

ARTICLE

# Infrastructural Violence, Environmental Injustice, and Decolonial Repair: The Case of South Durban Basin

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## Abstract

This article connects infrastructural violence to environmental injustice in the South Durban Basin, the industrial hub of the Durban metropolis in South Africa, where escalating ecological difficulties have negatively impacted living standards. The combination of the racially insensitive apartheid regime in South Africa and the harmful effects of toxicity requires a decolonial repair perspective founded on egalitarian dialogue and the inclusion of affected viewpoints and participation. In advocating for this repair framework, this article calls for horizontal discussions that thoroughly examine these issues, which can subsequently facilitate equitable environmental policies, regulations, and laws.

**Keywords:** decolonial repair; environmental injustice; infrastructure; South Durban Basin; toxicity

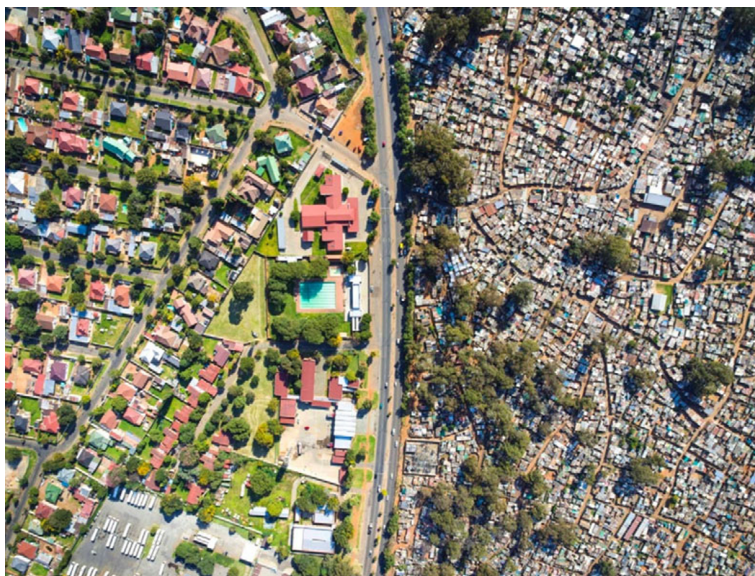
## 1. Infrastructure, spatial injustice, and South Africa

The urban environment in South Africa experienced substantial transformation as a result of apartheid, a legally sanctioned system of racial segregation. The implementation of “homelands,” small autonomous regions, and “pass laws” that controlled population movement limited urbanisation, while racial “group areas” changed the structure of the city. The Black population of the nation was excluded from specific facilities and confined to designated residential zones known as “townships.” The urban planners during the apartheid era aimed to implement racial segregation in South Africa’s cities, and these enduring legacies continue to be an inherent component of the country’s urban landscape.<sup>1</sup> In this context, spatial inequality becomes a prominent characteristic observed in urban areas across South Africa. An aerial view of the Primrose and Makause neighbourhoods in Johannesburg illustrates the effects of enforced racial segregation during the Apartheid era on the distribution and accessibility of green infrastructure.

Infrastructure functions as a means of societal organisation by the state and a point where state operations converge with the political-global economy and developmental

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<sup>1</sup> Maganga 2021.



Primrose and Makause in Johannesburg, South Africa.<sup>2</sup>

initiatives.<sup>3</sup> In South Africa, the enforcement of apartheid industrialisation policies led to the emergence of contaminated and hazardous working conditions for Black people. The residential areas of these persons were generally racially separated and frequently located adjacent to and downwind of regions with substantial industrial operations. The urban environment during the apartheid period in South Africa experienced the systematic oppression of non-White South Africans, as demonstrated by their proximity to environmentally harmful establishments.<sup>4</sup>

Infrastructural violence—a predominant challenge for racially marginalised populations in South Africa—arises as a negative repercussion of spatial segregation within the country. The violence here highlights that infrastructure can be significantly detrimental, while “infrastructural power” underscores how infrastructure serves as a favoured institutional mechanism for the regulation of society and the suffering that may arise from the intentional setting of infrastructural networks.<sup>5</sup> The outcome of apartheid and the formation of a mostly liberal framework that supports democratic citizenship entitlements, together with the ensuing requirements, have coincided with the reintegration of the South African economy into global production, capital investment, and consumerism circuits.

Infrastructural violence, environmental injustice, and toxicity are closely connected because infrastructure is how violence is regularly enforced, forcing marginalised groups to depend on harmful facilities such as dirty living spaces, housing, and healthcare while benefiting wealthier communities through industrial activities. Hence, infrastructure is an optimal context for contemplating systemic manifestations of violence that arise from a

<sup>2</sup> Maganga 2021.

<sup>3</sup> Ferguson 2010.

<sup>4</sup> Maguranyanga 2001.

<sup>5</sup> Mann 1984.

society's attempts to shape and regulate itself.<sup>6</sup> Strategies, regulations, and laws frequently determine the construction, operation, and upkeep of infrastructure, which can directly affect ecosystems and the well-being of particular individuals, eventually resulting in environmental injustice.

## 2. Environmental injustice and the South Durban Basin

Infrastructural violence and environmental injustice are especially interconnected in the South Durban Basin, which serves as the industrial hub of the Durban metropolis in South Africa and has experienced a rise in environmental challenges that have had negative consequences on the quality of life for nearby communities. The South Durban Basin currently accommodates a population of around 400,000 inhabitants.<sup>7</sup> The Basin—which includes two refineries (Engen and Sapref), multiple chemical plants, contaminant storage facilities, the Mondi paper mill, around 150 crude oil-dependent industries, and the Durban International Airport—was formally established as a heavy manufacturing zone by the Durban Town Council in 1938. The South Durban Basin serves as the central nexus for manufacturing and industrial operations in Durban, playing a crucial role in the city's economic framework, contributing 30% to Durban's Gross Domestic Product and providing 10% of the country's manufacturing employment opportunities.<sup>8</sup> Apartheid industrialisation policies led to the emergence of unsanitary and hazardous working conditions for the Black population in this region, thereby forcing 52% of the adult population to refrain from participating in industrial jobs.

The South Durban Basin governance system, in conjunction with major multinational companies, has been endeavouring to comply with profitable environmental standards while allowing industrial contamination that jeopardises the health of specific regions and subjects them to environmental injustice.<sup>9</sup> As a direct consequence, communities here face an environmental burden for which they are not accountable and that contradicts their preferences, especially when environmental hazards do not provide significant benefits for all impacted individuals.<sup>10</sup>

The urban structure of this region is profoundly shaped by the racist system of apartheid, leading to the exposure of Black folks to several environmental risks, including chemical factories, waste disposal sites, and petrochemical plants. As a result, these exposures caused the deterioration of local ecosystems and adversely impacted their physical health.<sup>11</sup> The construction activities, which demonstrated environmental bias, led to detrimental effects on Black residential communities, including Merebank, Wentworth, Clairwood, Bluff, and Umlazi in the South Durban Basin. The impacts encompassed various environmental risks, with air pollution being the most prominent, marked by the highest concentrations of atmospheric SO<sub>2</sub> emissions in the entire country.<sup>12</sup> The following image shows the map of KwaZulu-Natal Province and South Durban Basin.

<sup>6</sup> Foucault 2001; Rodgers and O'Neill 2012.

<sup>7</sup> Council for Scientific and Industrial Research 2002; Sivest 2004.

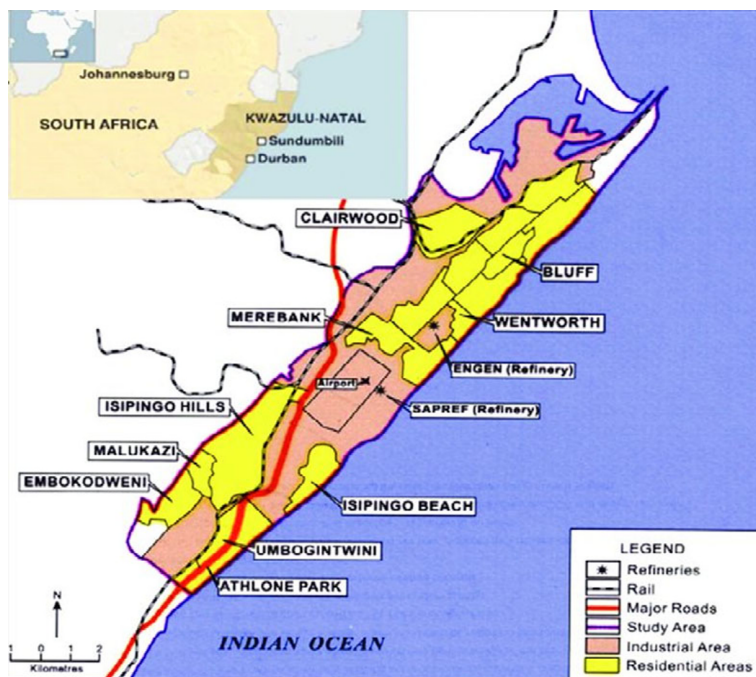
<sup>8</sup> Adebayo et al. 2013.

<sup>9</sup> Cox 2003, 329; Mersham 2016, 166.

<sup>10</sup> Toxopeüs and Kotz 2017, 51.

<sup>11</sup> Roberts 2003; Patel 2009.

<sup>12</sup> Matooane and Diab 2001; Scott et al. 2002; Jaggernath 2011.



Industrial and residential areas in the South Durban Basin.<sup>13</sup>

The South Durban Basin is globally acknowledged for its substantial pollution problem, as indicated by the existence of four severely contaminated air monitoring sites in South Africa.<sup>14</sup> Communities in this region are situated in what Mbembe describes as a “death world”—a direct consequence of the necropolitical activities that characterise the apartheid policies of South Africa.<sup>15</sup> A thorough investigation was performed on a sample of 200 residences adjacent to the Mondi paper mill and the Engen oil refinery. The results indicated that a considerable percentage of families had health problems, namely asthmatic bronchitis (47%), allergies (44%), hay fever (26%), eczema (23%), or wheezing (9%). A possible reason for this observed condition may be the spatial concentration of heavy industrial activity adjacent to residential areas, leading to the emission of poisonous gases or metal-laden compounds typically linked to industries in the South Durban Basin.<sup>16</sup> This survey illustrates the correlation between classifying the basin as “cancer valley” and the increased incidence of cancer, bronchitis, and asthma in the area.

A wellness assessment at Settlers Primary School, located near the Engen and SAPREF refineries, revealed a markedly increased prevalence of asthma. The causative element for this health issue was identified as the emission of SO<sub>2</sub> and NO<sub>x</sub>, predominantly from Engen, during daylight hours. The findings have also recorded further occurrences of pollution-related health problems, including cancer (notably leukaemia), skin disorders, and allergic responses. Surveys about the subterranean petrol pipelines in Durban have revealed substantial concerns related to corrosion protection. It has been underscored that these

<sup>13</sup> Shikwambana and Kganyago 2020.

<sup>14</sup> Matooane and Diab 2001.

<sup>15</sup> Mbembe 2019.

<sup>16</sup> Jaggernath 2011.



Overwhelming smoke from the Engen refinery.<sup>17</sup>

issues should have been resolved years prior, necessitating a thorough renovation with a significant financial commitment to avert any potential leaks.<sup>18</sup> The instances exemplify slow violence, as the continuous and gradual release of black smoke from the Engen Refinery persistently endangers the inhabitants of Wentworth, Merebank, and Treasure Beach daily.<sup>19</sup>

Pollution-related health issues arise in circumstances where the state-constructed housing for workers in the South Durban Basin was grossly inadequate. Overcrowded, male-only dormitories intended for male migrant labourers are a matter of concern. There are roughly five lodging facilities in the South Durban Basin. Alternative housing typologies predominantly consist of independent, congested family compounds featuring a minimum number of rooms, with four at maximum in most cases. The establishment of healthier neighbourhoods in the South Durban Basin encompasses not only the mitigation of contamination by petrochemical enterprises but also the enhancement of the standard of living in housing communities in the region.<sup>20</sup> Thus, communities here suffer the repercussions of environmental deterioration and toxic pollutants stemming from infrastructural development, lacking the means to migrate or obtain essential infrastructure for a viable existence, hence necessitating discourse on repair.

### 3. Decolonial repair frameworks

The communities in the South Durban Basin are increasingly vocal about their complicated attachments to contaminated environments, as the effects of toxic substances and wellness challenges cannot be ignored, since these are deeply intertwined with enduring structures

<sup>17</sup> South Durban Community Environmental Alliance 2017.

<sup>18</sup> Niranjana 2005, 13–17.

<sup>19</sup> Karmakar and Chetty 2023.

<sup>20</sup> Adebayo et al. 2013, 349.



of power and infrastructural violence. Between 2004 and 2005, the South African Police recorded around 5,900 protests concerning socioeconomic injustices resulting from toxic waste and sewage disposal.<sup>21</sup> The capitalist system perpetually disrupts communities, rendering them unable to navigate their own survival and thereby exposing them to epistemic injustice, as their narratives of environmental injustice are entirely dismissed by a prejudiced system. The occurrences of environmental toxicity contradict the greenhouse gas emissions reduction promises established at the United Nations Climate Summits in Durban in 2011 and in Paris in 2015 to mitigate global warming. Given the increasing facts regarding the seriousness and magnitude of the global issue, the South African government's inactivity constitutes climate denialism. In 2016, Finance Minister Pravin Gordhan ostentatiously claimed that the country's response to the planetary environmental crisis came shortly after he voiced his contentment that work had commenced on a new gas terminal and oil ship repair facilities in Durban. However, the unresolved questions pertain to the nature of the repair discussed and the intended recipient of the service. The lack of care, understanding, and teamwork, along with ignoring environmental concerns in development and job programmes, was made worse by South African government officials saying that "sacrifices and trade-offs" are needed to reach their development goals, suggesting that creating jobs and growing the economy justify harmful practices regardless of their negative effects.<sup>22</sup> The spatial distribution in the South Durban Basin illustrates a propensity for provisioning infrastructure services in an arbitrary and disorganised fashion within informal settlements, characterised by a deficiency in service integration. In this context, comprehensive infrastructure strategies that enhance the ecosystem and encompass a broader spectrum of services are expected to yield enduring benefits, emphasising that integration should be approached from the perspective of "community-driven incremental participatory practices at both the individual (household) and neighbourhood (community) levels."<sup>23</sup>

To address the ongoing issues of knowledge and environmental unfairness, we need a framework for decolonial repair that involves the Environmental Justice Networking Forum, the Treatment Action Campaign, leaders of the African National Congress, and decision-makers to reflect on the current systems that control infrastructure and environmental rules in the South Durban Basin. This involves recognising and prioritising the requirements of communities whose ecological and epistemological resources have been persistently overlooked. Considering the critical significance of social networks in the African environment, it is essential for local citizens, representatives from multinational corporations, and government agencies to engage in a more inclusive and transparent manner of information sharing in the South Durban Basin.<sup>24</sup> This approach will help regulate the capitalist operations of those infrastructures and construct blueprints for sustainable and basic infrastructure that benefit impacted communities.

Decolonising information is essential, requiring attention to epistemological and environmental viewpoints, cosmologies, and crucial perspectives from marginalised communities in the South Durban Basin. The decolonial repair modalities provide a communication framework that functions at micro-, meso-, and macro-levels, facilitating the sharing of information with a broader audience while preserving local relevance for individuals

<sup>21</sup> Bond and Dugard 2008.

<sup>22</sup> Fricker 2007; Firmin 2019.

<sup>23</sup> Parikh et al. 2020, 100041.

<sup>24</sup> Teye 2013.

confronting health risks and lacking infrastructural resources.<sup>25</sup> Macrocommunication refers to all communications conducted at the national level, where the responsibility of interaction is assigned to certain national agencies in KwaZulu-Natal. The meso-level communication structure pertains to the closeness to the cause of risk, either locally or regionally, where risk-related information is positioned within its own local context. Stakeholders at this level include local governments, locale-specific activist groups, grass-roots organisations, and institutions, such as insurance companies operating among at-risk populations in Durban. At this juncture, it is crucial to employ the vernacular, if needed, and exhibit a deep comprehension of the tragedies and adversities faced by the communities, thus incorporating their regional character into risk management. Assessing infrastructural violence and its consequent environmental injustice can be carried out via micro-level communication, which includes diverse forms of social interaction, such as an individual conversing with the general populace, including a notable local government entity. It includes interpersonal communication among community members and interactions with support group participants, thereby fostering essential conversations necessary for transformation, remedy, and repair.

This decolonial reconstruction involves democratic dialogue, in which the voices of those harmed must be recognised and validated. Their recommendations will be considered to address issues of environmental and infrastructural injustice. Representatives from these communities should participate in legal, legislative, and decision-making bodies. Financial compensation will be addressed, alongside the creation of safe spaces to confront racial and spatial segregation and explore solutions. Understanding the history of impacted communities will enable them to express their opinions, thereby fostering support, collaboration, and solidarity. The repair framework emphasises four critical considerations: state legislation must implement initiatives to avoid continuing previously polluted infrastructures as “grandfathered” entities.<sup>26</sup> They must implement more stringent rules to safeguard communities from new harmful exposures. Second, rules are required to foster and implement community-wide remediation services. The rehabilitation of the most contaminated places does not guarantee that the cities are devoid of contamination; therefore, a top-down revision of policy is necessary in Durban. A collaborative approach to environmental justice is essential, requiring diverse expertise to minimise exposure, mitigate harm, and develop effective remedies. Finally, the Durban government must allocate national responsibilities to enhance its capacity for transparency and ensure unequivocal protection for communities in the South Durban Basin.

Repair frameworks, both infrastructural and decolonial, can facilitate holistic strategies that transcend the perception of infrastructure as solely composed of inanimate material structures and systems, instead emphasising the concurrent social, cultural, and human dimensions that render infrastructure “living.” Infrastructure should not be equated with system or structure, as now understood, as it is characterised by the dynamics or configuration of social form. It is the dynamic mediation of what structures existence: the lifeworld of organisation.<sup>27</sup> These insights can prompt contemplation on the construction and management of infrastructures.

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<sup>25</sup> Adekola et al. 2017.

<sup>26</sup> Henderson and Wells 2021.

<sup>27</sup> Berlant 2016, 393; Truelove and Ruszczyk 2022.

Cologne, Germany, and an honorary research associate at the Faculty of Arts and Design, Durban University of Technology, South Africa. Karmakar's research interests include Global South literary studies, postcolonial and decolonial studies, environmental studies, and cultural studies. Karmakar is also a series editor for the Routledge book series *South Asian Literature in Focus*.

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