

PAPER 14

ADDRESSING VANDALISM AND WATER ISSUES IN LOW-COST, HIGH-DENSITY HOUSING PROJECTS

Karen King and Harry Neethling
RHDHV

ABSTRACT

Vandalism has plagued low-cost housing projects in South Africa for years, causing project delays and budget over-runs. Vandalism can have various underlying causes and is often a sign of sociological dynamics. It can be a protest against neglect, a form of self-expression, identity formation, a lack of parental supervision or boredom. Another low-cost housing challenge is water availability and management, owing to issues of inappropriate stormwater management, a lack of water reuse and high urbanization rates, among others.

To address these inter-related issues in the planning stages of the first low-cost, high-density housing project in Mossel Bay, the Mountain View housing project team adopted an approach that built water- and community-sensitive thinking into their design. The objective of the project was to provide structures and services on 1003 high-density residential and 9 non-residential erven. Additional objectives included provision of opportunities for community interaction, self-expression, safe spaces for the youth, recreation areas and effective, environmentally friendly water solutions. This necessitated integrated engineering and sociological design processes. Water demand was calculated based on urban agriculture, sports field and school requirements in addition to the housing requirements. Water management included design of vegetated attenuation ponds for stormwater attenuation within public open spaces, and rainwater harvesting facilities.

Post occupation of the first batches of houses, the remaining, unoccupied houses were vandalised. Thereafter a community mural painting project and a healing process were facilitated. Artists, Traditional Leaders and community members designed and painted the murals together, providing opportunities for expression, community cohesion and a sense of belonging. A traditional community healing process was held to ask the ancestors to welcome the new community. The community was very positive about the additional design aspects. The facilitating artists were welcomed into the community, which was keenly involved in the mural project and healing process. The community facilities that have been built are being used and looked after. The attenuation ponds have successfully attenuated large storm events and the harvested rainwater is used for irrigation.

Since the last of the Mountain View community members have taken occupation there is no evidence of further vandalism or water problems at the site. It is recommended that the situation be monitored and that the incomplete community resources, such as the school and the urban agriculture area, be developed as soon as possible. Finally, it is recommended that more use is made of the harvested rainwater.

INTRODUCTION

The provision of adequate and sustainable housing is a fundamental human right and a crucial component of social and economic development (Tang and Spijkers, 2022). Rapid urbanization and population growth in South Africa have placed immense pressure on housing delivery, particularly for low-income households (Beier, 2023). Low-cost housing projects, intended to address this challenge, often face a multitude of problems, including vandalism and

inadequate water services. These issues hinder the projects' success, and negatively impact the quality of life for residents (Chakwizira, 2019).

Vandalism has plagued low-cost housing projects in South Africa for years, causing project delays and budget over-runs (Marutlulle, 2021). Vandalism in low-cost housing projects in South Africa is a complex issue with a range of potential causes (Leboto-Khetsi, 2022). Vandalism is often a sign of sociological dynamics and can be a protest against neglect, a form of self-expression, identity formation, a lack of parental supervision or boredom. Vandalism can take the form of property damage, graffiti, theft and other acts of destruction (Hamlin, 2024). The consequences of vandalism are far-reaching, including increased maintenance costs, reduced property values and a decline in the overall living environment (Brown-Luthango *et al.*, 2017). Further to this, both water scarcity and flooding are growing concerns in many parts of South Africa, owing to factors such as climate change, population growth and inefficient water management practices (Rodina *et al.*, 2024). Inadequate water supply, stormwater and sanitation infrastructure in low-cost housing projects can lead to health hazards, social conflicts and economic losses (Manga *et al.*, 2020). While it may appear that these are significant, but unconnected challenges associated with low-cost housing, the theme that connects these challenges is dignity.

Some of South Africa's low-cost housing issues can be explained by the Broken Windows Theory. The theory posits that visible signs of neglect, such as vandalism, broken standpipes and overflowing manholes, contribute to a sense of disorder and powerlessness among residents (Kelling and Coles, 1997). Such an environment can erode dignity, making residents feel undervalued and less likely to care for their surroundings. When dignity is compromised, residents are often less inclined to report crime or maintain their living spaces. This can lead to further environmental deterioration, and an increase in crime rates (Mbandlwa, 2021; Samuel *et al.*, 2024).

This paper presents a case study of the Mountain View housing project in Mossel Bay, which adopted a comprehensive approach to tackle the inter-related challenges of vandalism and water services provision. By combining community engagement philosophies and water-sensitive design in the planning stages, the project aimed to create a resilient and sustainable living environment and a sense of dignity for its residents.

DIGNITY

Dignity in low-cost housing is about more than just providing shelter. It means creating spaces where residents feel a sense of pride, belonging, and control over their environment. It means access to essential services like clean water, stormwater facilities and sanitation, as well as building inclusive community areas with open green spaces, shared amenities and opportunities for social interaction. Ultimately, dignity in low-cost housing recognizes that everyone deserves a home where they feel safe, respected, and connected to their community (Ntombela and Jili, 2020; Rice *et al.*, 2023).

A sense of dignity fosters a strong connection between residents and their environment. When people feel respected and valued, they are more likely to treat their surroundings with care. This translates into a greater sense of ownership and responsibility for maintaining shared spaces (Mbandlwa, 2021; Mlondo, 2022). Residents who experience a sense of dignity are more likely to

participate in community clean-up programmes, to conserve resources and to uphold communal rules, creating a more sustainable and pleasant living environment for everyone (Mendez *et al.*, 2021). Additionally, dignity breeds a sense of pride, motivating residents to keep their homes and common areas well-maintained, enhancing the overall quality of life within the community (Rabello Lyra, 2021).

Especially noteworthy when addressing issues of vandalism, dignity plays a crucial role in enhancing security within a community. When residents feel valued and respected, they are more likely to look out for one another. This fosters a sense of community, where people are invested in the well-being of their neighbours (Marutlulle, 2021; Mbandlwa, 2021). Residents with a sense of dignity are more likely to report suspicious activities, build trusting relationships with security personnel, and actively participate in community watch programmes. Additionally, a dignified environment discourages anti-social behaviour, as people are less likely to engage in activities that could jeopardize the safety and harmony of their community. This collective vigilance and cooperation create a safer living environment for all residents (Michaels, 2022).

Vandalism and inadequate water infrastructure in low-cost housing projects have been extensively studied (Mohamad *et al.*, 2019; Thakur *et al.*, 2021; Thakur *et al.*, 2022, Shuhaimi, 2023) revealing complex and interconnected factors contributing to these problems. Factors contributing to water scarcity include inadequate infrastructure, inefficient water use, and a lack of water management strategies. Research has emphasized the importance of water-saving technologies, rainwater harvesting, and community-based water management (Bakare *et al.*, 2016; Drangert and Sharatchandra, 2017; Thakur *et al.*, 2021). Research has also identified various causes of vandalism, including social deprivation, lack of ownership, and a sense of alienation among residents (Caya, 2016; Mushtaha, 2016; Bauhn, 2018). Studies have also highlighted the roles of environmental design and community engagement in preventing vandalism (Armitage, 2016; Lee *et al.*, 2016; Mohammed and Hirai, 2021).

A cycle of progressive deterioration is frequently set up when social and environmental issues are not addressed in an integrated manner. Vandalism of water infrastructure can lead to water shortages, which can exacerbate water scarcity issues in areas with limited resources, such as much of South Africa. When water supply is unreliable, residents may resort to illegal connections, which can contribute to further damage to the water system and increase the potential for vandalism (Mangizvo *et al.*, 2016). The frustration among community members caused by the lack of adequate water supply can lead to a breakdown in community cohesion and increased likelihood of vandalism as a form of social unrest. Vandalized or unmaintained houses can, in turn, further contribute to water problems, as broken pipes and damaged roofs can lead to water wastage and contamination (Sindane and Modley, 2023).

BROKEN WINDOWS THEORY

As highlighted, a sociological theory that is applicable to the kinds of challenges faced by low-cost housing projects in South Africa is The Broken Windows Theory. The theory posits that, evident signs of crime, disorder and neglect lead to more serious crime (Kelling and Coles, 1997). Because so many low-cost housing developments in South Africa face poor maintenance, vandalism and a lack of basic services (Marutlulle, 2021), this theory has significant implications for low-cost housing in South Africa. These issues typically create an environment where residents feel a sense of neglect and powerlessness, and, according to The Broken Windows Theory, this perceived disorder can escalate into more serious crimes and anti-social behaviour. Furthermore, the theory suggests that visible signs of crime, such as graffiti, burnt and broken structures, and, of course, broken windows, can signal to potential offenders that the area is unsafe and uncontrolled. This can lead

to a downward spiral, where more crime attracts more criminals, further deteriorating the environment and the quality of life for residents (Kelling and Coles, 1997).

Research has shown that one of the best ways in which to break such a cycle of deterioration and to counter community issues such as theft and vandalism, especially when the perpetrators come from within the community in question, is effective community engagement (Shackleton and Njwaxu, 2021, Mafukata *et al.*, 2024). In low-cost housing projects community engagement can yield several benefits, including creating a sense of ownership, pride and responsibility; social cohesion; facilitating problem solving; increased surveillance and early intervention, and improving sustainability. A sense of ownership, pride and responsibility is created when residents are involved in the management of their environment. This can deter vandalism as residents are more likely to protect their own investment and less likely to tolerate vandalism or destructive behaviour (Shackleton and Njwaxu, 2021, Sepawie *et al.*, 2022). Social cohesion is created through community engagement as this fosters a sense of belonging and shared responsibility, reducing social isolation and the likelihood of anti-social behaviour. Community-based problem-solving requires the input of the community, as residents typically possess valuable local knowledge and insights that can help identify and address challenges such as vandalism and water management issues (Badar and Bahadure, 2020; Mouratidis and Poortinga, 2020). A more cohesive and engaged community is also likely to have a higher level of informal surveillance, making it more difficult for vandals to operate undetected. Further to this, community members who are actively involved in their neighbourhood are more likely to identify and report potential problems early on, such as leaking taps, overflowing detention facilities or illegal behaviour, allowing for timely intervention. Community involvement can also contribute to the long-term sustainability of a project by promoting responsible resource use and maintaining shared amenities.

It is important to recognize that vandalism and gang behaviour are typically perpetrated by a minority within any community. The vast majority of residents are law-abiding citizens who contribute positively to society. These negative actions by a small group can create a disproportionate impact, damaging property, instilling fear, and disrupting the overall quality of life. This understanding is especially important as it is crucial to avoid generalizations and stereotypes, as judging an entire community based on the actions of a few is unfair and inaccurate (O'Flaherty and Sethi, 2024).

CASE STUDY

Background

The Mountain View housing project (see Figure 1) was funded by The Western Cape Government, the (then) Department of Human Settlement and the Department of Energy. The land upon which the development was built previously belonged to the Mossel Bay Municipality and is a remainder of the Commonage. The houses built as a part of this development are on plots that have been transferred to the beneficiaries. The project was identified by the National Government as one of the catalytic projects for what is known as the Eden District of Mossel Bay. The land was previously a vacant stand. The beneficiary community members previously resided in backyards and informal neighbouring areas within the KwaNonqaba area in Mossel Bay. When identifying beneficiaries, the desired social profile for a housing development is roughly 30% fully subsidised houses and 70% partially subsidised houses. Preference is given to those living in backyards and to those 35 years of age and older, in accordance with the (then) Department of Human Settlements guidelines. In the Western Cape the previous Department of Human Settlements and Department of Public Works have merged to become the Department of Infrastructure.



FIGURE 1: *The Mountain View Housing Development*

Methodology

To address these inter-related issues in the planning stages of the first low-cost, high-density housing project in Mossel Bay, the Mountain View housing project team adopted an approach that built water- and community-sensitive thinking into their design. This approach focussed on the typical cycle of progressive deterioration. As highlighted, vandalism of water infrastructure can lead to water shortages, which can lead to illegal connections, which can further damage the water system and increase the potential for vandalism (Mangizvo *et al.*, 2016). The resulting frustration among community members can lead to a breakdown in community cohesion and increased likelihood of vandalism as a form of social unrest. Broken pipes and damaged roofs can, in turn, lead to water wastage and contamination (Sindane and Modley, 2023). It was thus essential to address both water- and vandalism-related concerns simultaneously to avoid the initiation of this cycle. Further to this, community values, needs and vulnerabilities - including that of flooding - were established and used to inform the design of communal spaces and security measures. The flood protection and the water reuse measures adopted not only provide safety and mitigate water scarcity, but also create shared green spaces that promote community cohesion and deter vandalism. This case study employed qualitative data collection methods. Data were collected through discussions with project stakeholders, including residents, project facilitators and community leaders. Observations of the project site were also conducted to assess the physical environment and social dynamics.

The main objective of the project was to provide structures and services on 1003 high-density residential and 9 non-residential erven. The design incorporated a mix of housing typologies to cater to the needs of the target population. This included 725 fully government-subsidised and 278 partly subsidised houses. Of these, 40 were designed to accommodate disabled residents. Additional objectives included provision of opportunities for community interaction, self-expression, safe spaces for the youth, recreation areas and effective, environmentally friendly water solutions.

As highlighted, adequate basic water services are essential for the dignity of a community (Ntombela and Jili, 2020; Rice *et al.*, 2023). In an area like Mossel Bay where the climatic extremes are great (Wiles *et al.*, 2022) this necessitates focus on both flooding and drought mitigation measures. The project thus incorporated water-sensitive design elements, including rainwater harvesting systems, water-efficient fixtures and a hybrid green-grey stormwater management system. The rainwater harvesting systems were installed to collect rainwater via the house gutters in 5000 litre tanks for irrigation and other non-potable uses, reducing reliance on municipal water supply and thereby making the community more resilient to drought conditions and water shedding programmes. This also makes it possible for the residents to enjoy private gardens and communal agriculture areas, which are important social and economic aspects of the development. Water-efficient fixtures such as low-flow toilets and taps were installed to minimize water consumption in households.

The total development water demand was calculated based on urban agriculture, sports field and school requirements in addition to the housing requirements. The stormwater management system comprises vegetated detention ponds (See Figure 2) integrated into public open spaces to make these dual-use areas. These open spaces provide communal gathering areas, improve the aesthetics of the development and capture and filter stormwater runoff, reducing the load on the drainage system and mitigating flooding risks. Stormwater caught in concrete drainage channels reports to the first of the vegetated detention ponds, from where it overflows into a curved natural channel into the second vegetated detention pond. From there it follows a natural stream bed toward the sea. Screens have been installed to catch larger pieces of debris and waste to prevent these from reaching the natural stream bed and the sea.



FIGURE 2: *Vegetated Detention Pond*

When people first moved into the completed sections of the development, what was essentially a community of strangers was created. Facilities incorporated into the design to encourage community engagement include shared amenities such as children's play areas, sports fields and recreational areas. This includes an exercise field that houses well designed and built outdoor exercise equipment, a soccer field with permanent goals and other recreational areas. A school and an urban agriculture area - designed to provide subsistence foods and possibly additional cash crops - are a part of the overall development design, but have not yet been built.

Post occupation of the first batches of houses, the few remaining unoccupied houses were vandalised (see Figure 3). Community members that spoke to members of the project team said that those vandalising the Mountain View housing development came from within the Mountain View housing community. A community mural painting project using creative interaction techniques was facilitated to encourage relationship building between community members, and to provide opportunities for expression, community cohesion and a sense of belonging. This required knowledge on the part of the facilitators of community dynamics, and also of the local role players, such as Non-Governmental Organisations (NGOs) and Ward Councillors. Prior to starting the mural painting, three creative workshops were held with the community members, who ranged in age from 8 to 70. The first mural painting session was very successful, and the facilitators were warmly welcomed by the community and keen to take part in the project. The second painting session, although still viewed very positively by the majority of the community, was cut short by gang members demanding 'protection money' to allow the project to go ahead. As a result, the facilitators invited Khoi San Traditional Leaders from the area to take part in the third and final painting session. During this session a traditional ceremony was held to speak to the land and the ancestors of the land on which the Mountain View Housing Development had been

built, asking for the land and the ancestors to accept and welcome this new community. The Traditional Leaders were also present during the painting of the murals, telling stories and facilitating creative sessions with the children of the community around the wall murals site.



FIGURE 3: *Vandalised Houses*

RESULTS AND DISCUSSION

The initial findings from the Mountain View project indicate that the integrated approach has been effective in addressing vandalism and water issues. Since the last of the Mountain View community members have taken occupation there is no evidence of further vandalism or problems of too much or too little water at the site.

The community engagement initiatives have fostered a strong sense of ownership and pride among residents, which is believed to have played a crucial role in preventing vandalism. The community healing and creative approach was successful, and the wall murals were completed without incident (see Figure 4). The mural painting and traditional healing ceremonies have created a positive and cohesive community atmosphere. By involving residents in the design and creation of murals, the project empowered the community to express their identity and aspirations. This collaborative process fostered a sense of pride and ownership in the shared living space. The integration of traditional healing practices into the project acknowledged the cultural and spiritual significance of the land. By inviting traditional healers to conduct ceremonies, the project created a sense of harmony and unity within the community. The community facilities that have been built are being well used and well looked after (see Figure 5). The shared amenities such as sports fields and recreational areas have provided spaces for community interaction and social cohesion. These facilities have encouraged residents to spend time together, building stronger relationships and a stronger sense of community.



FIGURE 4: *Completed Murals*



FIGURE 5: *Community Facilities*

The rainwater harvesting systems are working well and the harvested rainwater is used for irrigation and washing cars. The water-saving low flow fixtures have contributed to reduced water consumption. The hybrid green-grey stormwater management solution of vegetated retention ponds and concrete channels have effectively mitigated potential flooding.

CONCLUSIONS

Recognising the role that a sense of dignity for residents plays in low-cost housing projects is essential to the success of these projects. Because it helps to foster a sense of ownership, responsibility and pride among residents, community engagement is a cornerstone of successful low-cost housing projects. This can significantly contribute to the prevention of vandalism and the long-term sustainability of the project.

The Mountain View housing project demonstrates the potential of an integrated approach to addressing the challenges of vandalism and water issues in low-cost housing. By combining community engagement practices and water-sensitive design into the project planning, the project has gone a long way toward creating a positive and sustainable living environment for its residents. To address these challenges, it has been crucial to prioritize both dignity and empowerment in the Mountain View low-income housing development. This has involved not only providing appropriate water infrastructure but also investing in community development programmes that foster a sense of belonging and ownership among residents. This shows that, by empowering residents and creating opportunities for them to take pride in their communities, the negative effects of the Broken Windows Theory can be mitigated and initiation of the cycle of progressive deterioration can be avoided.

It is important to note that while the Broken Windows Theory offers insights into the relationship between disorder and crime, it's not a standalone explanation for complex social issues. Socioeconomic factors, lack of opportunities, and systemic inequalities also play crucial roles in shaping crime rates and the overall conditions in low-cost housing areas. Addressing the underlying causes of these issues, such as poverty, unemployment, and lack of community investment, is essential for creating sustainable and safe living environments in low-cost housing developments.

It is also key to note that a precursor to vandalism is often opportunity. The last few houses of the Mountain View development remaining unoccupied, once the others had been occupied, provided this opportunity.

Key lessons learnt from this project include:

- The importance of involving residents in project planning,
- The value of incorporating cultural and traditional practices to foster a sense of belonging and
- The need for ongoing support and capacity building for community-based initiatives.

While the initial results of adopting an integrated approach to low-cost housing projects are promising, ongoing monitoring and evaluation are essential to assess the Mountain View project's long-term impact and identify areas for improvement.

RECOMMENDATIONS

Recommendations specific to the Mountain View housing project include:

- Building the planned school and urban agriculture area,
- Making more use of the harvested rainwater, such as for toilet flushing,
- Strengthening the existing community-based formal and informal organizations to support the ongoing management and maintenance of the project,
- Coordinating security and moving beneficiaries into their new houses in such a manner that opportunities for vandalism are not created, and
- Continued monitoring and evaluation of the Mountain View project to assess the long-term impact of the interventions.

More general low-cost housing project recommendations include:

- Replication of the project's successful strategies in other low-cost housing developments as this could contribute to enhancing the quality of life for other vulnerable communities,
- Establishment of formal community structures and platforms for participation,
- Further investment into community capacity building and leadership development and,
- Further research on the relationship between vandalism, water-related issues, and social factors in low-cost housing.

REFERENCES

- Armitage, R., 2016. Crime prevention through environmental design. In *Environmental criminology and crime analysis* (pp. 278-304). Routledge.
- Badar, R. and Bahadure, S., 2020. Neighbourhood open spaces for social cohesion. In *E3S Web of Conferences* (Vol. 170, p. 06019). EDP Sciences.
- Bakare, B.F., Mtsweni, S. and Rathilal, S., 2016. A pilot study into public attitudes and perceptions towards greywater reuse in a low cost housing development in Durban, South Africa. *Journal of Water Reuse and Desalination*, 6(2), pp.345-354.
- Bauhn, P., 2018. Environmental Beauty and the Morality of Vandalism. *The International Journal of Social, Political and Community Agendas in the Arts*, 13(3), p.27.
- Beier, R., 2023. Why low-income people leave state housing in South Africa: progress, failure or temporary setback?. *Environment and Urbanization*, 35(1), pp.111-130.
- Çaya, S., 2016. Vandalism: A form of juvenile delinquency. *Danish Journal of Law Sciences*, 3, pp.38-43.
- Chakwizira, J., 2019. Low-income housing backlogs and deficits in South Africa. What solutions can a lean construction approach proffer? *Journal of Settlements & Spatial Planning*, 10(2), pp.16-24.
- Drangert, J.O. and Sharatchandra, H.C., 2017. Addressing urban water scarcity: reduce, treat and reuse—the third generation of management to avoid local resources boundaries. *Water Policy*, 19(5), pp.978-996.
- Hamlin, M., 2024. "What's wrong with the elevators?": From breakdown to policing in Chicago public housing. *Antipode*, 56(1), pp.115-134.
- Kelling, G. and Coles, C., 1997. *Fixing Broken Windows: Restoring Order and Reducing Crime in Our Communities*. Simon and Schuster.
- Lebotso-Khetsi, L., 2022. *Exploring opportunities for sustainable local economic development in South Africa through collaborative housing revitalization* (Doctoral dissertation, University of the Free State).
- Mafukata, M.A., Moseki, M. and Khan, A., 2024. Factors with significance on vandalism of on-farm infrastructure at the Musekwa Valley, Vhembe District of Limpopo Province, South Africa. *International Journal of Research in Business and Social Science* (2147-4478), 13(4), pp.374-387.
- Manga, M., Bartram, J. and Evans, B.E., 2020. Economic cost analysis of low-cost sanitation technology options in informal settlement areas (case study: Soweto, Johannesburg). *International Journal of Hygiene and Environmental Health*, 223(1), pp.289-298.
- Mangizvo, R.V., Mupfururi, E. and Mushaka, C., 2016. Vulnerability and resilience in the face of water shortages: The case of Mkoba 19 in Gweru city, Zimbabwe. *International Journal of Development and Sustainability*, 5(1), pp.27-43.
- Marutlulle, N.K., 2021. A critical analysis of housing inadequacy in South Africa and its ramifications. *Africa's Public Service Delivery & Performance Review*, 9(1), p.16.
- Mbandlwa, Z., 2021. Challenges of the low-cost houses in South Africa. *Social Psychology of Education*, 58(2), pp.6753-6766.
- Méndez, M.L., Otero, G., Link, F., López Morales, E. and Gayo, M., 2021. Neighbourhood cohesion as a form of privilege. *Urban Studies*, 58(8), pp.1691-1711.
- Michaels, A.O., 2022. *Critiquing prescriptions of place and belonging in neoliberal post-apartheid Cape Town: An ethnography on the politics of abjection in language, policy, and practice* (Doctoral dissertation, Stellenbosch: Stellenbosch University).
- Mlondo, N., 2022. Provision of low-cost housing within the context of an African Feminist perspective. *Housing the Poor on the African Continent: Reconsidering Ubuntu Philosophy*, p.187.
- Mohamad, W.S.S.W., Rahman, N.A.S. and Ridzuan, M.R., 2019. Adequacy of Low-Cost Housing. *Gading Journal for Social Sciences*, 22(1), pp.8-21.
- Mouratidis, K. and Poortinga, W., 2020. Built environment, urban vitality and social cohesion: Do vibrant neighbourhoods foster strong communities?. *Landscape and Urban Planning*, 204, p.103951.
- Mushtaha, E. and Hamid, F., 2016. The effect on vandalism of perception factors related to housing design, case of UAE cities. *Journal of Asian Architecture and Building Engineering*, 15(2), pp.247-254.
- Mohammed, A.M. and Hirai, Y., 2021. Utilising urban gamification for sustainable crime prevention in public spaces: A citizen participation model for designing against vandalism. *International Journal of Sustainable Development and Planning*, 16(1), pp.25-38.
- Ntombela, J.N. and Jili, N.N., 2020. Local government and the provision of low-cost housing in South Africa. *e-BANGI Journal*, 17(8).
- O'Flaherty, B. and Sethi, R., 2024. Stereotypes, crime, and policing. *Annual Review of Criminology*, 7(1), pp.383-401.
- Rabello Lyra, A.P., 2021. A place to call home with dignity. In *Connected Living: international and interdisciplinary conference (2021), Frankfurt am Main*.
- Rice, L., Scheba, A. and Harris, A., 2023. Renting in the informal city: the role of dignity in upgrading backyard dwellings in Cape Town, South Africa. *The Journal of Modern African Studies*, 61(2), pp.209-233.
- Rodina, L., Harris, L., Ziervogel, G. and Wilson, J., 2024. Resilience counter-currents: Water infrastructures, informality, and inequities in Cape Town, South Africa. *World Development*, 180, p.106619.
- Samuel, K.J., Agbola, S.B. and Olojede, O.A., 2024. The safety and security of urban households in South Africa: a geospatial exploration of the crimescape in the neighbourhoods of Durban, South Africa. *African Geographical Review*, 43(2), pp.229-244.
- Shackleton, C.M. and Njwaxu, A., 2021. Does the absence of community involvement underpin the demise of urban neighbourhood parks in the Eastern Cape, South Africa? *Landscape and Urban Planning*, 207, p.104006.

Sepawie, S., Voon, B.H., Leong, S.H. and Kasuma, J., 2022. Factors affecting the owner satisfaction in low-cost housing: A regional analysis for strategic segmentation. *International Journal of Academic Research in Business and Social Sciences*, 12(9), pp.950-966.

T. Sindane, J. and S. Modley, L.A., 2023. The impacts of poor water quality on the residential areas of Emfuleni local municipality: A case study of perceptions in the Rietspruit River catchment in South Africa. *Urban Water Journal*, 20(10), pp.1568-1578.

Tang, K. and Spijkers, O., 2022. The human right to a clean, healthy and sustainable environment. *Chinese Journal of Environmental Law*, 6(1), pp.87-107.

Thakur, R., Onwubu, S. and Harris, G., 2021. Exploring the Knowledge and Practice of Water Conservation Measures: A Case of Low-Cost Housing Setting in South Africa. *African Journal of Inter/Multidisciplinary Studies*, 3(1), pp.252-269.

Thakur, R., Onwubu, S., Harris, G. and Thakur, S., 2022. Factors influencing water conservation behaviour amongst low-income communities in South Africa. *International Journal of Research in Business and Social Science*, 11(4), pp.255-266.

Wiles, E., Loureiro, C. and Cawthra, H., 2022. Shoreline variability and coastal vulnerability: Mossel Bay, South Africa. *Estuarine, Coastal and Shelf Science*, 268, p.107789.