

# Exploring the Socio-Economic and Ecological Impacts of Unlawful Land Use: A Case Study from Louis Trichardt, Makhado Municipality

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## 1 ABSTRACT

Illegal land use presents intricate challenges with far-reaching socio-economic and environmental implications. This study investigates the dynamics of unlawful land use in Louis Trichardt, Makhado Local Municipality. Employing a mixed-methods approach, the research synthesizes insights from 270 respondents, including municipal employees, supplemented by primary data from comprehensive surveys and community observations. A SWOT analysis revealed key strengths, such as community awareness and potential for localized solutions, but also weaknesses, including insufficient municipal resources and individual resistance to regulations. Identified opportunities include public awareness campaigns, improved housing accessibility, and stronger regulatory enforcement. However, significant threats such as environmental degradation and limited access to formal economic activities pose ongoing risks. The findings highlight unauthorized rental structures, illegal spaza shops, informal shack settlements, and unapproved businesses as prevalent forms of illegal land use. Respondents identified critical drivers behind these practices, including limited access to affordable housing, economic hardships, and unemployment. The study recommends bolstering municipal capacity, enhancing community awareness initiatives, and prioritizing affordable housing programs to address these issues effectively. Suggested areas for future research include examining the long-term impacts of community-driven solutions, evaluating the effectiveness of municipal campaigns, fostering public-private partnerships, advancing sustainable land use planning, and conducting comparative studies with similar municipalities.

Keywords: Land use, spatial, environment, socio-economic, Makhado Local Municipality

## 2 INTRODUCTION

Illegal land uses, or the unauthorized occupation and use of another person's property, were common worldwide (Machete et al., 2021). This was due to factors like population expansion, urbanization, and poverty, which were especially prevalent in developing nations. Illegal land use was a serious issue in South Africa, impacting both urban and rural areas (eNCA, 2021). The Constitution of the Republic of South Africa 1996, Section 25, only safeguarded a landowner from the arbitrary deprivation of property; it did not provide an absolute property right. One area that felt the negative effects of illegal land use was Louis Trichardt town in Makhado, a local municipality in the Limpopo Province. Like many other South African rural areas, Louis Trichardt struggled with the negative effects of unauthorized land use. Furthermore, according to the South African Human Rights Commission 2000, all citizens could take advantage of their fundamental rights to access land and housing, where necessary and given the available resources. The government also had a responsibility to help private landowners defend their property in cases of widespread invasions, i.e., “Use the Prevention of Illegal Eviction From and Unlawful Occupation of Land Act, 1998 to obtain a swift court eviction order in the event of a trespass on your private property. Alternatively, if the invasion was connected to a requirement for access to agricultural land, ask for help from the Department of Agriculture, Land Reform, and Rural Development” (Carnie, 2022).

Many social, economic, and environmental issues were associated with illegal land use (Masilela, 2022; Mokoena et al., 2017). These issues affected people's livelihoods and general well-being and could have long-term effects on social structures and the environment. In the Makhado Local Municipality, South Africa, there had been an increase in illegal land use over time (Makhado IDP, 2022/23). The area's ecological balance was in danger due to illegal land use, which also affected the socio-economic development of the area. This study aimed to evaluate Louis Trichardt town's illegal land uses from 2017 to 2022 and offer suggestions for addressing this issue.

Firstly, illegal land use was a widespread problem in many South African rural areas and had a significant impact on these places' socio-economic growth and ecological balance (Sinthumule et al., 2020). To create

efficient policies and strategies to address it, it was essential to comprehend the scope of this issue and how it affected the study area (Sithole et al., 2021). Secondly, there was a dearth of studies on illegal land use in South African rural areas, especially in Makhado's local municipality. This study added to the body of knowledge on this subject and shed light on the reasons behind and effects of illegal land use in the community (Manakane et al., 2022). Thirdly, the findings of this study could be used by the local government and other stakeholders to develop interventions that addressed the underlying causes of illegal land use, such as poverty and unemployment. This could improve the living conditions of residents in the town and promote sustainable development. Lastly, determining Louis Trichardt's illegal land uses assisted in achieving the Sustainable Development Goals (SDGs) established by the United Nations (Zwane et al., 2020). This research aimed to help achieve SDGs, i.e., "11 and 15". Accordingly, SDG 15 aimed to protect, restore, and promote the sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, stop and reverse land degradation, and stop biodiversity loss (Walz et al., 2022); hence, targets 15.9, 15.A, and 15.B of the SDGs aligned with this study because they promoted the protection of biodiversity, investment, and the integration of natural ecosystems into planning, development, and poverty alleviation programs in developing countries. Moreover, SDG 11 aimed to make cities and human settlements inclusive, safe, resilient, and sustainable (Ebbesson et al., 2022). In this case, it was important because inclusive human settlements were being promoted. To address these research gap, the study investigates the dynamics of unlawful land use in Louis Trichardt, Makhado Local Municipality.

### 3 LITERATURE REVIEW

Illegal land use, also called illegal land occupation, was the taking of land without the required authorisations or legal rights (Khumalo, 2019). Moreover, it could have involved a variety of actions, such as the erection of structures or habitations, the farming of crops, or the unauthorised use of land for other purposes. Hence, it was frequently fuelled by social, economic, and environmental issues like deprivation, unemployment, the lack of affordable housing, and restricted access to land (Palm, 2021).

Furthermore, illegal land use had both good and bad societal, economic, and environmental consequences (Ntshidi, 2020). On the one hand, it provided a way for marginalized groups to gain access to land and shelter when they did not have formal alternatives for obtaining land rights (Dlulane, 2020). It could also have facilitated entrepreneurship, innovation, and societal growth. In addition, it resulted in conflict, bloodshed, and adverse environmental consequences such as deforestation, land degradation, and species loss (Thaw, 2020). It could also have had fiscal consequences, such as lost property tax income and reduced investment in the official real estate market.

Some of the causes included housing shortages, i.e., people turned to occupying land unlawfully to get a place to live in locations where there was a dearth of affordable housing. Another reason was landlessness, that is, people who lacked access to land invaded it to take advantage of resources like agricultural or grazing land (Sakala, 2016, & Adedamola et al., 2022). Additionally, rapid urbanisation led to encroachment and informal settlements due to the need for houses and land. Moreover, poor people invaded other people's land to secure a place to reside, or to engage in illegal activities that brought in money. Weak land governance led to illicit land acquisition and selling, which resulted in conflicts and invasions of private property (Khumalo, 2019).

#### Theory of Relative Deprivation

According to Neely (2020), this theory stated that people's actions and behaviours were influenced by how they perceived their rights and what they possessed. According to the theory, when people felt their rights to access and own land had been violated, they engaged in collective action, including illegal land use. Longley (2021) stated that when income was insufficient to maintain a standard of living that included food and shelter, absolute deprivation or absolute poverty developed. The theory assisted in explaining why people engaged in illegal land occupation. In South Africa, many people struggled with poverty, unemployment, and a lack of accessible housing (Marutlulle, 2021; Gumbo et al., 2022). According to this theory, individuals felt a sense of relative deprivation about their access to land, especially if they believed that land was being unfairly allotted to others or was being withheld from them.

Furthermore, Ted Robert Gurr's 1970 book, *Why Men Rebel*, explored the relationship between relative deprivation and political violence. Moreover, the author argued that the frustration-aggression mechanism,

triggered by a sense of relative deprivation, was a major contributor to the human tendency for violence (De Kock, 2021). Although not all individuals or groups experiencing relative deprivation engaged in violent acts, Gurr maintained that the longer they endured such frustration, the more likely it was that their anger would escalate into violence (Walker et al., 1984).

The relative deprivation hypothesis also shed light on why urban areas were frequently the scene of illegal land uses (Zulu, 2020). The demand for housing increased because of urbanisation, but many people could not afford the high price of formal housing. People felt relatively deprived because they believed they were entitled to decent housing but could not obtain it (Pillay, 2020). Overall, the relative deprivation theory contended that to combat illegal land use effectively in South Africa, it was necessary to address the root causes of relative deprivation, such as poverty, inequality, and the lack of affordable housing. It might have been possible to lessen illegal land use and encourage a more equitable and sustainable land use method in South Africa by addressing these issues.

#### 4 METHODOLOGY

Employing a mixed-methods approach, the research synthesizes insights from 270 respondents, including municipal employees, supplemented by primary data from comprehensive surveys and community observations. The questionnaires were administered to members of the public who were residents of Louis Trichardt. The researcher utilized Ward's proportional representation to select the respondents. The distribution of the questionnaires was outlined in Table 1:

Total	Population no.	Households no.	NQD	% distributed	NQR	% returned
Ward 21 Louis Trichardt Town	25 360	7 129	379	100%	270	71.2%

Table 1: Questionnaire administration. Sources: Author's Field Data 2023 SA census (2016). Key: NQD = Number of questionnaires distributed, NQR = Number of questionnaires returned.

Table 1 showed that 379 questionnaires were distributed based on population proportions. Only 71.2% of those questionnaires were returned. The appropriate number was determined using the Raosoft sample size calculator online with a margin of error of 5%, a confidence level of 95%, and a response distribution of 50% results.

Purposive sampling was utilized to select key informants. According to Nikolopoulou (2022), this sampling was frequently employed in qualitative and mixed methods research. Seven of the key informants interviewed, were, the Town Planner (processing land use applications and approvals), Geographic Information System (GIS) Officer, GIS Specialist (responsible for capturing and updating all spatial data), EIA Officer (assessment of environmental impacts and authorizations), Town Planner (assess and authorize land uses and issues approvals), Senior Property Administrator (who dealt with municipal land acquisition processes), and Senior Administrative Officer: Valuations (deals with valuation and appraisal of properties land values).

#### 5 FINDINGS AND DISCUSSION

Understanding the varying length of residency within the municipality was crucial in comprehending the perspectives and experiences that informed residents' responses to questions about illegal land use, its consequences, and potential solutions. This diversity in residency duration contributed to a comprehensive analysis of the local community's viewpoints and needs. Figure 1 depicted the years respondents had stayed in Louis Trichardt town.

A significant factor influencing residents' viewpoints regarding various aspects of Louis Trichardt, Makhado Local Municipality was the duration of their residency within the region. The data collected from the respondents revealed a diverse distribution in terms of residency duration, shedding light on the distinct experiences and perspectives of the population. Approximately 11% of the respondents had reported having resided in Louis Trichardt for less than a year. Being relatively new to the area, these individuals might have had a fresh and perhaps less informed perspective on land use and community dynamics issues. Around 17% of the respondents had a residency duration spanning one to five years. This group likely had a somewhat intermediate familiarity with the municipality, potentially having witnessed changes and developments during their time in Louis Trichardt. The largest cohort, constituting roughly 32% of the respondents, had

resided in the area for six to ten years. This population segment likely possessed a more established understanding of the municipality's dynamics and may have witnessed significant changes over their prolonged residency. Finally, 40% of the respondents had been residing in Louis Trichardt for more than ten years. This group, characterized by long-standing residency, was expected to bring a wealth of experience and in-depth knowledge of the region's history and evolution.

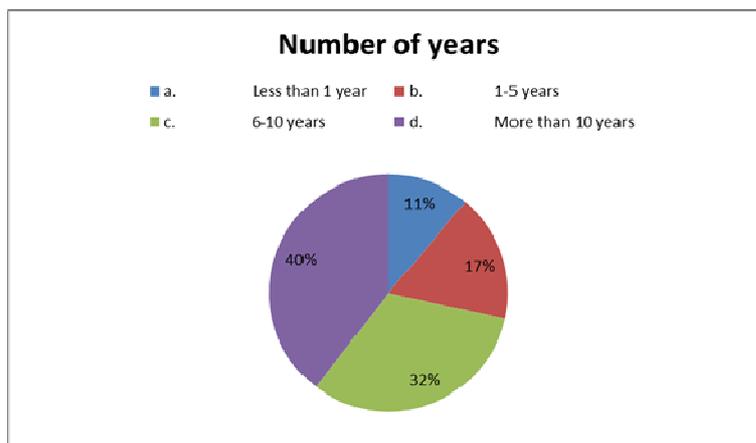


Figure 1: Residency duration. Source: Author's construct/field data (2023)

### Awareness of Illegal Land Use in the Vicinity: Perceptions and Observations of Respondents

A substantial majority, comprising approximately 240 respondents, demonstrated a keen awareness of illegal land use. They acknowledged the presence of such issues and offered notable insights into specific instances. Examples of their observations included cases of unauthorized land occupation in residential areas, where individuals had erected structures or established dwellings without following the proper legal procedures. In some instances, respondents pointed to land zoned for specific purposes, such as residential or commercial use, being utilized for purposes that did not align with the designated zoning. These observations reflected a community acutely attuned to the realities of illegal land use, directly impacting their neighborhoods and the broader community. The respondents' ability to identify and provide examples of such instances underscored the significance of addressing this issue to ensure compliance with land use regulations and preserve community well-being. Moreover, key informants “also identified instances of illegal land use, such as unauthorized occupation of residential areas and illegal building conversions”.

### Social and Economic Implications of Illegal Land Uses: Insights from Respondents

Respondents' opinions on the social and economic consequences of illegal land use varied. Many (about 72%) expressed concerns about newcomers (less than one year) who might have been unintentionally unaware of zoning regulations. The high demand for housing prompted some residents to occupy land without following proper procedures, resulting in resource and infrastructure strain. Economic hardships and the lack of affordable housing could have driven individuals to engage in illegal land use for survival. Similarly, the study conducted by Mutero and Makwara (2018) revealed that the impetus for illegal land occupation was propelled by the absence of government support in furnishing accommodation for trespassers. Key informants “highlighted the socio-economic consequences of such activities, including reduced property values, increased crime, and potential loss of government revenue”. Additionally, some individuals resorted to illicit land occupation to compel the government to provide them with housing. Furthermore, it was observed that individuals engaging in unauthorized land occupation experienced property loss during an eviction, and the use of force during eviction was identified as a deterrent against subsequent land invasions. In areas with limited access to formal economic activities, joblessness might have made illegal land use seem like a viable alternative. A common thread in their narratives was the belief that the municipality's inadequacy in addressing housing needs might have motivated some to resort to illegal land use.

### Perceptions of Ecological Impact: Respondents' Views on Illegal Land Use and the Environment

Respondents generally expressed concerns about the ecological impact of illegal land use. They believed that unauthorized land occupation could lead to deforestation, causing harm to the local ecosystem. In support of this, key informants stated that “ The ecological impact included environmental degradation such as land,

water, and air pollution, deforestation, and habitat disruption. The municipality's measures to address these issues involved inspections, meetings, contravention letters, warnings, and formal settlement implementation." Issues like improper waste disposal and sanitation in informal settlements were mentioned as factors that could have resulted in the pollution of natural resources, particularly rivers. Land degradation and soil pollution might have resulted from unauthorized activities. The strain on resources due to illegal land use further exacerbated environmental issues. According to Troisi (2022), illegal land use was a noteworthy environmental concern progressively garnering attention.

#### Impact of Illegal Land Use: Personal Experiences and Community Effects

A significant portion of respondents, roughly 220 out of 270, reported experiencing or observing adverse effects of illegal land use on their community. They mentioned increased congestion and overcrowding in their neighborhoods, which made it challenging to access essential services. Additionally, there was a perceived increase in crime rates in areas with illegal land use, affecting safety and overall quality of life. According to the Makhado IDP, 2022/23, illegal land use was identified as one of the top issues concerning safety and security. The third most frequently reported offenses included property-related crimes such as burglary, stock theft, and similar incidents. Numerous police stations and satellite stations served the study area. Notably, the Makhado police station recorded the highest number of reported crimes, totaling 1,736 cases. Respondents' narratives highlighted a range of consequences, encompassing both tangible and perceived impacts.

Regarding increased congestion and overcrowding, respondents expressed concerns about the palpable effects of illegal land use on their immediate surroundings. They described scenarios where unauthorized land occupation had led to increased congestion and overcrowding in their neighborhoods. The proliferation of informal settlements and structures in areas not designated for housing notably altered the landscape. This, in turn, made it challenging for residents to navigate their local environments and added strain to the existing infrastructure.

Several respondents highlighted difficulties in accessing essential services in areas of illegal land use. These areas often lacked adequate infrastructure, such as roads, sewage systems, and waste management. This resulted in challenges related to waste disposal, safe sanitation, and accessibility to healthcare facilities. Residents in such areas confronted daily obstacles in securing basic services that many others might have taken for granted.

In tandem with the physical transformations brought about by illegal land use, there was a noticeable perceived increase in crime rates in areas with unauthorized land occupation. Respondents pointed to a correlation between the expansion of informal settlements and increased criminal activities within their communities. Examples included theft, vandalism, and general unrest in neighborhoods affected by illegal land use. These observations contributed to a growing sense of insecurity and compromised residents' overall quality of life.

Key informants within the community echoed these sentiments, emphasizing the importance of addressing the adverse effects of illegal land use. They highlighted the need for enhanced security measures, improved infrastructure development, and efforts to mitigate the negative consequences on community well-being. As articulated by respondents and key informants, the impact of illegal land use underscored the urgency of addressing this issue to safeguard the community's quality of life and safety.

#### Municipal Initiatives to Address Illegal Land Use: Community Awareness and Participation

Unfortunately, the majority of respondents, approximately 210 out of 270, were unaware of any initiatives or programs the municipality undertook to address illegal land use. This indicated a potential lack of public awareness or engagement on the part of the municipality in this regard. Respondents who indicated their lack of awareness suggested that the municipality might not have effectively communicated its initiatives to combat illegal land use. This raised concerns about the need for improved dissemination of information to the public. In their view, the community should have been better informed about the steps local authorities had taken to address this pressing issue.

The absence of public knowledge also underscored missed opportunities for community engagement. Respondents noted that had they been aware of municipal programs, they might have been more inclined to participate actively in initiatives to curb illegal land use. They felt the lack of information had hindered their

ability to contribute to the solution. Masenya and Kgobe (2023) argued that land use planning within the municipality held significant implications, particularly in addressing challenges related to human settlement, promoting citizen participation in determining needs and objectives, and rectifying historical spatial inequalities resulting from apartheid spatial planning. Consequently, despite its importance, the implementation of land use planning had encountered various hurdles, such as insufficient collaboration in areas governed by traditional authorities, illicit land occupation, and political interference. In essence, the study posited that achieving spatial justice and rectifying past imbalances in South Africa hinged on effective integration and coordination of land use planning. However, it highlighted persistent discontent within communities regarding their level of engagement. Despite the overall success of many municipalities in fostering citizen participation, an outstanding backlog in civic interaction existed due to unethical practices, financial constraints, a lack of capacity, and misguided targeting.

Key informants echoed these concerns, emphasizing that community involvement was vital in tackling illegal land use effectively. Furthermore, Enaifoghe and Adetiba (2018) uncovered that within most local municipalities, community involvement in decision-making had not been effectively executed. They suggested that the municipality prioritize public awareness campaigns and engage with local residents to encourage active participation. Key informants also highlighted the need for more transparent communication from the municipality regarding its initiatives, fostering a sense of shared responsibility in addressing this critical issue. Moreover, respondents believed that community members could play a pivotal role in preventing and reporting illegal land use. They suggested raising awareness within the community about the legal procedures for land use, encouraging residents to report illegal land use to the authorities, and promoting community engagement and neighborhood watch programs to deter illegal activities.

#### Community-Driven Solutions: Recommendations to Address Socio-Economic and Ecological Impact

The respondents, cognizant of the challenges posed by illegal land use, offered a spectrum of community-driven solutions to address its socio-economic and ecological impacts in Louis Trichardt, Makhado Local Municipality. These recommendations were rooted in their collective understanding of the problem and their aspirations for a better future.

A common suggestion from respondents was the need for comprehensive municipal awareness campaigns. They believed these campaigns could be pivotal in educating residents about legal land use and the importance of adhering to zoning regulations. By enhancing public understanding, the community anticipated a reduction in illegal land use. Chen et al. (2021) explored the notion that increasing the policing and robustness of land law enforcement contributed to a decrease in the occurrence of illegal land use cases. However, they speculated that this increase in enforcement measures might have prompted offenders to engage in more severe violations out of desperation, thereby increasing the overall degree of illegal land use. In contrast, reducing the difficulty of enforcing land law was associated with significantly reducing the extent of illegal land use.

Furthermore, respondents emphasized the significance of improving access to affordable housing options. According to Yongyang et al. (2018), such informality was a reaction to dysfunctional land institutions, particularly the prohibitively high costs of obtaining land property rights in many developing countries. Mennen (2016) stated that land tenure informality remained one of the most prevalent occurrences, with nearly 75% of the world's population lacking access to formal procedures for registering and safeguarding their property rights. Hence, respondents believed that one of the driving factors behind illegal land use was the lack of accessible and affordable housing. By creating more opportunities for residents to secure suitable housing, they aimed to mitigate the socio-economic consequences of illegal land use.

Respondents identified the critical role of law enforcement in preventing and addressing illegal land use. They stressed the need for stronger enforcement of land use regulations to act as a deterrent and ensure compliance. An effective legal framework would curb illegal activities and contribute to community safety. The community, aware of its collective potential, proposed community-driven initiatives to address the housing and economic challenges that could lead to illegal land use. Examples included forming neighborhood watch programs to enhance security and community projects to provide affordable housing solutions. Respondents recognized the importance of sustainable land use planning to mitigate the ecological impact of illegal land use. They suggested that comprehensive planning would help allocate land for various purposes, reducing the strain on natural resources and preventing ecological degradation. The community's

ecological concerns led to recommendations for conservation efforts. Respondents were keen on initiatives to protect the local environment from degradation. Examples included reforestation programs, waste management solutions, and campaigns to promote responsible land use.

Key informants echoed the community's recommendations, emphasizing the need for community involvement and active participation in implementing these solutions. They highlighted the role of local governance in initiating and supporting these efforts. Additionally, key informants stressed the importance of public-private partnerships to facilitate the creation of affordable housing options.

In summary, the recommendations put forward by the community, coupled with the insights of key informants, highlighted a collaborative and multifaceted approach to addressing the socio-economic and ecological impact of illegal land use. These solutions reflected the community's resilience and commitment to building a more sustainable and secure future for Louis Trichardt, Makhado Local Municipality.

### Municipal Respondents Regarding Illegal Land Use

The following sections presented, analyzed, and interpreted the data collected from municipal respondents regarding illegal land use in Louis Trichardt, Makhado Local Municipality. The survey encompassed various aspects, including the roles of municipal employees, instances of illegal land use, socio-economic consequences, ecological impacts, measures taken to address illegal land use, the effectiveness of these measures, challenges encountered, support and resources required, the role of public awareness, and policy recommendations.

#### Theme 1: Human Settlement

Illegal land use affected the availability of adequate housing in the municipality, as unauthorized occupation reduced the land available for residential purposes. The strain on basic services like water, electricity, and sanitation also led to service disruptions in illegal settlements. Informal land use contributed to overcrowding, straining existing infrastructure. Residents perceived these informal settlements as congested and lacking resources compared to formal housing. The lack of legal land tenure in these areas further led to criminal activities and instability. According to the UN-Habitat 2021 report, "Shelter served as the foundation for personal and familial stability and security. It stood at the core of our social, emotional, and economic experiences, a sanctuary providing a haven for individuals and families to live in tranquility, safety, and respect." Hence, housing played a crucial role in achieving sustainable urbanization, acting as a catalyst for development, peace, and enhanced living standards for everyone.

#### Theme 2: Informality

Informal land use disrupted the legal and regulatory framework governing land ownership and development, leading to delays in development and a lack of compliance with legal procedures and municipal by-laws. It also affected the formal land market by lowering property values in the vicinity. The informal economy associated with illegal land use might have increased the local economy due to population growth but could have resulted in competition and unsafe working conditions. The provision of public services in informal settlements was often inadequate, affecting healthcare and infrastructure. Moreover, social exclusion was a concern as it could have led to limited access to services and higher crime rates.

#### Theme 3: Access to Economic Activities

Illegal land use negatively affected residents' access to formal economic activities and employment opportunities, as businesses avoided informal areas, leading to economic instability for residents. The informal economy associated with illegal land use might have stimulated the local economy but often operated under unsafe conditions. The lack of legal land tenure might have made formal businesses less attractive, potentially hindering economic growth. Additionally, illegal land uses affected land available for agricultural and productive activities, increasing poverty levels due to limited opportunities.

Illegal land use not only hampered residents' access to formal economic activities and employment opportunities but also introduced a range of challenges that rippled through various aspects of community life. The reluctance of businesses to establish themselves in informal areas, driven by uncertainties related to illegal land use, not only caused economic instability but also perpetuated a cycle of limited growth and opportunity for local residents. The informal economy associated with illegal land use, while contributing to local economic stimulation, often operated under unsafe conditions, posing risks to the well-being of those involved.

Moreover, the absence of legal land tenure could have diminished the attractiveness of formal businesses, potentially acting as a deterrent to investment and impeding overall economic growth. The resulting economic disparities might have exacerbated existing social inequalities, affecting the overall prosperity of the community. Beyond the urban landscape, illegal land uses also encroached upon land designated for agricultural and productive activities. This encroachment limited the available space for cultivation and production, subsequently increasing poverty levels by restricting opportunities for sustainable livelihoods. The intricate web of challenges stemming from illegal land use highlighted the need for comprehensive strategies that addressed the immediate issues and contributed to sustainable economic development, social equity, and improved living conditions for affected communities.

#### Theme 4: Land Uses

Illegal land uses had a negative impact on the availability and conservation of natural resources, including land, water, air pollution, deforestation, and habitat disruption. Unauthorized land occupation disrupted land use planning and urban development initiatives, hindering the implementation of sustainable practices. Such informal land use also contributed to environmental degradation and loss of biodiversity. Residents stressed the importance of fairness and transparency in land resource management. Furthermore, the lack of legal land tenure might have led to land disputes and hindered the implementation of sustainable land use practices in the area.

These responses shed light on the multifaceted challenges and consequences of illegal land use within Louis Trichardt, Makhado Local Municipality. The insights provided by municipal employees offered a comprehensive understanding of the issues at hand and served as a basis for potential policy development and community engagement initiatives to address these challenges.

## 6 CONCLUSION

The study on illegal land use in Louis Trichardt, Makhado Local Municipality, provides valuable insights into the challenges and potential solutions regarding this multifaceted issue. The community's awareness, concerns, and recommendations, combined with municipal perspectives, emphasize the need for collaboration, community engagement, and effective policy measures. By implementing the recommended strategies and addressing the identified weaknesses, Louis Trichardt can move towards a more sustainable and secure future while ensuring the well-being of its residents and protecting its environment. The findings highlight the economic, social, and environmental consequences of illegal land use, reflecting similar impacts observed in the Lwandle informal settlement in Cape Town. The study also draws parallels with international cases, such as the ongoing struggles with illegal land use and evictions in South Africa and the exploitation of indigenous lands in Brazil.

The community's awareness, concerns, and recommendations, combined with municipal perspectives, underscore the need for collaboration, community engagement, and effective policy measures. Addressing illegal land use requires a multifaceted approach that includes strengthening municipal resources, enhancing public awareness, and improving access to affordable housing. The study underlines the importance of a coordinated effort involving government, civil society, and affected communities to effectively address illegal land use and its repercussions. This approach not only tackles immediate challenges but also contributes to long-term sustainable urban development.

## 7 REFERENCES

- Adedamola W, Joseph Oyedeki, and Oyewole Clement Oyesomo. (2022). Challenges of Regularisation of Informal Land Holdings in Lagos Mainland. Research gate.
- Akatch, S.O. and Kasuku, S.O., 2002. Informal settlements and the role of infrastructure: The case of Kibera, Kenya. *Discovery and Innovation*, 14(1), pp.32-37.
- Anindya SEN, and Ömer AVCI. 2016. Why social movements occur: theories of social movements. <http://www.beykon.org/dergi/2016/SPRING/2016XI.I.10.A.Sen.pdf>.
- Apostolos G.P. (2019). [https://www.academia.edu/77871709/Editorial\\_Spatial\\_Justice\\_in\\_Europe\\_Territoriality\\_Mobility\\_and\\_Peripherality](https://www.academia.edu/77871709/Editorial_Spatial_Justice_in_Europe_Territoriality_Mobility_and_Peripherality). [Accessed 28 March 2023].
- Bekker, J.P., 2017. Improving the supply of subsidised housing in South Africa.
- Bhandari P. 2020. What Is Qualitative Research? | Methods & Examples. <https://www.scribbr.com/methodology/qualitative-research/>. Accessed 19 December 2023.
- Bhandari P. 2022. Inductive Reasoning | Types, Examples, Explanation. <https://www.scribbr.com/methodology/inductive-reasoning/>. Accessed 19 December 2023.

- BLAZE Design Inc. 2021. What is Land Use Planning, and Why Is It Important?. <https://www.blazedesigninc.com/what-is-land-use-planning-and-why-is-it-important/>. [Accessed 1 April 2023].
- Blumer, H., 1980. Mead and Blumer: The convergent methodological perspectives of social behaviorism and symbolic interactionism. *American Sociological Review*, pp.409-419.
- Boyle, L., Harlow, J. and Keeler, L.W., 2024. (D) evolving smartness: exploring the changing modalities of smart city making in Africa. *Urban Geography*, 45(4), pp.586-610.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101.
- Britannica Money. (2023). Zoning. <https://www.britannica.com/money/zoning-land-use>. Editors of Encyclopaedia Britannica. [Accessed 03 April 3, 2023].
- Brown Jim. 2021. What is importance of land use planning?. <https://knowledgeburrow.com/what-is-importance-of-land-use-planning/>. [Accessed 1 April 2023].
- Caprioli, C. and Bottero, M., 2021. Addressing complex challenges in transformations and planning: A fuzzy spatial multicriteria analysis for identifying suitable locations for urban infrastructures. *Land Use Policy*, 102, p.105147.
- Carnie T. (2022). KZN's iSimangaliso Wetland Park threatened by 'illegal land uses'. <https://www.dailymaverick.co.za/article/2022-03-24-kzns-isimangaliso-wetland-park-threatened-by-land-invasion/>. Daily Maverick. [Accessed 03 April 2023].
- Case studies of illegal land uses. 2023. Eyewitness News. <https://ewn.co.za/Topic/Illegal-land-invasions>. [Accessed 04 April 2023].
- Chen Siyi, Zhigang Chen and Yan Shen. 2021. Can improving law enforcement effectively curb illegal land use in China? Research gate.
- Chuvpylo, V., Shevchuk, S., Hapon, S., Nahorna, S. and Kuryshko, R., 2023. Cadastral systems and land structure in urban planning: optimization of land use and urban planning. (84), 407-423.
- Clark, T.N. and Wu, C., 2021. Urbanization theorizing. *Handbook of classical sociological theory*, pp.421-438.
- Cocola-Gant, A., 2019. Gentrification and displacement: urban inequality in cities of late capitalism. In *Handbook of urban geography* (pp. 297-310). Edward Elgar Publishing.
- Constitution of the Republic of South Africa 1996.
- Cowan Lennard & Nastassya Naude. 2019. Expropriation without compensation – What you need to know. Expropriation without compensation and section 25 of the Constitution ([golegal.co.za](http://golegal.co.za)). [Accessed April 4, 2023].
- De Klerk, H. M., & Du Plessis, M. A. (2020). An overview of illegal land use in South Africa: A case study of the Nelson Mandela Bay Municipality. *Journal of Environmental Science and Management*, 23(2), 7-24.
- Dlulane B. 2020. Sisulu blames criminals & opportunists for Fleurhof land invasions. <https://ewn.co.za/2020/08/13/sisulu-blames-criminals-and-opportunists-for-fleurhof-land-invasions>.
- Ebbesson Jonas and Ellen Hey. 2022. 11 – SDG 11: Make Cities and Human Settlements Inclusive, Safe, Resilient and Sustainable. Research gate.
- ECOMMS, 2019. Community Participation Approaches and Techniques (Part 1). <https://www.ecomms.agency/single-post/2019/07/05/Community-Participation-approaches-and-techniques>.
- Enaifoghe, A.O. and Adetiba, T.C., 2018. Implication of community engagement in the decision-making process in South African Local Municipal. *Acta Universitatis Danubius. Administratio*, 10(1).
- eNCA. 2021. Land and Housing | Illegal land uses. YouTube. <https://www.youtube.com/watch?v=1vlb4CpMmaA>. [Accessed 03 April 2023].
- Enoguanbhor, E.C., Gollnow, F., Walker, B.B., Nielsen, J.O. and Lakes, T., 2021. Key Challenges for Land Use Planning and its Environmental Assessments in the Abuja City-Region, Nigeria. *Land* 2021, 10, 443.
- Everitt, B. S., & Skrondal, A. (2010). *The Cambridge dictionary of statistics*. Cambridge University Press.
- Feagin, Joe, and Robert Parker. (1990). *Building American Cities: The Urban Real Estate Game*. 2nd ed. Englewood Cliffs, NJ: Prentice Hall.
- Free dictionary. (2023). Zoning. <https://legal-dictionary.thefreedictionary.com/zoning>. [accessed 03 April 2023].
- Frost A, (2021). Mitigating the environmental impacts of explosive ordnance and land release. <https://blogs.icrc.org/law-and-policy/contributor/alex-frost/>. [accessed 03 April 3, 2023].
- Gallego, J.A., and Prados, M.J. (2017). Neighborhood social environment and crime victimization: an application of spatial statistics in a socially deprived city. *Sustainability*, 9, 1351.
- Gamo, B.R. and Park, D.B., 2023. Community sentiment influences community participation: evidence from Ethiopia. *Contemporary Social Science*, 18(5), pp.657-673.
- Gamper C. D., Antoniou A. I., & Boussofiane A. (2016). Multicriteria decision analysis in urban and regional planning: A literature review. *The Journal of the Operational Research Society*, 67(3), 339-354.
- Gauteng Government. 2016. Gauteng Spatial Development Framework 2030. Spatial Framework.
- Gumbo, T., Moyo, T., Ndwandwe, B., Risimati, B. and Mbatha, S.G., 2022. Role of Policy and Legislative Instruments in South African and Zimbabwean Cities. In *Urban Public Transport Systems Innovation in the Fourth Industrial Revolution Era: Global South Perspectives, Reflections and Conjectures* (pp. 41-69). Cham: Springer International Publishing.
- Ginsburg, T., & Kosek, J. (2016). Land and the constitution in South Africa: Problems and prospects. *African Studies Quarterly*, 16(2), 39-57.
- Gribaldo, A., and Salmaso, L. (2017). Recruitment to sensitive issues in surveys: A comparison of different types of follow-up interviews in a web survey among young adults. *Social Science Research*, 64, 232-243.
- Griffith, G.J., Morris, T.T., Tudball, M.J., Herbert, A., Mancano, G., Pike, L., Sharp, G.C., Sterne, J., Palmer, T.M., Davey Smith, G. and Tilling, K., 2020. Collider bias undermines our understanding of COVID-19 disease risk and severity. *Nature communications*, 11(1), p.5749.
- Haffejee I. 2020. The impact of illegal land occupation on the N2/M41 corridor development. [https://researchspace.ukzn.ac.za/bitstream/handle/10413/18914/Haffejee\\_Ijaz\\_2020.pdf?sequence=1&isAllowed=y](https://researchspace.ukzn.ac.za/bitstream/handle/10413/18914/Haffejee_Ijaz_2020.pdf?sequence=1&isAllowed=y). [Accessed 03 April 2023].
- Hamelink, C. J. (2013). Public service media and public service values. In B. Dobek-Ostrowska, A. Nowak, & A. Glowacki (Eds.), *Public service media in Europe: A comparative approach* (pp. 13-24). Routledge.
- Harris K. D. (2020). About. The CIHAD Project. <http://www.cihad.org/about.html>. [Accessed 04 April 2023].

- HCD, 2023. What is the role of the Department of Housing and Community Development? (state.md.us). <https://dhcd.maryland.gov/Pages/About-Us/What-is-the-role-of-the-Department-of-Housing-and-Community-Development.aspx>. [Accessed 03 April 2023].
- Heeres, N., Tillema, T. and Arts, J., 2016. Dealing with interrelatedness and fragmentation in road infrastructure planning: An analysis of integrated approaches throughout the planning process in the Netherlands. *Planning theory & practice*, 17(3), pp.421-443.
- Housing SA, 2023. What is Human Settlement? (hda.co.za). <https://www.thehda.co.za/what-is-human-settlements>. [Accessed 03 April 2023].
- Huchzermeyer, M. (2003). Housing rights in South Africa: invasions, evictions, the media and the courts in the cases of Grootboom, Alexandra and Bredell. *Urban Forum*, 14(1), 8-107.
- Huchzermeyer, M. (2004). *Unlawful occupation: Informal settlements and urban policy in South Africa and Brazil*. Africa World Press.
- Human Settlements. (2017). Nelson mandela bay draft bylaw.
- Human Settlements. (2023). Free Online Dictionary. <https://legal-dictionary.thefreedictionary.com/Human+settlements>. [Accessed 03 April 2023].
- Hutson, M. A., Sallis, J. F., & Hovell, M. F. (1991) et al. San Diego continuing study of the built environment: Relationship of environmental factors to walking. *Health Education & Behavior*, 18(2), 379-387.
- Intergovernmental Panel on Climate Change. (2019). *Climate change and land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems*. Retrieved from <https://www.ipcc.ch/srccl/chapter/summary-for-policy-makers/>.
- Izquierdo A. B., Garcia-Castro R., and Rodriguez-Salvador M. (2021). Evaluation of Human Settlements' Energy Transition and Resilience by Introducing Urban Ecosystem Services. *Energies* 2021, 14, 2348.
- Jacobs, J. (1993). *The Death and Life of Great American Cities*. Vintage.
- Jianbing Cao, Zhanqi Wang, Jinbao Zhao, and Xinyan Zhu. 2022. Understanding public attitudes towards illegal land use and its impact on environmental conservation: A case study in China. Elsevier.
- JICA, 2021. Master Plan Study on Inclusive Urban Development in the Republic of Ghana. <https://openjicareport.jica.go.jp/pdf/12490861.pdf>. [Accessed 28 March 2023].
- Jordaan, A. C., & Muzondidya, J. (2018). The cost of land invasions: A case study of Thembelihle, Johannesburg. *Development Southern Africa*, 35(6), 703-716.
- Kafkalas, G. and Pitsiava, M., 2023. Bridging the evidence gap in spatial planning: Lessons from assessing the impact of transport infrastructure. *REGION*, 10(3), pp.59-81.
- Kamarudin N. H. and A. Musa, 2022. Sustainable Urbanization through the Smart City Concept in Malaysia: A Review. 10.38064/urbanization.2022.1.1.012.
- Kanku Raissa. 2017. Understanding Spatial Justice. JANUARY 31. Understanding Spatial Justice. | Cities. Geographies. Justice. (wordpress.com).
- Kapoor, N. and Bansal, V.K., 2021. Spatial suitability assessment for planning infrastructure facilities at site level in hill areas. *Journal of Urban Management*, 10(1), pp.27-45.
- Kasselstrand I., & Sjöström, T. (2020). Citizen participation in infrastructure planning: The case of the Stockholm bypass. *Transport Policy*, 85, 95-106.
- Kavanagh P. S. (2019). The role of human settlement planning in shaping social-ecological outcomes. *Society for Ecological Restoration*.
- Kavaratzis, M. (2012). From “necessary evil” to necessity: stakeholders’ involvement in place branding. *Journal of Place Management and Development*, 5(1), 7-19.
- Kellerman, A. (2017). The New Urban Agenda from a Gender Perspective: What Is New? In *The City of Collective Memory* (pp. 23-34). Palgrave Macmillan, Cham.
- Khalfallah, B. and Amrane, S., 2023. The Role of Resident Participation in Upgrading Informal Settlements: The Case of La Rocade Neighborhood in M'sila-Algeria. *Urban and Regional Planning*, 8(4), pp.69-78.
- Khumalo A. (2019). Land invasions- what does law say?. *Werksman Attorneys*. <https://www.polity.org.za/print-version/land-invasions-what-does-the-law-say-2019-07-31>. [Accessed 04 April 4, 2023].
- Kiptum, O. T., & Ngeny, D. K. (2021). Influence of Strategic Plans on Infrastructure Development by Kenya Rural Roads Authority in Uasin Gishu County, Kenya. *International Journal of Research and Scientific Innovation (IJRSI)*, 8(1), 85-89.
- Koens K., Postma A., and Papp B. (2018). Tourism in the city: Towards an integrative agenda on urban tourism. *Cities*, 74, 9-16.
- Kumar S. 2020. *Urban Infrastructure Planning: Types, Ingredients & Factors*. <https://theconstructor.org/architecture/urban-infrastructure-planning/56924/>. [Accessed 04 April 2023].
- Lengen, C., & Getimis, P. (2005). Women’s voices in local governance: A cross-national overview of sub-local government in six European countries. University of Greifswald.
- Libretexts, 2022. Social Sciens. 20.8: Theoretical Perspectives on Urbanization – Social Sci LibreTexts. [Accessed 6 April 2023].
- Longley Robert. (2021). All About Relative Deprivation and Deprivation Theory. <https://www.thoughtco.com/relative-deprivation-theory-4177591>. [Accessed 06 April 5, 2023].
- Lutz, W. (2014). Global human capital: Integrating education and population. *Science*, 345(6202), 276-278.
- Mabunda P. (2021). *The Informal settlement challenges in South Africa: A case for Gauteng Province*. (PDF) The Informal settlement challenges in South Africa: A case for Gauteng Province (researchgate.net). [Accessed 03 April 2023].
- Machete, R. M., & Ntshangase, S. S. (2021). Exploring the Socio-Economic Drivers of Illegal Land Use in Rural Communities of South Africa: The Case of Nkomazi Local Municipality. *Sustainability*, 13(1), 168. <https://doi.org/10.3390/su13010168>.
- Madanipour A. et al, 2021. The concept of spatial justice and the European Union’s territorial cohesion. Full article: The concept of spatial justice and the European Union’s territorial cohesion (tandfonline.com).
- Maderuelo J. (2014). Constructing landscapes: opportunities and challenges of territorial imagination. *Lsc. Research*, 39(1), 1-20.
- Mahmood M., Zailani S. and Jayaraman V. (2016). Big data for sustainability: Insights from tourism. *Tourism Management Perspectives*, 19, 151-153.

- Makhado Local Municipality. (2021). About us. Retrieved from <https://www.makhado.gov.za/about-us>.
- Makhado Local Municipality. (2021). Integrated Development Plan 2021-2026. Retrieved from <http://www.makhado.gov.za/documents/integrated-development-plan/IDP%202021-2026.pdf>.
- Makhado Local Municipality Final IDP 2022-2023
- Makhado Municipal By-laws (makhado land-use management scheme, 2009).
- Makungo M. (2018). Limpopo Municipality takes community to court over land. Limpopo Municipality takes community to court over land – SABC News. [Accessed 6/4/2023].
- Makwasha F. (2021). Title: Shaping the city through transgression and compromise: Insights from Zimbabwean urban informality. <http://ir.nust.ac.zw/xmlui/handle/123456789/952>.
- Malesela M, & Kgobe F.K . (2023) Settings The Efficacy of Community Participation Towards Land Use Planning in South African Local Municipalities. *Journal of Public Administration Studies*. [https://www.academia.edu/109202301/SettingsThe\\_Efficacy\\_of\\_Community\\_Participation\\_Towards\\_Land\\_Use\\_Planning\\_in\\_South\\_African\\_Local\\_Municipalities](https://www.academia.edu/109202301/SettingsThe_Efficacy_of_Community_Participation_Towards_Land_Use_Planning_in_South_African_Local_Municipalities). Accessed September 8, 2024.
- Manakane, D. and Odeku, K.O., 2022. Critical Analysis of Post-1994 Transformative Land Policy Fostering Social Cohesion in South Africa: An Impetus for Inclusive Nation Building. *Journal of Nation-building & Policy Studies*, 6(2), pp.45-66.
- Marshall, Tony. (2012). "Restorative justice: An overview." *Restorative Justice: Issues and Experiences*.
- Martin, David. (2022). "Urban planning and resilience." *Journal of Urban Affairs*.
- Marutlulle, N.K., 2021, 'A critical analysis of housing inadequacy in South Africa and its ramifications', *Africa's Public Service Delivery and Performance Review* 9(1), a372. <https://doi.org/10.4102/apsdpr.v9i1.372>.
- Masenya, M.J. and Kgobe, F.K.L., 2023. The Efficacy of Community Participation Towards Land Use Planning in South African Local Municipalities. *JPAS (Journal of Public Administration Studies)*, 8(2), pp.50-55.
- Masilela B. 2022. JMPD intensifies fight against illegal land invasions around Joburg. <https://www.iol.co.za/news/south-africa/gauteng/jmpd-intensifies-fight-against-illegal-land-invasions-around-joburg-e0ca6898-d5ce-40fe-b21e-d94cf707a561>. Independent Online. [accessed 1 April 2023].
- Mavhunga, T. (2018). Rural development and poverty reduction in South Africa: A case study of Limpopo Province. *Journal of Rural Development*, 37(1), 1-22.
- Mennen, T., 2016. *The Resource State: Deconstructing the Causality of Poverty, Bad Governance, and Natural Resource Rights*. UC Davis J. Int'l L. & Pol'y, 23, p.101.
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook*. Sage.
- Miller B, & Walter Nicholls. 2013. *Social Movements in Urban Society: The City as A Space of Politicization*. *Social Movements in Urban Society: The City as A Space of Politicization: Urban Geography: Vol 34, No 4*
- Mohammad, Azeem. (2022). "Migration patterns in the Middle East." *Migration Studies*.
- Mumford L. 2017. *The Natural History of Urbanization*. <https://www.scribd.com/document/362979260/The-Natural-History-of-Urbanization-Mumford-critical-brief#>. [Accessed 6 April 2023].
- Mutero W & Makwara T.(2018). The economic impact of illegal land invasion: a case study of Lwandle informal settlement, Cape Town, South Africa. (PDF) *THE ECONOMIC IMPACT OF ILLEGAL LAND INVASION: A CASE STUDY OF LWANDLE INFORMAL SETTLEMENT, CAPE TOWN, SOUTH AFRICA* (researchgate.net).
- Mokoena, B.T., Musakwa, W. and Moyo, T., 2017. Developing the Well-Located Land Index to Establish Smart Human Settlements for the Ekurhuleni Municipality, South Africa. *Planning Support Science for Smarter Urban Futures* 15, pp.95-112.
- Naude, W. A. (2018). Rural towns as anchors of development: Evidence from South Africa. *World Development*, 105, 94-106.
- Neely C. (2020). *Relative Deprivation Theory*. YouTube. Mar 23, 2020. [Accessed 05 April 2023].
- Ngobeni, S. N. (2019). The impact of illegal land uses on sustainable housing development in South Africa: A case of Tshwane. *Journal of Housing and the Built Environment*, 34(3), 785-801.
- Nikolopoulou, Angeliki. (2022). "The role of public spaces in urban sustainability." *Urban Design International*,.
- Ntshidi E. 2020. Maile: illegal land occupation will soon be a thing of the past. <https://ewn.co.za/2020/08/17/maile-illegal-land-occupation-will-soon-be-a-thing-of-the-past>. 17 August 2020. [Accessed 04 April 2023].
- Odeyemi, O. M., & Chikodzi, D. (2020). The impact of illegal land use on the sustainable development of African cities. *Journal of Sustainable Development*, 13(2), 71-82.
- OpenStax CNX. 2023. *Introduction to Sociology*. <https://openstax.org/books/introduction-sociology-2e/pages/1-introduction-to-sociology>. [Accessed 6 April 2023].
- PAHO TV. 2022. *Community Participation as a basis for Primary Health Care in Response to COVID-19: 1st Steps*. [https://youtu.be/1Oe\\_DYZZMSk](https://youtu.be/1Oe_DYZZMSk). [Accessed April 6, 2023].
- Palm K. 2021. Despite decrease in land grabs, WC Govt spends over R53m on security. *Eyewitness News*. <https://ewn.co.za/2021/08/25/despite-decrease-in-land-grabs-wc-govt-spends-over-r53m-on-security>. [Accessed 04 April 2023].
- Pillay, U. (2020). "Illegal land uses in South Africa: The State's Response and the Politics of the Unlawful." *Politikon: South African Journal of Political Studies*, 47(1), 83-99.
- Planning Tank Admin. 2016. *Land Use Planning*. <https://planningtank.com/urban-regional-planning/land-use-planning>. [Accessed 6 April 2023].
- Planning Tank Admin. (2020). *Community Participation | Types, Process & Facilitation*. <https://planningtank.com/planning-theory/community-participation>. [Accessed April 6, 2023].
- Proctor, Anne. (2003). "Gender and leadership in education." *Educational Mgmt Administration & Leadership*, 31(2), 175-194.
- Queensland (Planning). 2022. *Infrastructure planning*. *Infrastr. planning | Planning* (statedevelopment.qld.gov.au). [30 March 2023].
- Rajiv R T, Ashok K. Dutt, Sudhir K. Thakur, George M. Pomeroy. 2020. *Urban and Regional Planning and Development*. 20th Century Forms and 21st Century Transformations. [https://link.springer.com/chapter/10.1007/978-3-030-31776-8\\_6](https://link.springer.com/chapter/10.1007/978-3-030-31776-8_6).
- Ramezani, Ali. (2023). "Renewable energy and sustainable development." *Energy Policy*, 165, 112913.
- Rasooli, S., Salimi, S., & Elahifar, M. (2021). Land-use change and its environmental impacts in rural areas: A review. *Journal of Environmental Management*, 287, 112274.
- Republic of South Africa. (2014). *Spatial Planning and Land Use Management Act, 2013*. *Government Gazette*, 37623.
- Reverdosa, Catarina. (2022). "Tourism development and local communities." *Journal of Sustainable Tourism*.

- Ritchings A. 2023. The Importance of Infrastructure Projects and the influence of Family Offices. <https://www.linkedin.com/pulse/importance-infrastructure-projects-influence-family-andrew-ritchings>. [30 March 2023].
- Sakala Samuel. 2016. Causes and consequences of informal settlement planning in Lusaka district: a case study of garden house. School of Humanities Information and Communications University, Zambia Research and Development Centre.
- Saunders, Mark. (2012). "Choosing research participants." In G. Symon & C. Cassell (Eds.), *The Practice of Qualitative Organizational Research: Core Methods and Current Challenges*. SAGE Publications.
- Sekhwela, M. B., & Lebeloane, L. D. (2019). An evaluation of land use planning implementation in the Makhado Local Municipality, Limpopo Province, South Africa. *Journal of Geography and Regional Planning*, 12(2), 22-36.
- Sinthumule Ndidzulafhi Innocent et al.. 2020. Stakeholder perspectives on land-use conflicts in the South African section of the Greater Mapungubwe Transfrontier Conservation Area. Taylor and Francis online.
- Siphe Zantsi and Jan C. Greyling. (2021). Land redistribution in South Africa's land reform policy. *Sabinet*. Vol 60, No. 2. <https://journals.co.za/doi/full/10.1080/03031853.2021.1906286>. [Accessed 03 April 2023].
- Sithole, S. T., & Sibiyi, J. E. (2021). The impact of informal settlements on environmental degradation: A case study of Diepkloof Extension, Soweto, South Africa. *Journal of Human Ecology*, 76(1-2), 19-32. <https://doi.org/10.1080/09709274.2021.1901789>.
- South African Human Rights Commission. (2021). "Annual Report 2020/2021." Available at: SAHRC Annual Report.
- South African government in (2015). Human Rights Commission welcomes ratification of International Covenant on Economic, Social and Cultural Rights. 18 Jan 2015. <https://www.gov.za/sahrc-welcomes-ratification-international-covenant-economic-social-and-cultural-rights>. [accessed April 4, 2023].
- South African Government, 2023. National Infrastructure Plan. <https://www.gov.za/issues/national-infrastructure-plan>. [Accessed 28 march 2023].
- South Africa. 2013. Spatial Planning and Land Use Management Act 16 of 2013. Available at: <https://www.gov.za/sites/www.gov.za/files/a15-02.pdf> [Accessed on: 22 March 2023]
- Thakur Harish K, (2021). Research Design. Research Design (researchgate.net). Accessed 20 November 2023.
- Thakur, Ranjit. (2021). "Economic impacts of COVID-19 on developing countries." *Economic Modelling*.
- Thaw R. (2020). Some citizens taking advantage of lockdown to invade land – dept. <https://ewn.co.za/2020/07/22/some-citizens-taking-advantage-of-lockdown-to-invade-land-dept>. [Accessed 01 April 2023].
- Thembekile Hani Municipal. (2020). "Integrated Development Plan 2020/2021." Available at: Thembekile Hani IDP.
- Think Architecture. 2023. What is land use planning? Site planning and land use development. <https://www.thinkaec.com/what-is-land-use-planning/>. [Accessed 6 April 2023].
- Tilly, Charles. (2004). *Social Movements, 1768-2004*. Boulder, CO: Paradigm Publishers.
- Tonchovska, Romyana. (2021). "Geospatial data and its impact on urban planning." *Geospatial Information Science*.
- Tonchovska, R., Stanley, V. and De Martino, S., 2012. Spatial data infrastructure and inspire. World Bank, Washington, DC.
- Troisi, Roberta, 2022. "Illegal land use by Italian firms: An empirical analysis through the lens of isomorphism," *Land Use Policy*, Elsevier, vol. 121(C).
- Tshishonga, N. P., Nkuna, T. R., & Ramukumba, T. S. (2021). The extent of illegal land use and its effect on natural resources in Giyani Municipality, Limpopo Province, South Africa. *Environmental Science and Pollution Research*, 28(9), 11321-11330. <https://doi.org/10.1007/s11356-020-11508-w>.
- UN-Habitat. (2013). *The challenge of slums: global report on human settlements*. Earthscan.
- UN-Habitat 2021 report. *The Role of Land in Achieving Adequate and Affordable Housing*.
- United Nations Human Settlements Programme (UN-Habitat). (2013). *Planning sustainable cities: Global report on human settlements 2009*. Routledge.
- United Nations (2023). *International Covenant on Economic, Social and Cultural Rights*. <https://www.ohchr.org/en/instruments-mechanisms/instruments/international-covenant-economic-social-and-cultural-rights>. [Accessed April 4, 2023].
- Van Deventer, L., & Botes, M. (2021). Challenges to enforcing land-use regulations in South Africa: Lessons from the Western Cape Province. *Urban Forum*, 32(1), 1-19.
- Vinti, Clive. (2018). "Illegal land occupations in South Africa." *Potchefstroom Electronic Law Journal*.
- Vonderhaar, Angela. (2022). "Community resilience and disaster management." *Journal of Emergency Management*.
- Walker, I., & Pettigrew, T. F. (1984). Relative deprivation theory: An overview and conceptual critique. *British Journal of Social Psychology*, 23(4), 301-310.
- Walz, Katja. (2022). "Climate adaptation strategies in Europe." *Climatic Change*.
- Wang, Y., Chen, F., Wei, F., Yang, M., Gu, X., Sun, Q. and Wang, X., 2023. Spatial and temporal characteristics and evolutionary prediction of urban health development efficiency in China: Based on super-efficiency SBM model and spatial Markov chain model. *Ecological Indicators*, 147, p.109985.
- Wibawa, Budi. (2023). "Smart cities and urban innovation." *Journal of Urban Technology*.
- Xiao Yang. 2022. *Urbanization and Theoretical Perspectives on Migration and Mental Health*. Urbanization and Theoretical Perspectives on Migration and Mental Health | Request PDF (researchgate.net). [Accessed 6 April 2023].
- Yang yong. 2023. Land use density, land use mix, and walking: insight from a simple theoretical model. Research gate.
- Yongyang Cai, Harris Selod and Jevgenijs Steinbuds. 2018. *Urbanization and land property rights*. Regional Science and Urban Economics. Science direct.
- Zulu, P. (2020). "Revisiting Relative Deprivation and Civil Unrest in South Africa." *Jl of Social & Political Psychology*, 8(1), 95-110.
- Zwane A. 2021. Building illegally? Careful, you may just find yourself out of pocket. Shpstone and Wylie.
- Zwane, E. M., & Musundwa, S. (2020). The impact of land tenure on illegal land use in South Africa: A case of Vulindlela Village, KwaZulu-Natal. *International Journal of Sustainable Development and World Ecology*, 27(3), 243-254. <https://doi.org/10.1080/13504509.2019.1664943>.