

# **An investigation into green gentrification in the Silo District, Cape Town, South Africa**

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**Abstract.** Despite the plethora of studies on gentrification, knowledge about green gentrification is limited, especially in a South African context. Green gentrification is the process in which providing green amenities and cleaning up pollution attracts wealthier residents or tenants to a previously rundown neighbourhood, thereby increasing property values. This paper explores whether the characteristics of green gentrification can be identified in the transformation of the Silo District of the V&A Waterfront, Cape Town, and therefore its effect on the perception of 'green gentrification', if it is found to occur in the area. The research was based on a single case study with three sources of data collection – a critical literature review, photographic and documentary evidence and semi-structured interviews. The findings show that the transforming of the Silo District, by implementing green and environmental amenities, attracted wealthy individuals and organisations to the area. The findings show that green gentrification occurs in the Silo District, and its transformation had a limited influence on this perception. The study reveals an inadvertent insidious phenomenon in redevelopment initiatives, especially with growing consciousness of sustainability issues. However, the limitations of a single case study research makes further research imperative, and results tested using contextually relevant methods.

## **1. Introduction**

Following the inception of free democracy in South Africa in 1994, urban renewal projects have been actively pursued in the bid to redress decades of inadequate policy planning, segregation, neglect and subsequent decay in its cities [1]. These factors of neglect and the subsequent decay of cities throughout the country (among other reasons) have ultimately led to the very high cost of well-located land, and thus making them inaccessible and unaffordable to the less fortunate [2]. Lees [3] argues that the results from such are clear with the displacement and disenfranchisement of low-income (working-class) individuals to the benefit of the wealthier in-movers (the middle-class). However, Hudalah and Adharina [4] argue that the impact of this phenomenon (identified as gentrification) is more complex than that, entailing both negative and positive implications for both the physical environment as well as the economy and society. Furthermore, as long as there is a development trigger then a suburb or city can gentrify at any time as these nodes often have a lower land value and lower risk than other urban land [4] This development of a neglected and decaying node often acts as a catalyst for the phenomenon known as gentrification. Over the years, gentrification has also been categorised according to the contextual triggers and drivers, an example of this being 'green gentrification', which will be explained in more detail subsequently.

This paper, therefore, looks at the topic of ‘green gentrification’ and assesses the occurrence of the phenomenon in a South African context. The purpose of this paper is to explore whether the characteristics of green gentrification can be identified in the transformation of the Silo District of the V&A Waterfront, Cape Town, and therefore the effect this has on the perception of this phenomenon, if it is found to occur in the area. To achieve this purpose, the study explores the evolution of gentrification, and more specifically the notion of green gentrification. Furthermore, the understanding of these concepts from literature form the bedrock for pursuing the objectives of the study, which include exploring the transformation of the Silo District, investigating the perception of green gentrification in the area and the influence of its characteristics on such perceptions in the study area. The study is further guided by the proposition which views that the characteristics of green gentrification can be identified in the transformation of the Silo District, and this supports the perception of the occurrence of the phenomenon in the area.

## **2. Gentrification and its evolution**

Several studies on gentrification suggest different definitions of the phenomenon based on varying gentrifiers. This section reviews relevant literature on gentrification and green gentrification, and critically analyses its characteristics and their effects on an area. Furthermore, this critical analysis of the literature establishes the basis for, and the appropriate lenses through which the phenomenon of green gentrification may be understood in a local South African context.

### *2.1. Gentrification*

Since Glass [5] first coined the term ‘gentrification’ and brought its occurrence to the attention of the world, studies have proffered several definitions and concepts of this phenomenon. Some see gentrification as the revitalisation, and in some cases transformation to other uses, of working-class inner-city neighbourhoods to the benefit of a wealthier demographic [6, 7, 8, 9].

Although studies seem to suggest that the phenomenon of gentrification does not have a common definition, scholars generally agree on common characteristics that define the phenomenon [10, 11, 12, 13, 14, 3]. It is evident that the following occurs – 1) the transformation of an area, 2) the displacement of the previous occupants and 3) the arrival of more affluent users [5, 10, 8]. Visser and Kotze [16: 2566], elaborating on these common threads, stated that gentrification is a “powerful and often rapid process which plays an important role in refashioning the physical, economic and social characteristics of central-city areas”.

Over the years studies on gentrification have been stretched to accommodate varying complexities and contextual meanings. Such considerations also include issues such as ‘gentrifiers’ and other triggers or drivers of gentrification in a specific area. These triggers may also include other wider and often seemingly unrelated events in a country such as socio-economic trends and even government policies [10, 8]. For instance, Smith [10] identified students as ‘gentrifiers’ and key components in the concept of studentification, which is aligned with theorisations in the phenomenon of gentrification. Lees [17] on the other hand coined the term ‘financification’ or ‘super-gentrification’, which focuses on further capital investment into an already gentrified neighbourhood, which in turn results in a higher economic and financial investment than previous waves of gentrification [18]. With growing awareness about sustainability, the discourse and theorisations of gentrification have been ‘stretched’ further to consider the concept of ‘green gentrification’, which is seen as gentrification that is triggered by the provision of green amenities and cleaning up pollution in an area [19].

### *2.2. Green gentrification and its evaluation*

Like the overarching concept of gentrification, green gentrification does not seem to have only one concrete definition. Green gentrification has also evolved over time just as the earlier strict definitions of gentrification. It is therefore pertinent to understand this brief evolution to be able to assess this phenomenon through the correct lenses.

Earlier definitions and interpretations of ‘green gentrification’ largely relied on the lenses of ‘environmental gentrification’ [20] and ‘ecological gentrification’ [21]. While both ‘environmental’ and ‘ecological’ gentrification have similar characteristics to ‘green gentrification’ [19] in their broad definitions, they are not strictly the same, thus somewhat encouraging varied opinions about a unified definition. This, arguably, explains the often interchangeable use of these terms when referring to green gentrification, despite the difference in their core focus.

*2.2.1. Environmental gentrification.* ‘Environmental gentrification’ is seen as the influx of wealthier residents to a historically disadvantaged neighbourhood due to investments that increase the environmental quality, which may displace long-term low-income individuals [21, 22, 23, 24, 25, 26, 27, cited in 28: 2].

*2.2.2. Ecological gentrification.* Dooling [21] explained ‘ecological gentrification’, as occurring where the implementation of an environmental planning scheme through “greening public spaces would affect the most economically vulnerable people, namely the homeless”. While et al. [29: 551] on the other hand, viewed that ecological gentrification is the ‘selective incorporation of ecological goals in the greening of urban governance’ that provides a ‘win-win-win’ notion in terms of ‘economic growth, social development and ecological protection’. Kelbaugh [30] and Waldheim [31] believe that ecological gentrification holds environmental sustainability at its core through design, and ‘focuses on repurposing post-industrial spaces in an era where ecological processes and urban processes have become inextricably intertwined’ cited in [26: 1745].

The main difference between ‘environmental’ and ‘ecological’ gentrifications and ‘green gentrification’ is that green gentrification focuses on the influx of wealthier residents and an increase in property values rather than displacement of residents per se (as in environmental gentrification), or the economically vulnerable and the implementation of an environmental planning scheme (ecological gentrification) [20, 19, 21].

### *2.3. The concept of green gentrification*

Globally, post-industrial cities have been known to demolish freeways, old canals and other derelict industrial infrastructure, which are converted into ecologically driven and aesthetically designed spaces that are based on the concept and ideas of greening spaces [26: 1743]. Furthermore, Anguelovski [31] observed that many post-industrialisation or de-industrialising cities are turning more towards redevelopment or refurbishment strategies that are geared towards creating or improving green amenities, which therefore suggests that the impact of these strategies should be viewed through broad lenses.

Green gentrification generally aligns with the wider theories and concepts of gentrification, with Sieg et al. [20] suggesting that it could be considered a hybrid of the wider gentrification discourse that also includes environmental justice. This strand of gentrification emerged at a time when the local and global state faced increasing demands to enhance and protect the natural environment [33, 34, 29: 549]. Gould and Lewis [35] viewed that the focus on urban sustainability, especially environmental and social sustainability, and the struggle for environmental justice, where there is a fair distribution of environmental burdens and benefits, explains the drivers of green gentrification. Additionally, Rigolon and Németh [28] seeing closer alignments with core characteristics of the overarching concept of gentrification, describe an influx of wealthy residents to a previously disenfranchised area of a city due to the increase of green spaces as key features of the notion of green gentrification.

From the forgoing discussion, it is apparent that the notion of green gentrification, like the overarching concept of gentrification, has been ‘stretched’ to accommodate varying urban complexities and contexts, and therefore does not lend itself to a single concrete definition. This study adopts the view that ‘green gentrification’ is the process in which providing green amenities and cleaning up pollution attracts wealthier residents or tenants to a previously disenfranchised or polluted neighbourhood, which in turn

increases property values [19]. Furthermore, the study refers to green amenities as amenities such as green or living roofs, green spaces and gardens as well as energy efficient and green building materials [36].

*2.3.1. The effects of gentrification.* Wider theorisations of ‘environmental’, ‘ecological’ or ‘green’ gentrification’ also come with positive and negative effects where they occur. Studies have shown that the hallmarks of what arguably encourages the occurrence of green gentrification engender numerous health, environmental and social benefits. This occurs through different contributing factors such as reducing air pollution, encouraging active lifestyles, and establishing stronger social connections amongst residents and organisations in an area [37]. Areas that experience green gentrification are seen to have an increased desirability to people for living, working and visiting purposes, which will have positive effects on the property values and the local economy (as well as challenges in the ensuing trade-offs) [28]. Gould and Lewis [35] also see development projects that trigger green gentrification as positive contributors to the climate change effort. For example, potential contributions include – promoting energy efficiency, improving recycling programs, cleaning industrial pollution, using recycled building materials and promoting sustainability.

Notwithstanding what may be considered positive effects of green gentrification in an area, it is also believed to potentially create vulnerabilities for others. Anguelovski et al. [37] note that a section of the society is displaced following repurposed development focused on environmental and green amenities. This arguably follows from the observation that lower income residents are generally restricted to living in areas with higher environmental and health risks, as the property in those areas are more affordable than property in areas that are environmentally safe. This is considered a negative social impact because the process does not generally cater for the poorer and working-class demographic, who face geographic displacement, but primarily sees wealthier people benefiting from the increased capital gains and improved environmental surroundings.

### **3. Research methodology**

The study was based on a single case study of the Silo District in Cape Town. This was deemed appropriate as the Silo District is a unique development on an urban scale, which provides an ideal platform for studying the phenomenon of green gentrification in a local context. Information for the study was obtained from three sources, which is consistent with a case study approach [38]. Firstly, a critical literature review underpinned the understanding of green gentrification. Information was also obtained through documentary evidence and photographic observations (which allowed the transformation of the study area to be visually interpreted within the framework of the characteristics of green gentrification). Primary data was obtained via semi-structured interviews, with questions based on the key characteristics of green gentrification identified in literature. Purposive sampling techniques were used to determine relevant interviewees. This was deemed appropriate to ensure that information was drawn from interviewees with first-hand expert knowledge of the study area, and/or the subject of inquiry [39]. However, this process carefully ensured a spread of interviewees with diverse interests in the study area, thereby minimising the risk of bias and skewed information. The four interviewees consisted of a foremost global expert and scholar on green gentrification, architect and urban designer, urban facilities manager with the municipality and a developer involved with the development of the study area. While literature supports highly qualitative studies of specific phenomena using relatively small interview samples, the limitations of this study must, however, be acknowledged, and follow up studies with a more comprehensive sample size recommended [39, 40, 38]. A thematic analysis was employed in analysing the data collected from the different sources and conclusions were drawn in line with literature thereafter.

#### *3.1. The Silo District*

The Silo District is a sub-district of the larger V&A Waterfront, which has benefited from significant investments in the CBD and Foreshore areas of Cape Town [41]. The land proposed for the V&A waterfront development in the 1970’s and 1980’s was underutilized with spaces being functionally

obsolete. The idea of transforming the Cape Town Waterfront into a venue accessible to the public, which began in 1971, finally received the necessary approvals around 1988 [42]. Completed in 2017, the Silo District is one of the most recent additions to the neighbourhood, comprising about 80,000 square meters (m<sup>2</sup>) of development, and has been said to set new environmental sustainability benchmarks as a precinct [43, 44]. This is consistent with the general observation that there has been a shift towards environmental awareness in South Africa and more specifically Cape Town, reinforcing the relevance of studying issues of green gentrification in a local context.

#### 4. Findings and discussion

Analysis of the findings revealed the following five main characteristics of green gentrification in the context of the study area:

- Environmental and green amenities in the area;
- De-industrialisation of the area;
- Reusing or recycling materials and cleaning of pollutants in the area;
- Use of green building materials in the area, and;
- Displacement, in the context of the concept of green gentrification.

##### 4.1. Environmental and green amenities in the area

The findings from the data collected are in line with the notion that ‘environmental’ amenities play a crucial role in establishing whether green gentrification occurs in a place or not. It was established that an ‘environmental’ amenity is a natural amenity (interview with INT03) that is not necessarily considered a ‘green’ amenity [36] although both contribute to the phenomenon of green gentrification. Environmental amenities refer to such amenities as waterfronts, the ocean and mountain views, etc. (see figures 1 - 2). This finding regarding environmental amenities allowed for better understanding, analysis, and synthesis of some of the apparent ambiguities that had arisen in conducting the research. Ambiguities such as whether the location of the Silo District on the scenic waterfront, along with the mountain views, constituted an ‘environmental’ or ‘green’ amenity, and whether it had any bearing on the occurrence of green gentrification in the area. It is evident that while there are significant environmental amenities identified in the study area, not as many green amenities could be identified. The findings about the influence of environmental and green amenities, however, suggest that there are more factors that influenced and explain the occurrence of green gentrification than the earlier conceptualisations noted in literature [36, 19].



**Figure 1.** Waterfront view illustrating environmental amenities in the Silo District.



**Figure 2.** View of Table Mountain illustrating environmental amenities in the Silo District.

##### 4.2. De-industrialisation of the area

Additionally, the study established that de-industrialisation was an important factor in assessing and explaining phenomenon of green gentrification. De-industrialisation was noted as a new global trend,

which is usually followed by cleaning up of abandoned industrial waterfront property in a re-purposed redevelopment to benefit from a higher and better use of otherwise derelict property. It became apparent in such locations that these industrial properties were becoming favourable re-development opportunities because of the proximity to the ocean (an environmental amenity). The study findings show that these trends discussed above occurred in the re-development and transition of the study area.

The Silo District owes its origins to what used to be an industrialised area that benefited from the economic activities around the harbour at the time. The area, however, experienced a decline in its prevailing economic activities at the time, which was reflected in the poorly maintained buildings and consequently, its de-industrialisation [45]. The ensuing redevelopment over the years, which culminated in the Silo District, prioritised greening of the area, focusing on the ecological and more so the economic aspects of environmental sustainability (interview with INT01). This ultimately encouraged economic growth in the area, with increased influx of wealthier demographics of the society. Inevitably, property values in the study area have increased following its transformation. These findings are consistent with global trends noted above, which participant INT03, who cited the same evolutionary processes in the greening of New York, suggests are characteristic of the processes of the phenomenon of green gentrification. Furthermore, the findings are also consistent with literature as reflected in the views of Banzhaf and McCormick [19] on green gentrification.

#### *4.3. Reusing or recycling of materials and cleaning of pollutants in the area*

The study also established that, in addition to the cleaning of pollutants, the reusing or recycling of materials was an important factor to consider in assessing the phenomenon of green gentrification in an area. The primary data showed that there was a deliberate plan to reuse materials and clean pollutants as a key design strategy in the study area, which reflects the findings in literature [for example, 37]. Although this is mainly focused on sustainability, the implications within the various definitions of green gentrification suggest that, to some extent, the repurposing and reuse of materials has direct bearing on the occurrence of green gentrification in an area. For instance, INT01 explained that, although there were not many structures on the site to repurpose and therefore reuse the materials thereof, the design and construction of the Silo District employed a deliberate strategic policy of using recycled and green building materials from the site as much as possible (see figure 5).

*INT01: "We did dig up a huge amount of the rock below, in order to create the underground parking structure... We used a lot of the rock inside some of the cladding at ground level."*



**Figure 3.** Park illustrating greening in the Silo District, with remnants of the old silos illustrating the de-industrialisation and reuse of materials in the area.



**Figure 4.** Park illustrating greening in the Silo District.



**Figure 5.** Remnants of de-industrialised history incorporated in the transformation of the Silo District.

#### *4.4. Use of green building materials in the area*

INT03 noted that although it is not a decisive factor, it is also important to consider whether green building materials have been used, as well as the sustainability factors present when assessing whether green gentrification has taken place in an area. This view also resonates with the literature, for instance, the views of Waldheim [31] and Kelbaugh [30] who see ‘environmental sustainability’ (including the use of green building materials) as central to the phenomenon of green gentrification (or as they referred to it, ‘ecological gentrification’). In the case of the Silo District, INT01 noted that the idea of reusing materials was, however, borne out of a functional or practical and economic sense, as well as a sustainability viewpoint (sustainability being one of the selling points with regards to the design concept of the study area). It must be noted, however, that the study area did not provide a significant range of green amenities to allow for thorough investigation regarding its effects. This perhaps presents an opportunity for further research in the South African context.

#### *4.5. Displacement in the context of green gentrification*

Although ‘green gentrification’ itself does not place emphasis on displacement per se, the study established that displacement was an essential factor in considering the occurrence of green gentrification in the study area. However, this does not necessarily mean residential dwelling displacement as might be the case in theorisations of other forms of gentrification. Displacement, within the concept of green gentrification, encompasses wider concepts such as job displacement. This may be attributed to the fact that if an area is previously uninhabited or is an industrial area (as in the case of the study area) then it is impossible for residential displacement to take place. Therefore, if it was to be analysed purely from this premise (or literature on the perspective of earlier strands of gentrification) it might be said that displacement has not occurred. However, there are arguably other factors that inform the notion of displacement in this case, such as job displacement which is not well discussed in the literature on earlier strands of the phenomenon. This view of displacement is arguably supported by the notion of de-industrialisation and re-development in areas where green gentrification occurs, as has been the experience in the Silo District.

### **5. Conclusions and further research**

An abundance of research speaks to various facets of gentrification and its evolution. Green gentrification is one of such facets of the general theorisations of gentrification, which although still relatively new has not really been investigated or tested in the context of south Africa. The Silo District of the V&A Waterfront, Cape Town, provided the backdrop for studying the phenomenon of green gentrification in a local context, and the characteristics associated with it. The purpose of this study is to explore whether the characteristics of green gentrification can be identified in the transformation of the Silo District and therefore the effect this has on the perception of ‘green gentrification’, if it is found

to occur in the area. With the growing focus on greening and sustainability issues in urban redevelopment, it is pertinent to understand the pros and cons of green gentrification to better plan for more holistic urban development and management interventions.

The research conducted highlights the various characteristics associated with green gentrification. It was established from the research findings that there are five main characteristics; namely, environmental amenities, de-industrialisation, reusing or recycling materials and cleaning of pollutants, green building materials and sustainability factors and lastly displacement, that are relevant in the transformation of the Silo District. Whilst these characteristics are significant features in establishing the phenomenon of green gentrification in an area, they held varying levels of significance in the case of the study area.

For instance, the characteristic of displacement was mainly argued based on the almost historic occurrence of de-industrialisation rather than a current, perhaps ongoing observation, of displaced residents in the area. This is, however, still arguably acceptable going by the discourse in literature pertaining to the notion of displacement in the phenomenon of green gentrification. Additionally, it would be recalled that while theorisations of the overarching concept of gentrification often focus on displacement in general, with green gentrification displacement is not necessarily the focus. Ultimately, the focus in the concept of green gentrification has to do with the attraction of wealthier residents or tenants to a previously disenfranchised or polluted neighbourhood based on the provision of green amenities and cleaning up pollution, thereby increasing property values, rather than a focus on displacement per se. It may therefore be argued that this phenomenon inevitably introduces unforeseen social challenges for redevelopment initiatives, which are a necessary part of the life of a city (especially if they are based on green and sustainability principles).

It is therefore possible to conclude that the transformation of the Silo District in the V&A Waterfront had a limited influence in the perception of green gentrification in the area. Furthermore, the study findings generally support the acceptance of the proposition that characteristics of green gentrification can be identified in the transformation of the Silo District, and this supports the perception of the occurrence of green gentrification in the area.

## 6. References

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