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Residential relocation and financial wellbeing: Findings from Golden Gardens housing development in Gauteng, South Africa

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ABSTRACT

With mega state housing projects needing large land parcels and that are often located in the periphery, this paper investigates what impact relocating residents to Golden Gardens housing development has had on the quality of life and their financial wellbeing. Using primary data obtained from residents living in the Golden Gardens housing development, the findings show that respondents' access to and quality of physical and social facilities, such as refuse services, water, and electricity, has improved. Respondents were also unanimous that staying in their Golden Gardens homes has significantly improved their security. However, many residents currently living in Golden Gardens used to live closer to work and social activities than they do now, which means that they used to spend less each month on transport than they do now. The high-commuting cost has increased household expenses, meaning that the respondents' financial wellbeing has been negatively impacted. These results imply yet unmet long-term objectives of human settlements as envisaged in various government policies and programmes.

KEYWORDS

State-subsidised housing; lived experiences; Quality of life (QoL); financial wellbeing; Gauteng province; South Africa

1. Introduction

In the last decade or so, several countries across the world have implemented multi-billion-dollar housing programmes (Buckley et al., 2016). The authors note that these new investments, whether taking 'the form of traditional public housing assistance, or that of massive investments in new cities and new urban enclaves within existing cities' (p. 1), have not necessarily addressed the affordability concerns and fall short of Edward Glaeser's description of cities as a man's greatest invention (Buckley et al., 2016). Acknowledging that public housing developments have fallen short of addressing the needs of residents, mainly in disadvantage communities, there have been calls for new analytical framework of studying the social impact that urban development has on residents (Wang, 2020). This is needed since new housing developments have a significant impact on how residents adopt a range of livelihood strategies (Brown & Lloyd-Jones, 2002); how housing-related infrastructure and environmental health services (IEHS),

such as water, sanitation, drainage and solid-waste management, have direct and indirect impact on productive activities, human health, and the environment of residents (Ali, 2002); and how 'relocation of low-income households to urban peripheries reshape the links between their physical and socio-economic mobility, and their ability to build secure urban futures' (Williams et al., 2022:910).

In 1994, the newly elected African National Congress (ANC) government implemented several policies to address the spatial fragmentation and housing crisis that emerged from the apartheid era. Prominent is the implementation of the National Housing Subsidy Programme that allowed for the development of what became to be known colloquially as 'Reconstruction and Development Programme (RDP) housing' (ANC, 1994; Charlton & Meth, 2017). While this lessened the housing crises inherited from apartheid, the houses that were built were located far from centres of economic opportunities and employment (Todes, 2003; Turok, 2013; Williams et al., 2022). This limited residents' access to jobs, education, and public services. Manomano et al. (2016) offer a review of other several shortcomings that have bedevilled government's housing programmes in the country.

Key changes were implemented in 2004 following the Breaking New Ground (BNG) policy, and decade later, in 2014 when another shift occurred. The 2004 BNG policy shifted the housing sector away from delivering basic accommodation to the development of fully serviced human settlements fitted with a variety of urban amenities (Joseph & Geci 2014; Ballard & Rubin, 2017). In 2014, the National Department of Human Settlements (NDoHS) introduced mega projects describing them as large projects with a minimum of 15,000 housing units and each with a population of approximately 60,000 people (Harrison & Todes, 2017). The intended outcome from this shift was to have new cities that are self-contained, offering economic activities and employment, along with a full range of services and facilities (Gauteng Department of Human Settlement (GDHS) 2015). These mega projects were to be of different income groups in an effort towards non-segregated urban forms (Harrison & Todes, 2017). Despite the advantages that come with mega-housing developments, such as providing poor households with adequate housing in better living environments, there are concerns that come with them too. Since mega housing developments require huge land parcels for its implementation, there are often built in poorly located areas mainly because better located land that is available tends to be more expensive (Brown & Lloyd-Jones, 2002).

Although recipients of these low-cost housing appreciate having a home with better living conditions, they are faced with challenges with regards to access to jobs and other physical and social facilities such as educational, and medical facilities. Charlton & Meth (2017) noted that even though there has been much research on housing in South Africa, very little research on the experiences of the housing beneficiaries exists. Charlton & Meth's (2017) study on low-cost housing in Johannesburg and Durban's state-subsidised housing is focused on the experiences of beneficiaries of low-cost housing. Moolla et al. (2011) focused on housing satisfaction and QoL of residents of state-subsidised houses in Braamfischerville, Soweto. Other scholars have investigated the link between residents' living conditions and health wellbeing (Erasmus, 2010; Govender et al., 2010; Weimann et al., 2020).

This paper extends the existing research on residents' lived experiences by investigating what impacts that relocation to new housing developments has on residents

selected QoL measures, such as exposure to economic activities, and better physical and social living conditions as perceived by residents, and especially, on their financial well-being. The case study used is the Golden Gardens housing development in Emfuleni local municipality, Gauteng province. More importantly, this paper departs significantly from the existing literature that is based on residents' perception and thus subjective measures. Moolla et al. (2011) used Likert-scale to analyse the residents' level of satisfaction with state-subsidised homes in Braamfischerville, Soweto. In addition, they used percentages to analyse the levels of monthly income and monthly expenses in their work. This paper employs both descriptive and paired t-test analyses as objective techniques (see methods section for further explanation).

The remainder of the paper is structured as follows; Section 2 reviews related literature, including success and failures of housing development initiatives in South Africa and Gauteng. This section also offers international and South African illustrations of residents lived experiences in the new housing development projects. Section 3 describes the research approach – providing in more detail the location and typologies of housing units in Golden Gardens housing development, as well as socio-economic profiles of its residents. The section also explains how the data was collected and analysed. Section 4 dwells on results and related discussions, while the last section concludes the paper.

2. Literature review

2.1. Housing development in South Africa

The first decade of democratic South Africa witnessed the development of human settlements that were mainly remedial and focused less on economic development, social cohesion, transformation, and efficiency. As a result, rather than being transformative or progressive, state-subsidised settlements tended to follow the housing system developed during apartheid. First, erection of state-subsidised housing structures happened within the land that was procured and set aside by the previous apartheid regime (Gauteng Partnership Fund, 2018). Second, state-subsidised housing was built in locations with poor access to transportation to centres of employment. This exacerbated the spatial mismatch as it created yet another version of commuter labour as people resided far away from places of economic activity and employment (Gauteng Partnership Fund, 2018).

The second decade of democratic South Africa focused mainly on accelerating housing unit supply, and dealing with backlogs, amidst challenges, such as capacity constraints of local and provincial administrations and corruption and poor supply chain management in housing projects (Gauteng Partnership Fund, 2018). To bring the needed significant change in provision of housing development, the 2004 BNG policy was drafted with the aim to shift the sector away from providing basic housing towards the development of fully serviced human settlements with a variety of urban amenities (Ballard & Rubin, 2017). Ballard & Rubin (2017) add that some of the planned and developed housing mega projects, such as the Cosmo City in Johannesburg and the N2 Gateway project in Cape Town were realised.

In response to the above-mentioned shortcomings, mega housing projects were introduced to remedy the challenges faced in the first two decades of democratic South Africa

(Ballard & Rubin, 2017). In 2014, the South African NDoHS stated that it will phase out smaller public housing developments and focus on large catalytic projects with at least 15,000 housing units and a population of around 60,000 people apiece (Harrison & Todes, 2017). New cities should be self-contained, with a full variety of services and amenities, as well as economic activities and jobs (GDHS, 2015). To progress beyond segregated urban forms, projects under the BNG approach aimed to accommodate residents with a range of incomes (NDoHS, 2004; Harrison & Todes, 2017). Subsequently, the Gauteng Provincial government (GPG) unveiled 'its own version of the strategy, claiming that dozens of megaprojects will be built around the province' (Ballard & Rubin, 2017:1).

2.2. Housing developments in Gauteng

More than anywhere else in the country, the Gauteng city-region experiences rapid transformation of its human settlements, in part due to on-going urbanisation, net immigration and migration, as well as endogenous household growth. The National Housing Policy mandates the GDHS to promote, coordinate, and implement housing programmes within its jurisdiction; approve housing subsidies and projects; as well as provide support to municipalities for housing development (Republic of South Africa, 1997). GDHS has implemented several programmes in conjunction with other stakeholders towards providing efficient and sustainable human settlements in the province through 'state-funded as well as open-market options spearheaded by banks and other lenders. The state-funded options include the finance-linked individual subsidies (FLISP) and the fully-subsidised options, including incremental housing and social and rental housing' (Cheruiyot & Ramantswana, 2022:43).

In 2015, the GPG introduced a policy called Transformation, Modernisation, and Re-industrialisation (TMR) policy, which comprise 10 pillars (GPG, 2015). Through this policy, the GDHS, as the implementing agency, aims to decisively ensure spatial transformation (Pillar 2) and modernise human settlements and urban development (Pillar 7) in the Gauteng province. Modernisation includes the use of alternative technology and development of green energy infrastructure. GDHS also contributes to Pillar 3 (accelerating social transformation) and Pillar 6 (modernisation of public service). GDHS contributes to the other six pillars through job creation, economic growth and development and socio-economic infrastructure (GDHS, 2015). These efforts have led to the development of new mega-housing projects envisaged to be worth R100-billion and when completed should deliver more than 800,000 houses within 30 residential developments across all five development corridors in Gauteng (see Business Tech (2019) and Gauteng Partnership Fund (2018) for more details).

2.3. Lived experiences of new housing projects residents

2.3.1. International illustrations

Internationally, there is evidence showing the impact that the new low-cost housing developments have had on affordability and other various aspects of residents who lived in them. Buckley et al. (2016) note that the last decade has seen an important shift in how governments in the Global South have implemented a sudden, extraordinarily large, and simultaneous expansion of multi-billion-dollar housing programmes.

These new investments, whether taking the form of traditional public housing assistance, or that of massive investments in new cities and new urban enclaves within existing cities, have not necessarily addressed the affordability concerns and fall short of Edward Glaeser's description of cities as a man's greatest invention (Buckley et al., 2016). Buckley et al. (2016) illustrate with large housing programmes in Africa (Angola, Rwanda, South Africa, Kenya, Nigeria, Ethiopia, Ghana, Democratic Republic of Congo), Asia (Thailand and India), and Latin America (Mexico, Colombia, Brazil, and Argentina). In China, Wang (2020) calls for an alternative analytical framework of studying the social impact of urban development that go beyond the lens of displacement. In this post-displacement agenda, Wang (2020) argues for the need to pay close attention to the livelihood of residents after being displaced, as well as those he called *left-behind communities* who live in and around the area being redeveloped, but have not been displaced.

According to Brown & Lloyd-Jones (2002) the (spatial) location of new housing developments has a significant impact on how residents adopt a range of livelihood strategies. The authors note that too often it is a problem for poor households because facilities and services are too distant to reach or too expensive, and that it is not uncommon for poor people living in peripheral locations to spend several hours a day travelling on overcrowded buses or minibuses, and the money and time lost in travel represent an often-unrecognised cost for the poor (Brown & Lloyd-Jones, 2002).

In Malaysia, Karim (2012) argues that there is evidence that shows that government-provided housing provides adequate playground area, community hall, landscaping and car parking; with accessible public schools, shops, public transport, medical centres and other commercial outlets. While these objective indicators show improved living conditions, Karim (2012) points out that often residents' perception paints a contradictory negative image, especially with regards to their perceptions of the existing QoL experienced in the social relations within the family, with neighbours and the community at large, access to and quality of community facilities, and the neighbourhood physical environment. Ali (2002) adds that infrastructure and environmental health services (IEHS), such as water, sanitation, drainage and solid-waste management, have direct and indirect impact on productive activities, human health, and the environment in urban residential quarters. He argues that in situations that these IEHS are not catered for when constructing housing, which is something that is more evident in low-income countries, the lack thereof is not only detrimental to the environmental and health conditions of the urban poor, but also their livelihoods.

Williams et al. (2022) address the question on the impact that relocation of low-income households to urban peripheries has on the physical and socio-economic mobility, as well as their ability to build secure urban futures. The authors comparative study of Ahmedabad, Chennai and Johannesburg reveals that housing policies and practices are placing on hold or even reversing low-income households' trajectories towards secure urban citizenship. This is witnessed where new housing 'differentially exposes residents to new financial risks, spatial dislocation, and the disruption of jobs and livelihoods' (Williams et al., 2022:911).

2.3.2. South African illustrations

Despite the extensive research on housing in South Africa, Charlton & Meth (2017) decried the limited research that focuses more on the beneficiaries' experiences. With

land available for new housing projects mostly available in peripheral locations, Peberdy et al. (2017) notes that such peripheral locations are frequently characterised by residents with low levels of education and low income, fewer and unevenly distributed schools, and children who must travel great distances to attend school.

Erasmus (2010) focused on the impact that low-cost housing has on the health and wellbeing of residents. She notes that poor physical structures of dwellings caused by poor workmanship and inferior building materials has resulted in respiratory infections being common, thus contributing negatively on the residents' overall health. Govender et al. (2010) assessed the relationship between residents' living conditions and their health vulnerability in a cross-sectional study conducted in subsidised low-cost housing communities in Cape Town, South Africa. The authors note that rehousing processes did not translate to improvement in health, and even worse, the 'health vulnerability of individuals in these communities had considerable implications for the curative health services' (Govender et al., 2010:899). Weimann et al. (2020) investigated the perceptions of interactions between health and its determinants within the context of informal settlement living environments. Interviewing local and provincial government officials, experts and policy implementers in Cape Town, South Africa, the authors found that living conditions of informal settlements has a direct impact on health.

Charlton & Meth (2017) emphasise the need to illustrate state-subsidised housing's multi-faceted effects on beneficiaries. Their study in Johannesburg and Durban focused on beneficiaries' new housing experiences upon relocation to state-subsidised housing. Charlton & Meth (2017) show that state-subsidised housing residents, particularly those who had previously lived in informal housing, were practically unanimous in their acclaim for the enhanced QoL. These benefits included protection from the weather (specially rain), security of tenure, and access to physical infrastructure, such as water, sanitation, and energy. The authors further note that many residents expressed the importance of having a sense of permanence and stability in their state-subsidised housing for themselves and for their descendants (Charlton & Meth, 2017). State-subsidised housing residents also reported that housing provided them with positive experiences of privacy that was significantly better than that which they had experienced in informal housing. The rating of privacy, however, was dependent on the new house's size and associated internal dimensions and design. For example, Charlton & Meth (2017) document that older state-subsidised homes (less than 40m²) often with only one bedroom or a single un-partitioned interior area posed privacy challenges, especially in homes with adolescent or adult mixed-sex children or complicated household arrangements with adult relatives sharing the residence. Erasmus (2010) argued that limited space and small housing units causes disintegration of extended families, privacy issues, and psychological insecurity.

Charlton & Meth (2017) also found that crime (including domestic harassment and gender-related violence) was reduced due to several factors, such as reduction in perceived and actual violence. This is also due to the provision of street lighting, presence of clearer road and passageways for mobility, and 'formalised procedures of housing allocation and ownership which helped reduce the capacity for random criminals to reside in the settlement' (Charlton & Meth, 2017:99).

In terms of the impact on livelihoods, access to employment, cost of living, and consumption patterns, Charlton & Meth's (2017) study revealed mixed findings. These

particularly emerged from the relative location of the state-subsidised housing from places offering employment opportunities. Locations closer to city centres and reliable transport facilities offered better QoL, while peripheral locations offered deep concerns about poverty and rising cost of living. Loss of income emerged from formalisation (e.g. where residents are not allowed to sell fruits), loss of established customers due to relocation, and not being able to build shacks at will once they relocate to their new homes. In Cape Town, Erasmus (2010) notes that due to the dwelling being too small, residents did not see their dwelling providing opportunities to generate an additional source of income. However, Charlton & Meth (2017) argue that some state-subsidised properties offered income-generating activities such as car repairs. The relative location of state-subsidised housing also meant that, in some instances, household breadwinners, who worked far from home and could not afford to commute daily, are forced to find alternative living arrangements closer to work and could sometimes end up living in precarious situations, such as living in a shack, sleeping in public spaces, or on the floor of an outbuilding. In other cases, some household breadwinners would be forced to rent out their state-subsidised houses and move back to other over-crowded forms of housing. Brown & Lloyd-Jones (2002) concur that such new developments are often relatively devoid of livelihood opportunities and displaced residents may move back into the city to survive.

Charlton (2017) applies two concepts – ‘invented co-production’ and ‘incubator urbanism’ – to explain that regardless of how highly planned and controlled ambitions of mega-housing projects, residents of state-subsidised housing alter their living spaces to their benefit. She defines invented co-production as ‘an uninvited, unanticipated actions by residents of formal neighbourhoods which transform the built environment through alterations, additions and new structures, as well as uses and practices, largely unauthorised and often non-compliant in terms of by-laws, regulations and rules’ (Charlton, 2017:99). Incubator urbanism is where residents take advantage of the provision or improvement of basic infrastructure to positively alter key impacts on QoL, potentially facilitating income-generation, improved health and opportunities for social activity, amongst other things (see for example Amis 2001; cited in Charlton, 2017).

Culwick & Patel (2020) explored the social justice and environmental sustainability outcomes of government housing programmes in Gauteng province. The authors confirmed what other researchers have found that while housing developments in Gauteng have improved access to basic services and amenities, they tend to be poorly located from economic hubs, and residents are forced to explore other income generating opportunities. As such, these housing developments tend to have ‘negative implications for the environment because of land-use transformation, embedded resource requirements of infrastructure and housing, and the likely higher daily use of resources (e.g. water and electricity) because of improved access to basic services’ (Culwick & Patel, 2020:16).

Meth & Buthelezi (2017) explored the socio-political outcomes of state-led housing interventions using Hammond’s Farm, eThekweni as their case study. They illustrate the limitations of efforts to produce ‘safe neighbourhoods’ in contexts of high unemployment alongside high levels of violence. The authors highlight that access to new leisure activities, including alcohol consumption and ‘township life’ that happens alongside on-going poverty, foster urban incivilities (Meth & Buthelezi, 2017). Du Plessis &

Landman (2002) carried out sustainability analysis of human settlements in South Africa and noted that human settlements have impact on QoL of residents, which is measured as access to and the quality of shelter, health, safety, productive assets, and the built environment.

This review of literature has uncovered that residential location has several impacts on residents' lived experiences and livelihoods emanating from their access to economic opportunities, social services, and public amenities. This present paper extends existing research by analysing the effect of relocation of residents to Golden Garden homes based on selected QoL measures and financial wellbeing. The selected QoL measures include access to services (transport to work and social activities, perception of access to and quality of physical and social conditions), safety, and socio-economic status (perception of economic and business opportunities, and particularly, financial wellbeing) (see De Kadt et al.'s (2021) definition of QoL index and encompassing dimensions).

3. Research approach

3.1. The location and characteristics of the Golden Gardens housing development

This paper focuses on Golden Gardens housing development, which is in Sebokeng Township, Emfuleni local municipality, Gauteng province (see Figure 1). Golden Gardens housing development was planned to offer housing opportunities varying in size, typology and tenure type and to address a broad spectrum of income earners. With ground breaking in September 2009, its projected cost was R7.9-billion over a proposed development period of 7–10 years (Gaba, 2013). The housing development,

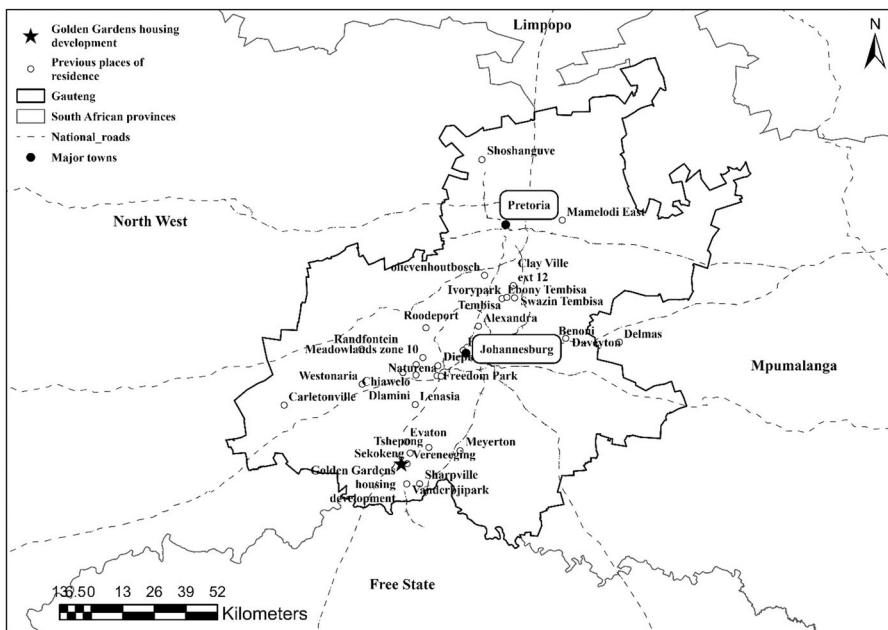


Figure 1. Location of Golden Gardens housing development in Gauteng province and South Africa.

envisaged to be a new suburb complete with its own schools, churches, and community facilities, was to be implemented in five phases, whereas in 2022 three phases have been completed. Golden Gardens housing development comprises of both the state-subsidised (including the military veterans) and bonded housing. Once completed, the state-subsidised housing would comprise of 666 main houses and 666 backyard units (= totalling 1332) – with each stand having a main house and a backyard unit. The backyard units were intended to be rented to generate incomes for respective house owners.

The bonded housing typologies were intended for households earning between R3,500 and R9,999 (currently capped at R22,000) a month – a housing market also called Finance-Linked Individual Subsidy Programme (FLISP). The bonded houses consist of units ranging from 40 square-metre to 75 square-metres units. While all the units have open plan lounge and a kitchen, the 40 square metre units have two-bedrooms, and a bathroom consisting of a bath, washbasin, and a toilet. The 75 square-metre units comprise of three-bedrooms, and two bathrooms each consisting of a bath, washbasin, and a toilet. In 2017, the two-bedrooms and the spacious, 75 square metre 3-bedroom houses' asking price were R390,000 and R600,000, respectively (Golden Gardens, 2021).

As part of the Golden Gardens housing development business plans a total of 14 primary schools, six secondary schools, two day-care centres and about 45 crèches were to be built. These facilities were to serve an expected 110,000 or so people who were to live in the new township, a large proportion will be of school-going age (Gaba, 2013). However, to date, it is only the primary school that was completed and admitted students in January 2020. Since few phases in the housing development are complete, the single primary school caters for the educational needs of Golden Gardens housing development residents adequately. Access to transport infrastructure is not a challenge to the Golden Gardens housing development residents since the housing development is located adjacent to provincial/regional road (R57, commonly called Golden Gardens highway). Two bus companies and mini taxis ply the adjacent routes and provide public passenger transport to Golden Gardens housing development residents. Water, sewer, trash collection, roads, and electricity are available in Golden Gardens housing development.

With lack of new shopping centres, residents continue to rely on economic and employment nodes that existed before the development of Golden Garden homes, with ArcelorMittal steel as the major employer in the Golden Gardens housing development vicinity. EasyData (2022) indicates that the main economic sectors in Emfuleni are manufacturing (with a significant contribution by ArcelorMittal steel), finance, community and support services, as well as wholesale and retail trade. EasyData (2022) also adds that Emfuleni's unemployment is high with an average rate of about 33% in the last five years. These results have a huge impact on access to work and selected QoL of Golden Gardens housing development residents.

3.2. Data and data analysis

The paper uses primary data that were collected by means of questionnaires administered to residents who currently live in Golden Gardens housing developments phase three. The questionnaire had four sections. Section 1 focus on respondents' demographic

and socio-economic profile. Sections 2 and 3 focused on questions relating to modes and costs of transport relating to respondents' previous places of residence and Golden Gardens homes, respectively. Section 4 probe respondents' perceptions by comparing the Golden Gardens homes and previous places of residence with respect to a number of selected QoL measures, such as exposure to economic activities. A total of 250 questionnaires were administered in July 2021. One hundred and ten (110) questionnaires were fully completed representing 44% response rate. The collected data were representative of the sampled residents. The realised sample size of 110 was sufficient for paired t-test as a parametric technique to be conducted. All the primary data collected were captured and stored in statistical package for social science (SPSS) format.

The paper employed both descriptive and paired t-test analyses. Descriptive analyses focused on the presentation and discussion via bar charts. Paired t-tests were used to determine whether there were statistically significant differences between the means of two samples across selected QoL measures. In this paper, several paired t-test were conducted since the samples were dependent. The respondents were asked to respond to a preselected set of QoL measures, such as costs of travel to work, costs of travel to social activities, and net monthly household incomes, at both their previous places of residence and in Golden Gardens homes. Their responses relating to their previous places of residence were categorised as the first sample, while their responses relating to their Golden Gardens homes were categorised as the second sample.

3.3. Reliability

Prior to detailed analysis, a reliability analysis was conducted using Cronbach's alpha. Cronbach's alpha is a measure of internal consistency of the research instruments. It is considered a measure of scale reliability. Overall internal consistency for the research instrument was acceptable Cronbach coefficient ($\alpha = 0.76$). A reliability coefficient of 0.70 or higher is considered 'acceptable' in most social science research situations (Hair et al., 2006). The results are presented in four sections: a comparison of transport-related aspects of residents' lived experiences between the previous places of residence and Golden Gardens homes, perception of respondents across selected QoL measures after relocation to their Golden Gardens homes, and paired t-test analyses of the impact of relocation on respondents' financial wellbeing.

4. Results and discussions

During the launch of mega human settlements (MHS), the Premier of Gauteng noted that new MHS were needed as corrective measure to apartheid and early democratic urban planning shortcomings. For instance, state-subsidised housing, known colloquially as RDP housing, developments tend to mirror the housing system put in place during apartheid rather than transformative and progressive (Gauteng Partnership Fund, 2018). With several objectives, new MHS needed to be forward looking by bringing 'diversity in human settlements by emphasising mixed income, high density human settlements that place emphasis on social and economic inclusion, as well as promoting spatial justice' (Gauteng Partnership Fund, 2018:1). The stated objectives are always broad, suffer from malaise of generalities, and not easily achieved for several reasons (Manomano et al.,

2016; Cheruiyot, 2018; Gauteng Partnership Fund, 2018). To move beyond generalities, the discussion in this section, focuses on respondents' demographic and socio-economic profile, and the challenges experienced due to the location of Golden Gardens housing development, such as respondents' travel to access their workplaces, social and public services; their mode of transport and how much do they spend to access their workplaces, social and public services; and more importantly, on whether respondents' financial well-being has improved or not – the latter based on paired t-test analysis.

4.1. Residents' demographic and socio-economic profile

In terms of demographics, residents' age range between 20 and 50 years, with majority (35%) in the 30–40 years range. Of the sampled respondents, 70% were male and 30% were female. Forty-eight per cent of respondents had lived in their Golden Gardens homes for 4–6 months, 27% had lived in their Golden Gardens homes for less than 3 months, and 20% had lived in their Golden Gardens homes for 7–9 months. These results were expected, since Golden Gardens is a fairly new development.

The current residents of Golden Gardens came from all around the Gauteng province. Some of the places that were commonly mentioned were: Mamelodi East, Ivory Park, Tembisa, Protea Glen, Braamfontein, Clayville ext. 12, Alexandria, Sharpeville, Sebokeng, and Soweto (see Figure 1). As to why respondents had to relocate or reside at their Golden Garden homes, majority (69%) cited 'just needed a house'. This is an important finding since the mandate of GDHS is to provide housing, however, the quality may be. Reasons for relocation, such as 'closer to work', 'close to schools and shops', and 'I like the area it is located' had low scores of 7%, 2%, and 7%, respectively.

4.2. Transport to work and social activities – A comparison between the previous places of residence and Golden Garden homes

This section focuses on the different modes of transport to work and social activities that respondents used in their previous places of residence and in Golden Garden homes. The same comparison is made for distance travelled and cost of travelling to work and social activities. This comparison is important to identify the impact of location of the Golden Gardens homes on respondents' lifestyles, livelihoods, and financial wellbeing.

Figures 2 and 3 illustrates that public taxi remains a major mode of transport to work and social places in their previous places of residence and in Golden Gardens homes. In both cases, the results indicate that majority of respondents did not have access to private transportation and therefore make use of public transportation services. However, there seems to be a slight increase in the use of buses and public taxis as modes of travel to work places. This is explained by two bus companies and public taxis that ply the adjacent routes and provide public passenger transport to Golden Gardens housing development residents. Four per cent of the respondents used a train to commute to work before relocating to Golden Gardens; however, due to lack of access to a railway station near the Golden Garden residence, they had to find alternative mode of transport.

Figures 4 and 5 show the distance travelled by respondents to work places and social activities. Figure 4 shows that less than one tenth (8%) of the respondents travel less than 1 kilometre (km) to work, while 33% and 38% travelled 1–5 km and 6–10 km to

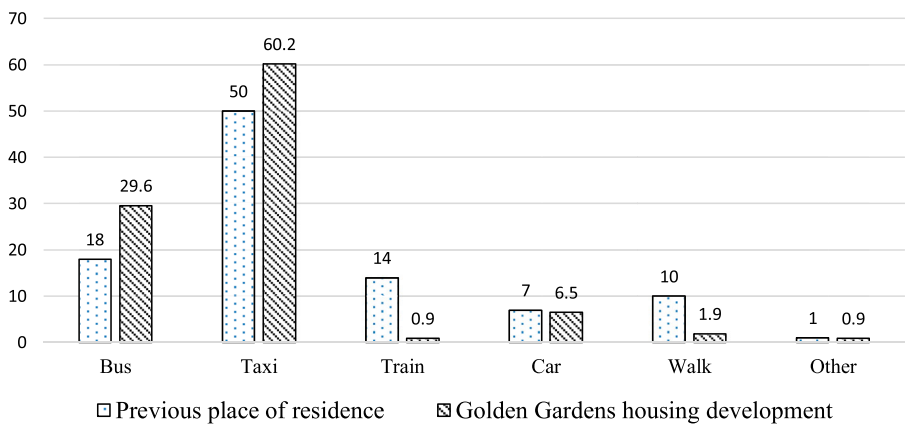


Figure 2. Respondents’ mode of transport to work.

work, respectively, in their previous places of residence. In contrast, respondents travel longer to work from their Golden Garden homes. For example, none travels less than 1 km, 39% travels 6–10 km, and 36% travels 11–15 km. Figure 5 shows that a quarter of the respondents travelled less than 1 km to shops, schools, and hospital from their previous places of residence, a majority (39%) travelled between 1–5 km, and another quarter of the respondents travelled between 6–10 km. On average, respondents now travel further to social activities from their Golden Garden homes than they did from their previous places of residence.

Figure 6 illustrates that a majority (35%) of respondents spent R201–400 on transport to work from their previous places of residence, while a majority (41%) of respondents spent between R401 and 600 from their Golden Gardens homes. Only 30% of respondents spent R401–600 on transport to work in their previous places of residence. Still 24% of respondents spend R600–1000 in their Golden Gardens homes. These results suggest that, broadly, respondents spend slightly more in their Golden Gardens homes to travel to work compared to how much they spent in their previous place of residence.

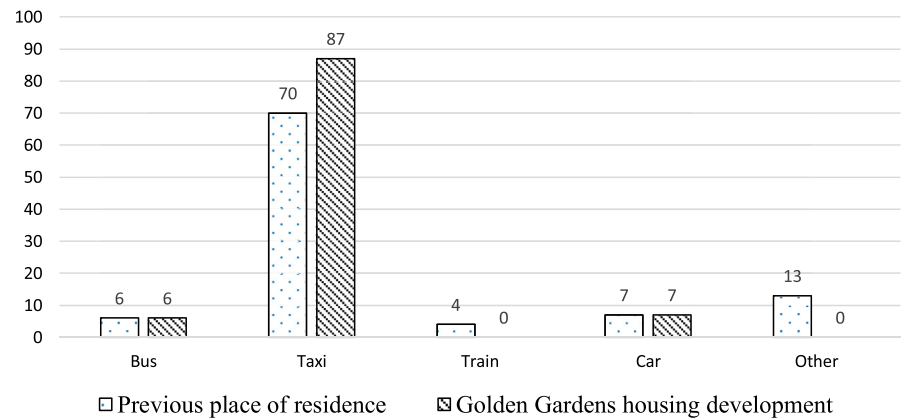


Figure 3. Mode of transport to social activities.

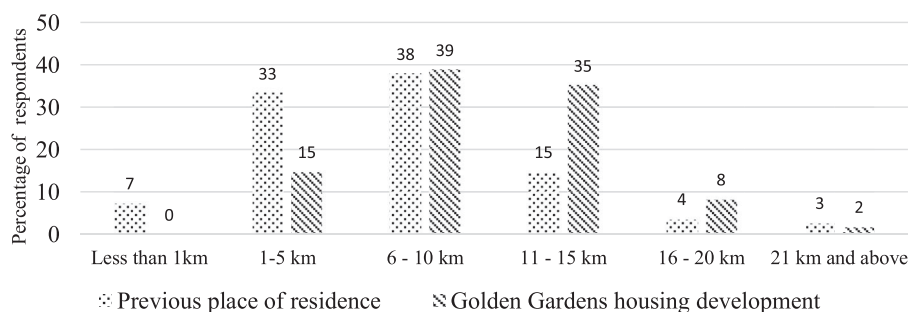


Figure 4. Respondents' distance travelled to work.

Figure 7 illustrates that a majority (38%) of respondents spend between R100–200 on transport to social activities, while a majority (59%) of respondents spent R201–400 to social activities from their Golden Gardens homes. The average monthly expenditure on transport to social activities from their previous places of residence is in the R201–400 income range and the average monthly expenditure on transport to social activities in their Golden Gardens homes is in the R401–600 income range.

A closer look at the data suggests that respondents in Golden Gardens homes spend more to work than to social activities. For instance, while only 71% of respondents spend less than R600 on travel to work (see Figure 6) compared to 85% of respondents spending less than R600 to social activities (see Figure 7), more respondents (41%) spend R401--600 to work compared to few (21%) of respondents who spend R401–600 to social activities. This scenario can be explained by the fact that respondents often would travel Monday through to Friday for work, while travels to social amenities, such as hospitals, are less frequent. It is also possible that the use of public taxis as the main mode of transport contributes to the increased cost of travelling, as taxis are more expensive compared to other modes, such as metro buses and trains. Still, taxis are more reliable compared to other modes of transport, such as bus and train, that were available in their previous places of residence.

As a result, the inadequacy of transport modes in the new Golden Gardens homes (Hernandez & Titheridge, 2016) means that the cost of transport is a significant element in locational (in)convenience as noted by Charlton & Meth (2017). The

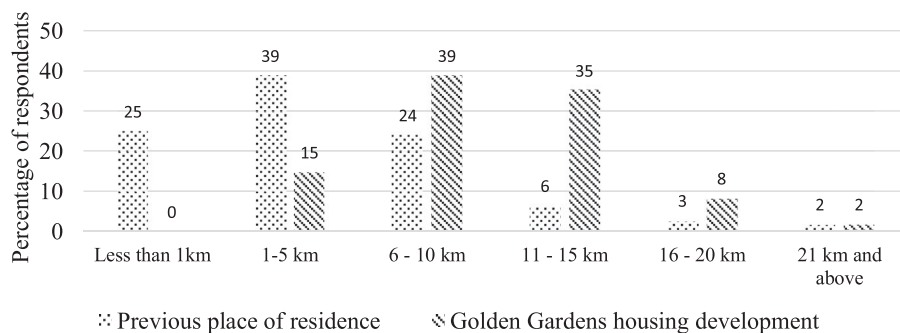


Figure 5. Respondents' distance travelled to social activities.

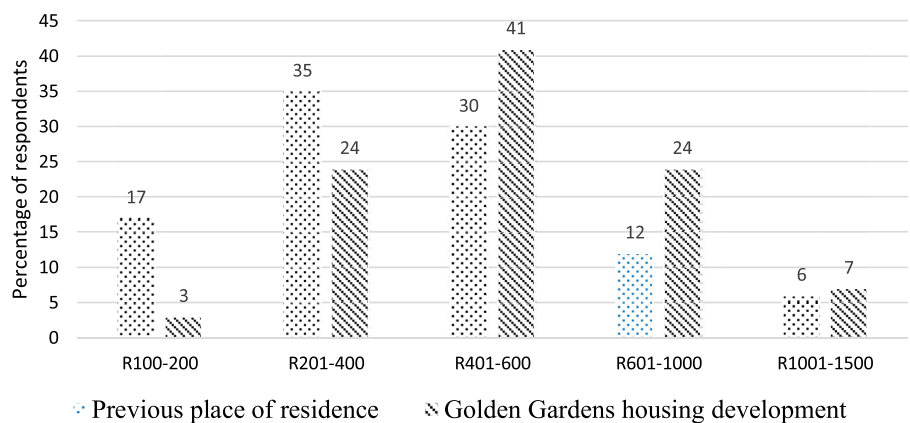


Figure 6. Respondents’ monthly expenditure on transport to work.

results further suggest that respondents now spend more money on transport to social activities at their Golden Gardens homes compared to their previous places of residence. It can be argued that this could be an opportunity cost that residents must pay for living in secure homes with better living conditions.

4.3. Perception of access to and quality of physical and social living conditions following relocation to the Golden Gardens homes

When respondents were asked if staying at their Golden Gardens homes has improved their living conditions, 98% of the respondents indicated that their living conditions have improved since they started staying in their Golden Gardens homes. This result concurs with the existing literature, where state-subsidised housing respondents, particularly those who had previously lived in informal housing, were practically unanimous in their acclaim for the enhanced QoL in the selected measures. These benefits included protection from the weather (particularly rain) and security of tenure (Charlton & Meth, 2017). According to Erasmus (2010) there was more than 50% opinion in Westbank, Cape Town that it was not a good place to raise children. The author attributes this situation to limited development

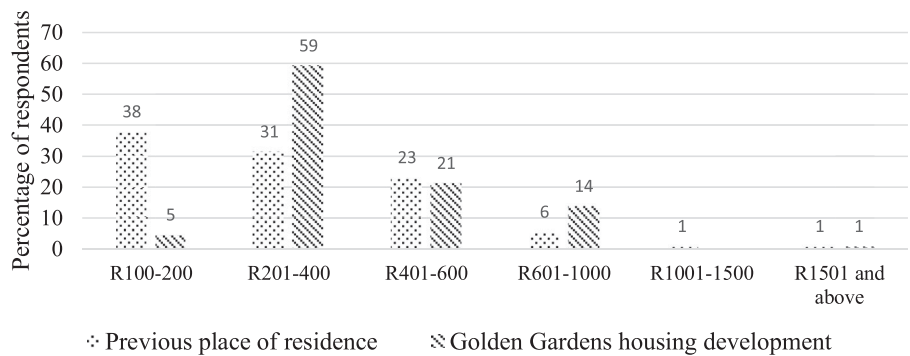


Figure 7. Respondents’ monthly expenditure on transport to social activities.

of youth and community facilities. Literature points to mixed respondents' perceptions. On the one hand, respondents felt that receiving state-subsidised housing provided a sense of ownership and an improvement on their QoL in the selected measures; while on the one hand, respondents felt that as much as some aspects of their lives had changed through relocating and receiving a house, they were not much better off, and that their lives had not changed as much as they had anticipated (Dunn, 2017).

Similarly, when respondents were asked if staying at their Golden Gardens homes has improved the services they receive, such as refuse services, water, and electricity, 99% of respondents unanimously agreed that the quality of services received had improved. One of the objectives of mega-housing projects is to provide housing with better living conditions, even to poor households, and the development of Golden Gardens homes seems to have achieved this specific objective.

In terms of security, respondents were also unanimous (99%) in agreeing that staying in their Golden Gardens homes has improved security substantially. Literature shows that many respondents expressed the importance of having a sense of stability in their state-subsidised housing. This was significant not only for them, but also for their descendants. The anxiety of respondents was alleviated by a sense of ownership and legitimacy that came with state recognition (Charlton & Meth, 2017). Meth & Buthelezi (2017) show that new housing developments produce 'safe neighbourhoods' despite other urban incivilities. Sixty per cent of the respondents indicate that the social amenities, such as schools, churches, workplaces, health care centres, libraries, and shopping centres around their new homes, are sufficient (Erasmus, 2010).

4.4. Perception on economic and business opportunities following relocation to the Golden Gardens homes

This section focuses on monthly budgets as well as economic and business opportunities used as selected measures of QoL. The results regarding perception of improvement in monthly budget illustrated a split, in that 52% stated that their monthly budget did not improve after their move to their Golden Gardens homes, while 48% said their monthly budgets has improved. When asked whether living in the Golden Gardens homes has exposed respondents to more economic activities, such as employment and business opportunities, 51% perceived no improvement, while 49% perceived some improvement, which is similar split compared to perception on improvement in monthly budgets. These results show that the Golden Gardens homes have not yet provided economic activity and jobs, yet this is one of the objectives of mega-housing developments. Fieldwork findings show that the envisaged new suburb that has economic activities, schools, churches, and community facilities has not yet been realised. With the new shopping centres yet to be built, Golden Gardens residents continue to rely on economic and employment nodes that existed before the housing development, with Arcelor-Mittal steel as the major employer in the Golden Gardens housing development vicinity.

4.5. Financial wellbeing related to relocation to Golden Gardens homes – paired t-test analysis approach

This section focuses on paired t-test analyses that allows for comparing respondents' financial wellbeing in three measures: (i) costs to travel to work, (ii) costs of travel to

social activities, and (iii) net incomes in their previous places of residence and Golden Gardens homes. Respondents' net income in both the previous places of residence and Golden Garden homes was calculated as the balance of the average household income after deducting the average cost of travelling to both work and social activities. This was necessary to establish whether respondents' financial wellbeing improved or not post relocation. More importantly, it is also an objective measure of the respondents' QoL in the selected measures since the results in the previous sections were based on the respondents' perception, thus subjective measures. Dunn (2017) argues that the respondents' perception on housing quality could be highly subjective and differs from person to person. While the respondents were split in the middle regarding their perceptions of improvement in the monthly budgets and exposure to economic and business opportunities, an appropriate statistical analysis approach, such as paired t-test, has the potential to uncover hidden nuances in the distributions in both cases.

Descriptive analysis of the respondents' household income showed that 69% majority of households belonged to the R3,501–10,000 income range. This is expected since Golden Gardens housing development was intended to deal with the housing needs of households in the same income range. Seventeen per cent of respondents belonged to the R1,000–3,500 income range, while 13% belonged to the R10,000–15,000 income range.

Three paired t-test analyses were run, with each testing if there was significant difference between the respondents' financial wellbeing measured as (i) costs of travel to work, (ii) costs of travel to social activities, and (iii) net monthly household income, respectively, in their previous places of residence and Golden Gardens homes. The results in the three scenarios were statistically significant.

A paired samples t-test is conducted to determine if there was a significant difference between the respondents' financial wellbeing, which means cost to travel to work, in their previous places of residence and their financial wellbeing, which means cost to travel to work, in their Golden Gardens homes was statistically significant. The results indicate a significant difference between respondents' cost to travel to work in their previous places of residence ($M = 456$; $SD = 284$) and respondents' cost to travel to work in from Golden Gardens homes ($M = 567$; $SD = 272$); [$t(108) = -4.80, p < 0.001$].

A paired samples t-test is conducted to determine if there was a significant difference between respondents' financial wellbeing, which is cost of travelling to social activities, in their previous places of residence and their financial wellbeing, which is cost of travelling to social activities, in their Golden Gardens homes was statistically significant. The results indicate a significant difference between respondents' financial wellbeing in their previous places of residence ($M = 335$; $SD = 218$) and respondents' financial wellbeing in their Golden Gardens homes ($M = 414$; $SD = 200$); [$t(108) = -4.07, p < 0.001$].

A paired samples t-test is conducted to determine if there was a significant difference between respondents' financial wellbeing, which is net income, in their previous places of residence and their financial wellbeing, which is net income, in their Golden Gardens homes was statistically significant. The results indicate a significant difference between respondents' financial wellbeing while residing in their previous places of residence ($M = 5,899$; $SD = 2,859$) and respondents' financial wellbeing after relocating to their Golden Gardens homes ($M = 5,709$; $SD = 2,814$); [$t(108) = -5.63, p < 0.001$].

The above analysis has shown that households' net income has reduced from R5,889 to R5,709 after moving to their Golden Gardens homes. While, on average, net monthly

household income has not changed much, respondents are slightly worse off in their Golden Gardens homes compared to their previous places of residence. Similarly, the results show that respondents' average cost of travel to work has slightly increased from a mean of R456 to R567, while the average cost of travel to social activities has also increased from R335 to R414. Given that these results are statistically significant, the results imply that residents' financial wellbeing has declined slightly post relocation to their Golden Gardens homes.

In other studies, this is partly explained by the respondents' perception that relocating to their Golden Gardens homes has not really exposed them to economic and business opportunities (Charlton & Meth, 2017). This emanate from the fact that to find adequate land to build Golden Gardens homes, a trade off was made for Golden Gardens to be located in the periphery (Peberdy et al., 2017).

The results show that the need for basic housing, better sense of security, better access to physical and social services and better quality of living seems to be a key priority for the majority of the respondents. As a result, respondents were willing to compromise on travelling longer distances to work and social activities. Overall, these results suggest that respondents adjust to their new living conditions and learn how to manage their living expenses and budgets after moving to Golden Gardens homes.

5. Conclusions

A few concluding remarks can be made from this research. First, evidence shows that majority of respondents are satisfied with the living conditions in their Golden Gardens homes, compared to their previous residences. The findings in this study reveal that Golden Gardens, like other built state-subsidised housing projects, has a share of unsatisfied respondents, especially as it relates to the lack of intended benefits of long-term human settlements, which is closer to workplaces. The inadequacy of economic and business opportunities heralds a possibility of residents' livelihood strategies being stunted (Brown & Lloyd-Jones, 2002). This has an impact on residents' ability to adapt and build secure urban futures (Williams et al., 2022).

Even though the respondents have not been living in Golden Gardens homes for long at the time of the research, there is only one primary school, no health facility, and no cultural, recreational, or administrative amenities and for them to access these services they always must travel and pay more for transport. This means that Golden Garden Homes residents spend several hours a day travelling on overcrowded buses or mini-buses, and the money and time lost in travel represent an often-unrecognised cost to them (Brown & Lloyd-Jones, 2002). Comparatively, many residents currently living in Golden Gardens live further from work and social activities than they did in their previous residences, which means that they travel further and spend more each month on transport than they did before. These mobility challenges to work and social places have a bearing on Golden Gardens residents' QoL.

Moreover, findings supported the hypothesis that respondents in their Golden Gardens homes are financially worse off than before they were relocated. In Golden Gardens homes, however, the backyard rental units that accompanied the main house may provide a relief to the residents as a source of income for the residents in the state-subsidised units. The phenomenon of building backyard rental units in the

bonded housing units, when it happens, could be a strong urban force that will contribute to improved socio-economic conditions of Golden Gardens residents (Scheba & Turok, 2020).

Second, this paper's findings argue that for development of mega-housing projects to be sustainable, decision makers focusing on human settlements must be knowledgeable in identifying appropriate land parcels. The paper has also demonstrated the need to move beyond the malaise of generalities that is predominant in government's human settlements policy documents and uncover needed, but hidden nuances.

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