quality offsets in 2016 in terms of NEMA has allowed companies to invest in projects that improve air quality in communities near their operations. These offsets are not meant to replace direct emissions reduction caused by industry or regulatory enforcement mechanisms but serve as supplementary measures for achieving broader air quality and environmental goals (RSA, 2016; 2004). The guideline sets a structured approach for the application and implementation of air quality offsets. It specifies the scenarios under which offsets become relevant, such as when entities seek postponements to meet emissions standards when they are applying for a variation of licence or operate in zones that fail to meet ambient air quality standards. The guideline stipulates that “an offset is an intervention, or interventions, specifically implemented to counterbalance the adverse and residual environmental impact of atmospheric emissions to deliver a net ambient air quality benefit within, but not limited to, the affected airshed where ambient air quality standards are being or have the potential to be exceeded and whereby opportunities and need for offsetting exist”.

Air quality assessments highlight that, beyond industrial emissions, other sources such as domestic fuel burning, burning of domestic waste, veld fires, vehicle emissions, and mine dumps contribute to deteriorating ambient air quality. These non-industrial emissions sources, because of their complex nature and the cross-departmental mandate for their management, pose challenges. Offset programmes offer an opportunity for collaborative efforts between the government and polluting industries to address these challenges and enhance air quality.

Sasol's air quality offset plan states that it is developed in alignment with the 2016 Air Quality Offsets Guideline (RSA, 2016). It involves a series of interventions aimed at reducing particulate matter (PM) and sulfur dioxide (SO<sub>2</sub>) emissions. The plan outlines a blend of community-based projects and innovative solutions targeting emissions from non-industrial sources. However, critical voices highlight concerns regarding the sufficiency of these measures in addressing the root causes of pollution and their alignment with the broader goals of environmental justice and spatial equity (CER, 2021).

Key interventions in eMbalenhle include veld fire management to reduce PM emissions, the insulation of Reconstruction and Development Programme (RDP) (Nelson Mandela Foundation, 1994) homes to decrease the reliance on solid fuel burning, and a comprehensive campaign to establish air quality and quality of life baselines. These measures are designed not only to directly improve air quality but also to enhance the overall living conditions of the community members. In Lebohang, the plan tested innovative solutions to local challenges, such as dust suppression on unpaved roads (its impact proved limited, so this intervention was not further developed) and the exploration of insulation techniques for informal housing. A stove swap programme was introduced to promote cleaner cooking methods, aiming to reduce household PM emissions further (Sasol, 2017).

The plan, spanning from 2015 to 2020, details specific timeframes for each intervention, aligning with the complexity and preparatory needs of the activities. For example, annual veld fire management activities are timed to precede the dry season, while the insulation of solid fuel-burning RDP homes is scheduled to achieve significant coverage (75%) by 2020 (with the remaining 25% to be completed in the subsequent 12 months). The testing of innovative solutions in Lebohang was set to begin with feasibility studies, with the potential for a broader rollout of successful interventions (Sasol, 2017).

An evaluation conducted in 2023 demonstrated the effectiveness of one of these interventions that formed part of

the broader air quality programme, namely, the insulation of RDP homes together with swapping a coal stove for a liquefied petroleum gas (LPG)<sup>9</sup> stove and heater. The assessment of this household intervention used both quantitative and qualitative methods, including a comprehensive survey of 507 households, in-depth interviews with 23 households that had reintroduced coal, and additional telephonic interviews with a control group that had yet to receive the intervention by 2022. One of the standout findings from the study was that 97% of the households surveyed remained free from coal use, illustrating the initiative's success in mitigating reliance on solid fuels for heating. This figure is particularly significant when considering the thermal comfort and health benefits associated with reducing indoor air pollution. The sustained absence of coal use, even amongst new occupants of the intervened houses, further emphasises the lasting impact of the interventions. The programme also highlighted the role of supplementary LPG equipment in facilitating the transition away from coal. The provision of LPG stoves and heaters was met with high satisfaction, as these alternatives effectively replaced coal for cooking, water heating, and space heating, thus contributing to a significant reduction in emissions. Moreover, the project's phased approach to intervention, from initial research and development to full-scale implementation, played a crucial role in its success. By adopting a staged strategy, Sasol was able to refine and optimise the interventions based on real-world feedback and trials, ensuring that the solutions were practical and effective. The Sasol Secunda air quality offset programme stands as a good example of how air quality offset projects can be successfully implemented to address non-industrial emissions in dense, low-income settlements. Its achievements in significantly reducing reliance on coal, enhancing indoor air quality, and improving thermal comfort within homes contribute meaningfully to the Sustainable Development Goals (Murray et al., 2023).

Sasol's air quality offset plan has initiated concrete interventions in the surrounding communities, driven by the

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9 Editors' note: Discussed with picture in Chapter 4.

necessity to comply with environmental regulations. These interventions have included comprehensive studies aimed at understanding the impacts of such measures, thereby contributing valuable data for assessing service distribution disparities, policymaking processes, and the recognition of diverse community needs and identities.

## **4. Results**

Schlosberg (2004) maintains that the three dimensions of spatial justice work together. With this in mind, the three dimensions are first scrutinised and then considered in an integrated manner in the discussion section. First, using the results of the Nova reports (Nova Institute, 2023a ; 2023b; 2014), the disparities in service distribution are presented as they are a crucial indicator of the distributional dimension of spatial justice. Next, a more in-depth examination of the policies reveals that while spatial justice is part of the policy narrative, its implementation is lacking. The third dimension, recognition, is addressed throughout both sections.

### **4.1 Service Distribution Disparities**

#### *4.1.1 Access to water*

The water service in eMbalenhle experienced a decrease in quality, as indicated by a reduction in satisfaction scores from 2013 to 2022. In 2022, only 88.23% of households reported having a tap or borehole in their yard, a significant decrease from nearly universal access in 2013. The water delivery failure rate increased, leading to reports of toilets not being able to flush because of water unavailability. Respondents in the surveys expressed dissatisfaction with the frequency and reliability of water supply, noting instances where water was unavailable for several days. Similar trends were observed in Lebohang, with the satisfaction score for water services dropping significantly. The proportion of households with access to a tap or a borehole in their yard decreased from 99% in 2013 to 80.71% in 2022. Water supply was reported to be unavailable for an average of 5.85 days in the last 90 days before the survey, indicating a high

level of service delivery failure. Respondents complained about the lack of communication from service providers regarding water cut-offs and the sometimes poor quality of the water supplied (Nova Institute, 2023a; 2014).

Across the municipality, there has been a notable advancement in the provision of piped water, with access extending to 107,191 households, achieving 98.4% coverage. This significant improvement emphasises that the vast majority of residents now enjoy the benefits of direct water access. However, 1.6% of households, amounting to 1,704 homes, remain without this essential service. This achievement contrasts sharply with the situations in eMbalenhle and Lebohang, where, despite the increase in households receiving water services, satisfaction levels have declined. This discrepancy is particularly pronounced in areas witnessing the growth of new informal settlements.

**Table 8:** Key indicators water supply services (QoL Surveys Nova 2022 and 2013)

	eMbalenhle		Lebohang	
	2022	2013	2022	2013
Satisfaction with water (scale 0-10)	7.24	7.60	5.93	7.68
% hh piped water into the house	54.94%	26.70%	54.67%	59.60%
% hh tap or borehole in yard	88.23%	100.00%	80.71%	99.00%
% hh communal pipe/borehole outside yard	10.31%		15.32%	
% hh from a neighbour	1.46%		1.92%	
Water supply days unavailable per hh (last 90 days)	2.84	0.49 (last 30 days)	5.85	0.95 (last 30 days)
Access to flush system in yard (% hh)	84.86%	100.00%	74.57%	100.00%

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	eMbalenhle		Lebohang	
	2022	2013	2022	2013
% flush toilets always working	75.70%		87.80%	
Unventilated pit latrine as main toilet % hh	6.83%	0.00%	15.15%	0.00%
No toilet in yard % hh	6.38%	0.00%	9.97%	0.00%
Access to waste collection service % once a week collected	74.71%	97.00%	74.35%	100.00%

(hh = household)

### 4.1.2 Access to electricity

The townships of eMbalenhle and Lebohang have been experiencing a notable decline in access to electricity, particularly in new informal areas. This troubling trend is further exacerbated by significant electricity outages that residents encounter, with eMbalenhle reporting an average of 85.49 days and Lebohang 59.23 days out of 90, with outages lasting an hour or more. These statistics reflect the acute challenges posed by load shedding – a controlled power outage measure implemented by South Africa’s power utility at the time to prevent the grid from being overwhelmed.

In eMbalenhle, the percentage of households using electricity for any purpose dwindled from 90.89% in 2013 to 84.36% in 2022. This decrease is not only statistically significant but also impactful, as electricity is the main energy source for cooking in most households, a basic daily need. Concerns raised during group interviews about the quality and safety of electrical connections emphasise the precarious situation that residents face, particularly in light of the increased service delivery failures. Lebohang mirrors these issues, with a marked decrease in the proportion of households with access to electricity, from 98.46% in 2013 to 76.29% in 2022. This reduction in access

heightens the vulnerability of the community, most of whom rely on electricity as the primary energy source for cooking. Load shedding's impact was deeply felt here as well, disrupting daily life and highlighting a significant infrastructural challenge (Wentink, 2023).

The phenomenon of load shedding in South Africa is indicative of broader systemic issues, including ageing infrastructure, increased demand for power, maintenance backlogs, and financial constraints faced by the power utility, exacerbated by numerous accounts of corruption and “state capture” (Wentink, 2023). The resultant outages were not only inconvenient but also disrupted economic activities, affected the delivery of other essential services, and posed safety risks. The issue becomes more problematic in informal settlements, where unlawful ad hoc and often unsafe electrical connections put communities at risk of fires and other hazards.

**Table 9:** Key indicators: electricity supply services (QoL Surveys Nova 2022 and 2013)

	eMbalenhle		Lebohang	
	2022	2013	2022	2013
Electricity use (all applications) % households using electricity	84.36%	90.89%	76.29%	98.46%
Electricity service failure MEAN days per hh failure ≥ 1 hour (last 90 days)	85.49%		59.23%	
Electricity as primary energy for cooking % households cooking	81.36%	84.26%	69.75%	83.33%

#### 4.1.3 Waste disposal<sup>10</sup>

Waste management is a critical component of municipal services, impacting environmental sustainability and public health. In eMbalenhle and Lebohang, a marked disparity

<sup>10</sup> Editors' note: Waste is extensively discussed in chapter 5, but mostly in a rural context.

emerges in the effectiveness of waste disposal services between the years 2013 and 2022, as shown in Table 10.

In eMbalenhle, the situation appears particularly challenging. The data from 2022 reveals that 64.83% of households reported waste collection failure more than once a month, a substantial rise from 13.8% in the last 30 days of 2013. This suggests not only a service deterioration over time but also highlights systemic inefficiencies within the waste management framework. The practice of domestic waste burning, which was reported by 15.23% of households in 2022, further emphasises the lack of reliable waste disposal mechanisms. This is reflected in the decrease in satisfaction with “getting rid of domestic waste,” which scored 5.57 on a scale of 0 to 10, representing a relatively moderate level of dissatisfaction amongst the residents. Contrastingly, Lebohang exhibits a more positive trajectory in waste management services. While there was a slight increase in waste collection failures, reported by 7.48% of households in 2022 compared to 4.6% in the last 30 days of 2013, the township demonstrates a more robust waste management service relative to eMbalenhle. Additionally, the frequency of domestic waste burning in Lebohang is significantly lower, with only 2.76% of households resorting to this method in 2022, indicating a higher efficacy in waste removal services as opposed to eMbalenhle. Satisfaction with waste disposal in Lebohang is comparatively higher, with a score of 6.00 on the satisfaction scale.

It is noteworthy that the percentage of households that benefited from regular waste collection services once a week stood at 74.71% for eMbalenhle and 74.35% for Lebohang in 2022. This figure, while representing a majority, nonetheless signifies that approximately one in four households do not receive this basic service on a consistent weekly basis. The data presents a complex picture of waste disposal services within the townships. While Lebohang shows relative stability and better performance in waste management services, eMbalenhle’s situation calls for urgent attention and improvement. The decline in service delivery quality over the years in eMbalenhle not only jeopardises the living conditions but also poses

significant environmental and health risks, as is illustrated by a reaction from one of the respondents:

I have a problem because some people use buckets to help themselves and they throw that human waste where we throw away waste, when we go there to look for wood and papers to make fire, we handle human waste with our hands. People are helping themselves inside their houses now.

**Table 10:** Key Indicators: waste management services (QoL Survey Nova 2022 and 2013)

	eMbalenhle		Lebohang	
	2022	2013	2022	2013
Waste collection failure (last 90 days) % more than once a month	64.83%	13.8% last 30 days	7.48%	4.6% last 30 days
Satisfaction with “getting rid of domestic waste” (Scale 0–10)	5.57	6.26	6.00	7.65
Domestic waste burning % hh burning	15.23%		2.76%	
Regular domestic waste burning % hh	10.60%		1.55%	

#### 4.1.4 Housing

Between 2013 and 2022, the townships of eMbalenhle and Lebohang have seen significant growth in informal housing, which is a key indicator of the increasing pressure on existing urban infrastructure and services. In eMbalenhle, approximately 6,792 new informal structures have emerged, constituting around 13.08% of the estimated 51,918 households in 2022. The southwest region of eMbalenhle, particularly the Marikana area, has experienced the bulk of this expansion. In Lebohang, the growth has been even more pronounced relative to its size, with about 2,604 informal houses being added, making up roughly 23.62% of the total 11,025 households in 2022. This growth

is concentrated in Extension 16 to the southeast (Murray et al., 2023).

This escalation in informal housing emphasises the challenges faced by these communities in terms of housing, employment, and access to basic services. The quote below from an interview with a resident is clear:

But the shack will always be the shack, when it is raining, there will be leaking inside the shack; when there is wind, the wind comes and put all the dust inside, and your furniture and clothes will be full of dust... When it is cold, it is cold, and when it is hot, it is hot. It goes along with the weather..... our houses want to move or fly away if there is a wind.

The demographic and socioeconomic data from 2022 reflect these underlying pressures, with high unemployment rates and a significant portion of the population living below the poverty line. Yet, despite these difficulties, the perception of good health remains relatively positive, indicating resilience amidst these shifts.

### **4.2 Policy and Processes**

Although references to 'spatial justice' are sparse, the principles supporting it are apparent throughout policy documents at several levels (from the National Development Plan (NDP) to the Provincial Spatial Development Frameworks and local Municipal Integrated Development Plans (IDPs)), suggesting a commitment to rectifying spatial inequities (Govan Mbeki Municipality, 2024b; Mpumalanga Province, 2019; RSA, 2004).

The Spatial Planning and Land Use Management Act (SPLUMA), enacted in 2013 and implemented in 2015, is one of the more crucial legislative instruments to propel the country towards spatial transformation. SPLUMA aims to dismantle the unequal spatial patterns of the past by putting forward a more socially inclusive approach to service delivery. Next to putting the principle of spatial justice high on the agenda, SPLUMA puts forward several other principles and authorises the Minister to

prescribe norms and standards that need to be included on all policy levels to ensure land development and land management that is fair and just (RSA, 2103, pp. 19–20).

SPLUMA includes the principles of spatial justice and operationalises them through its new spatial planning system, placing local municipalities at the forefront of spatial planning and decision-making related to land use management. This role of local governments is also central in effectuating the vision laid out by the NDP for addressing South Africa's socioeconomic issues through spatial transformation (RSA, 2013). However, as discussed later, putting the heavy burden on a governmental level that faces structural capacity problems, corruption, and mismanagement is problematic. SPLUMA pushes the integration of spatial justice principles within local legislative frameworks (RSA, 2013, p. 17), such as bylaws of the Govan Mbeki Municipality. Yet, this commitment often stumbles in the face of practical capacity and implementation challenges at the local level.

The electricity bylaw primarily addresses the distributional aspect, aiming to ensure electricity provision to all residents. However, it falls short by focusing mainly on procedural and technical aspects of electricity supply without considering the spatial disparities that affect access to electricity. The challenge of delivering services uniformly across the municipality is not unique to electricity but extends to all municipal services. This issue is highlighted in the South African Human Rights Commission (SAHRC) report, where the Govan Mbeki municipal manager acknowledges several challenges, such as the difficulties in developing bulk infrastructure for new settlements and managing waste and landfill inadequacies. The electricity bylaw fails to address the specific needs of different community groups, especially those in informal settlements and rural areas, who are often marginalised in service delivery strategies. Additionally, disputes with Eskom over high electricity rates exacerbate the precarious situation of informal settlements, leading to frequent power outages (SAHRC, 2022, pp. 36–44).

The relevant bylaw public participation specifically mentions that in case the municipality is going to decide on the provision of services through service delivery agreements, the public must be invited to submit their views, but while this aims to ensure community engagement<sup>11</sup>, this bylaw risks falling short in practice (SAHRC, 2022). The control and management of informal settlements bylaw, with its focus on the classification and management of informal settlements, including the eviction and demolition of structures deemed unauthorised, is technocratic and overlooks the nuanced realities and needs of those living in informal settlements. The procedural guidelines for dealing with land invasions, evictions, and the demolition of unauthorised structures do not align with the broader need for in-situ upgrading of informal settlements as advocated for in, for example, the National Housing Code. The bylaw embodies the very contradictions which Huchzermeyer (2009) highlights as a gap between the recognition of informal settlements as integral parts of urban environments that could potentially positively contribute to society and the prevailing perceptions and administrative practices that view them as problems to be eradicated.

South Africa does not have a Corporate Social Responsibility (CSR) act, and when notions of CSR are embedded in legislation, they are inadequate and fragmented (Kloppers, 2020, p. 103). Conversely, it is worth noting that there are instances where legislation provides incentives for businesses to engage in activities that produce additional betterment of society or public benefits. Relevant to this chapter is the 1998 NEMA Act<sup>12</sup> (RSA, 1998) and, more specifically, the 2016 implementation of air quality offsets (RSA, 2016). As stated previously, the offset scheme does not absolve businesses of their legal responsibilities; however, it does provide the means to establish initiatives that can directly improve the standard of living, particularly for the most disadvantaged members of society. In consultation with local authorities, businesses

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11 Editors' note: We want to remind the reader of the IAP2 Spectrum of Public Participation and related ladders of participation discussed in Chapter 9.

12 Editors' note: The NEMA regime is discussed in detail in Chapter 10.

are permitted to determine their own offset implementation strategies. The Sasol plan outlines unambiguous principles (Sasol, 2017). Sasol opted to implement several tangible interventions in eMbalenhle and Lebohang, including techniques for insulating informal housing, implementing cleaner cooking methods, and veld fire management. In addition to allocating resources towards education and awareness initiatives, ongoing efforts are being made to promote STEM (science, technology, engineering, and mathematics) career pursuits amongst students through the awarding of prizes. Despite the existence of research indicating a shortage of STEM professionals (Chrysostome et al., 2019), the direct impact of these investments on the quality of life in disadvantaged communities remains debatable. However, these endeavours do demonstrate that private organisations such as Sasol are performing a portion of the responsibilities that we would anticipate from a local government. The implementation of robust CSR legislation has the potential to enhance the private sector's commitment to societal obligations. This can be established in a framework law in a more tangible and legally grounded manner (Kloppers, 2020, p. 103).

Our analyses have revealed various concerns pertaining to justice, with a recurring theme being the failure to adequately establish recognition justice. Although the NDP and SLPUMA explicitly put forward the concept of spatial justice in their aim to rectify the past injustices of apartheid, a clear roadmap and implementation strategies are missing. It is evident that service delivery problems mostly affect the most vulnerable communities, which are also the most affected, whereby it needs additional acknowledgement that using household-level data hides the inequalities that are present within these households, such as gender or age inequalities. Additionally, procedures and so-called participatory processes fail to adequately address how these groups may effectively express their frustrations and concerns.

## 5. Discussion

In the introductory section of this chapter, we emphasised the significance of incorporating the notion of spatial justice into spatial planning to facilitate transformative change. The increasing number of essays and scholarly works on spatial justice, the concept of a just city, and the idea of just transitions, as well as their incorporation into the vision and policy documents of international organisations such as the UN, acknowledge the conviction that spatial justice has the potential to be a strong framework for promoting a more equitable and fair approach to urban development. This framework can effectively integrate social and environmental justice. Therefore, it is unsurprising that similar principles are also permeating the policies and legislative instruments of subnational governments, such as provinces and municipalities. Nevertheless, the analyses conducted in this chapter, which commenced with an exploration of the disparities in the provision of services in eMbalenhle and Lebohang and subsequently delved into the policies that influence these disparities, have unequivocally demonstrated that despite explicit policy involvement, we are still far from attaining a more equitable living environment. This concluding section clarifies essential factors that impede the execution of spatial justice principles and argues that the existence of spatial justice as a comprehensive framework is contingent upon the presence of a well-developed implementation strategy, active involvement of local governments, adequate human and financial resources, and commitment from the private sector rooted in concern for society. Commitment to planetary well-being values should be part of industries' corporate identity and be strived for, not only in the context of regulations such as keeping environmental and social licenses to operate, but also through voluntary contributions as part of a responsible ESG corporate culture (Bai et al., 2024). Four aspects are discussed in more detail: (1) the critical issue of human capacity, financial constraints, and corruption; (2) the historical legacy of apartheid; (3) the ambivalent role of the private sector and (4)

the need to move from policy intention and fluffy programme writing to evidence-based planning.<sup>13</sup>

### **5.1 Critical issues of human capacity, financial constraints, and corruption**

Palmer et al. (2017) acknowledge that South Africa is a capable state, but they also recognise that this capability is fragile. This fragility is evident in the difficulties that governments face in consistently delivering services and effectively addressing the negative consequences of apartheid rule. The South African democratic system is presently confronted with challenges of corruption, as well as concerns regarding the integrity and effectiveness of the government. However, the authors believe that at the local level, the municipalities have the necessary competencies to take the country forward post-apartheid. Initially, there existed environmental capacities, encompassing thriving urban and commercial agriculture economies, as well as a substantial population of affluent individuals, notwithstanding racial and regional disparities. Urban municipal governance systems that have evolved over several decades or even centuries and are thus robust can be redirected to foster democracy and facilitate economic progress. The national ministry specifically focused on municipalities, formulated novel policies for local administration to promote development, and overhauled organisational cultures to prioritise poverty eradication strategies (Palmer et al., 2017).

Presently, it is evident that numerous local governments, with Govan Mbeki Municipality serving as a prominent illustration, are facing a significant deficiency in sufficiently skilled personnel (Huchzermeyer, 2009; Pieterse, 2021; Sartorius & Sartorius, 2016). The issue is further exacerbated by the inconsistent and insufficient allocation of funds towards capacity-building. Consequently, a significant portion of the city's responsibilities are frequently outsourced.

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13 Editors' note: Closely related to evidence-based or evidence-informed policymaking discussed in Chapter 10.

Nevertheless, consultancy companies also face the same issue of limited capacity.

The municipality of Govan Mbeki has been subjected to legal action because of the ongoing disagreement with Eskom on electricity supply and the municipality's failure to pay financial obligations, resulting in power outages. Municipalities are insufficiently overseeing their resources. The South African Human Rights Commission (SAHRC, 2022) explains that the existence of corruption exacerbates the strain on these resources, resulting in the diversion of essential funds from the development of services and facilities. This contributes to the overall sentiment of the residents, who are very distrustful of the government, as becomes clear by the following statement made by one of the residents:

I blame the municipality. The municipality is the one that must come and collect waste here in the community. And if they do not come, we are also able to do other things and clean up in the community.

Greffrath and Van der Waldt (2016) contemplate whether, in the current situation, whereby the state is dysfunctional, self-help governance could be a temporary solution. Self-help governance refers to the practice of communities helping themselves. While this approach can assist communities in addressing immediate challenges, it is not a long-term solution. It necessitates communities to effectively mobilise and collaborate with other entities, such as the state or private actors. However, it cannot absolve the state of its responsibility.

## **5.2 Historical legacy and spatial embeddedness and the (un)capable state**

Today's situation cannot be understood without acknowledging the legacy of the apartheid regime and colonial practices before that. Its influence continues to reverberate in the present day, both in terms of spatial structure and governance practices.

The National Party (NP) took power in 1948 and further codified and intensified existing racial discrimination, resulting

in the passage of undemocratic and racist legislation such as the “Natives Land Act” (1913), “Natives Trust and Land Act” (1936) and “Natives (Urban Areas) Act (1923).” The “Group Areas Act” (1950) was critical in urban planning since it limited distinct demographic groups to designated areas, resulting in terrible results. The division of the state was a cornerstone of the government’s aim of ensuring white supremacy. Urban planners developed plans for the ‘perfect apartheid city’ that were adapted to the local geographical circumstances (Newton, 2008). These pieces of legislation and approaches have fundamentally influenced the spatial distribution of economic opportunities and wealth, on the scale of the country and on the more local scales (Sartorius & Sartorius, 2016). It is not surprising that when discussing justice, the NDP, SPLUMA, the provincial and local development plans put reparation and rectifying the injustices of the past central. However, the justice question cannot limit itself to reparation. Justice needs to be anchored in systems that allow structural and long-term change. If spatial justice is included in policy, it must be undertaken by recognising “the inherent spatiality of the processes that (re)produce social inequalities within and across regions” (Madanipour et al., 2022, p. 810) and over longer periods. These processes must “be recognised as intrinsic to public policies of resource allocation, market investment decisions, and individual and group life trajectories” (Madanipour et al., 2022, p. 810). Thus, achieving spatial justice cannot be achieved by only rectifying past injustices but requires a sustained commitment to the different tenets of spatial justice (distributional, procedural and recognition).

Next to the historically embedded spatiality of injustice, the municipal organisation and processes are also still impacted by history. Rural municipalities, in particular, had little organisational capacity from the start, and the national government either failed to give or was incapable of providing the necessary support in and after 1994 (Palmer et al., 2017). As argued above, municipal efficiency, technical knowledge and governance capacity need urgent improvements, together with

fighting corruption and nepotism (Greffrath & Van der Waldt, 2016; Huchzermeyer, 2009; Sartorius & Sartorius, 2016).

### **5.3 The ambivalent role of the private sector**

Neoliberal principles have permeated different aspects of society, including spatial planning. Within a neoliberal paradigm, space is a commercial asset. Its value, particularly for investment and development, is determined by factors such as its location (Tasan-Kok & Baeten, 2012). Cities and places try to brand themselves to attract international companies, investors, and higher-income classes in the (global) competition for growth and wealth, turning urban landscapes into places for capital accumulation and socioeconomic difference. Companies are strong stakeholders and powerful negotiators that frequently secure advantageous conditions by claiming to promote job creation and economic prosperity. The private sector can likewise generate opportunities by recognising its potential influence. Incorporating the private sector into equitable and environmentally sound urban development and service provision can manifest in several forms. Only a few potential options are examined here.

Sasol's air quality offset programme illustrates how a legal framework can direct private actors towards creating public benefits. The NEMA, by making the air quality offset approach possible, stimulates companies to engage in community-based projects to improve the direct quality of life of residents. However, these initiatives do not address the root causes of the injustices but are merely mitigating their effects. Kloppers (2020) argues that South Africa requires more comprehensive CSR legislation for companies to take up their social responsibility. The present voluntary character of CSR results in fragmented and occasionally superficial involvement (Kloppers, 2020). However, it remains uncertain to what extent the implementation of a legal framework may provide a more organised and sustainable contribution of private companies to societal well-being. Another point of concern, as explained below, is that corporate involvement in local development should be grounded in evidence. This means that

the interventions funded through CSR should not only focus on educational and training initiatives or awards but should also have a direct and measurable impact on the quality of life of the local communities.

Palmer et al. (2017), when describing what a capable state could look like, are supportive of partnerships between the private sector, government, and civil society. They argue that the private sector could potentially play a role in compensating for municipal capabilities, especially in those areas where the state or the local government lacks capacity and resources. As we have discussed above, patronage, lack of capacity, also with service providers and mismanagement, raise doubts about the success of these partnerships. Thus, these partnerships need strict guidelines that define roles, expectations, and accountability mechanisms to ensure that the outcomes are equitable and beneficial to all, especially the underprivileged communities (Palmer et al., 2017).

#### **5.4 From policy intentions to evidence-based planning**

The measures implemented by Sasol as part of the air offset programme encompassed both tangible spatial solutions and the enhancement of human capacity through training programmes and school awards, amongst other initiatives. While acknowledging the importance of improving human capital, as evidenced by a significant shortage of STEM professionals and adequate expertise within both municipalities and consulting firms that frequently serve as subcontractors for these local governments, the primary requirement is to implement specific and quantifiable interventions.

These pragmatic interventions emphasise the feasibility of sustainability transformations and their potential to enhance residents' lived experiences immediately. Measurable impacts are crucial, as they enable municipalities and governments to establish stringent regulations that firms can effectively implement through programmes such as air offset programmes and CSR initiatives. The importance of such measurability is highlighted by findings from Nova's surveys, emphasising

the need for well-defined protocols for continuous evaluation and monitoring.

## 6. Conclusions

Starting from the very tangible outcomes of service delivery failure in eMbalenhle and Lebohang, two townships in the Govan Mbeki Municipality, this chapter has looked into *if* and *how* spatial justice principles have been integrated into policy and implemented in reality.

The pursuit of spatial justice necessitates a dual approach: addressing historical injustices while simultaneously tackling the pressing, everyday concerns of people. Urban policies should not only focus on long-term visions but must also consider the immediate realities and hardships faced by vulnerable communities. Thus, in policymaking and planning, a balance must be struck between rectifying past wrongs and ensuring the current well-being of all city dwellers (and especially the marginalised communities) on the one hand and developing a long-term vision that is anchored in principles of sustainability and justice on the other. The current policies are very good in describing the long-term visions and the principles on which these are based, but fail to translate these into actionable plans and legislation, as is illustrated by the several bylaws that fail to make a real difference on the ground.

Secondly, establishing a more diverse range of partnerships could potentially support the implementation of spatial justice aspects. The Sasol example is but a first experiment. New forms of collaboration amongst the state, private sector, and civil society could shape preferred development or act on urgent challenges that the government, by itself, is incapable of tackling. However, it will be crucial to ensure that these public-private partnerships are structured in such a way (with tangible and measurable deliverables) that private enterprises contribute meaningfully to public welfare.

Thirdly, capacity-building on the local level is essential, as emphasised by Palmer et al. (2017), the intrinsic capabilities within South African municipalities do exist. However, these

capabilities need to be harnessed through adequate training, resource allocation, and national support to empower local entities to overcome mismanagement, service delivery failures, corruption, etc.

A final aspect that will also contribute to overcoming the capacity challenges at the local level is the need to rethink governance structures, whereby transparency (enabling accountability and responsibility) and participation need to be central. Urban governance should move beyond traditional frameworks to embrace innovative, participatory models that engage communities directly in the decision-making processes affecting their lives, ensuring that policies and plans address the diverse needs of urban populations, especially the underprivileged.

### **Declaration of AI and AI-assisted technologies in the writing process**

During the preparation of this work, the author(s) used *Grammarly*, *Quillbot*, and *GPT-4* to improve the readability and language of the chapter. After using these tools, the authors reviewed and edited the content as needed. The authors take full responsibility for the publication's content.

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