Assessing the Sustainability of Social Housing Projects in Ekurhuleni: A Case Study of Germiston

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Abstract

South Africa is a signatory to the United Nation's Sustainable Development Goals (SDGs). SDG 11 is aimed at the development of sustainable settlements and communities. City authorities especially in the so-called Global South have great challenges in attaining this goal. This is due to rapid urbanisation occurring in these spaces. As a response to SDG 11, the Ekurhuleni Metropolitan Municipality (EMM) in South Africa has pursued an ambitious programme of integrated social housing with the view of providing 10000 rental units by 2030. This paper assesses the sustainability of social housing projects in Ekurhuleni. These projects were assessed using Neo-Marxist theory and the Habitat Agenda's sustainability index. A quantitative research approach, which included a review of secondary data was used, with a focus on documents from the Ekurhuleni Municipality. In addition, surveys were conducted in the social housing buildings, with 20 tenants from each of the three projects being chosen to participate in the study. The findings show that the social housing projects met the Neo-Marxist theory's standards, but did not meet all of the Habitat Agenda's sustainability requirements. The study concludes that the projects are not sustainable because they fail to achieve all four components of sustainability as defined in the Habitat Agenda.

Keywords

Social Housing, Sustainable Development goals, Sustainability indicator, Habitat Agenda and Neo Marxist theory

1. Introduction

The supply of sustainable, efficient, and affordable housing to citizens is one of the biggest challenges facing governments around the world. To help alleviate the situation, countries such as South Africa, the United Kingdom, and others have adopted social housing as part of a package of initiatives to assist low-income households in obtaining affordable homes with security of tenure. The South African Social Housing Policy (2003) defines social housing as "a housing option for low-to-medium income persons supplied by housing organizations and excluding immediate individual ownership". From this definition, it is apparent that there is a missing profile of persons in desperate need of suitable and affordable housing. Thus, for this housing choice to work successfully and efficiently, it requires continual management from social housing institutions that have been authorized by the social housing authorities as they not only play a regulatory role but an advocacy as well (Hunt 2008). A need for social housing units that are financially viable arises due to the growing housing shortage for low-income earners in South Africa. To create sustainable housing throughout time, the entire process of providing social housing should be handled effectively. However, social housing institutions frequently struggle with the fundamental management of their rental stock, which has an adverse effect on their ability to deal with tenants. In this light, the Ekurhuleni Metropolitan Municipality (EMM) has embarked on an ambitious programme of integrated social housing with a view of providing 10000 rental

units by 2030. The EMM is a Category A municipality and one of Gauteng Province's three (3) metropolitan municipalities. In South Africa, a Category A municipality is one located within the local sphere of government and deals with urban governance issues at the scale of metropolitan planning (City of Ekurhuleni 2013-2016). The EMM's overall area, which stretches from Germiston in the west to Springs and Nigel in the east, is 1,975 km2. The city's area of jurisdiction is dotted with a number of poor townships and informal settlements, the purview most often of Black residents of the municipality (Webster and Englert 2020).

Social housing in Ekurhuleni is facilitated and managed by the Ekurhuleni Housing Company (EHC). As stated in the EHC's 2016/2017 annual report, the EHC is strongly linked to the Housing Code and Breaking New Ground Strategy (BNG), which stipulate that people should live in a safe and secure environment and have sufficient access to housing. These programmes or strategies were launched in 2000 and 2004 respectively (Trusler 2012; Mkuzo et al. 2019). Their timing as well as of this research is telling of the magnitude of the housing challenge in South Africa. During the time when the study was carried out, there were only 4 social housing projects in Ekurhuleni and these are the Pharoe Park social housing, Airport Park, Delville and Chris Hani village social housing projects.

1.1 Objectives

The objective of the paper is to assess the sustainability of social Housing projects in Ekurhuleni. The sustainability of the units was looked at and assessed based on the four sustainability components – social; environmental; economic and institutional sustainability.

2. Literature Review

This part of the paper presents a review of the study's key concepts that among others include social housing, sustainable development goals and many others. It also presents the theory that informs the work.

2.1. Social Housing

According to the Social Housing Regulatory Authority (SHRA), Social housing is state-subsidized rental accommodation aimed at low- to middle-income households earning between R1500 and R15, 000 on a monthly basis. Social housing must encourage the integration of social, physical, and economic housing developments into the previously developed metropolitan and/or inner-city neighborhoods by improving and establishing better living environments (social housing policy 2003). This means that the construction of these homes should be guided by integrated development planning and coordinated with existing integrated development plans (IDPs) in the area as well as other pertinent plans and policies. Another aspect is that these projects must take into account social amenities, recreation, and the demands of other tenants. Additionally, high-density residential projects must be implemented within these types of projects (social housing policy 2003).

2.2. Sustainable Development Goals

Sustainable development is defined in the World Commission on Environment and Development (WCED): Our Common Future report, as development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs (WCED 1998). The idea was born out of the desire to address the worries that people had about how the economy was growing and how the environment appeared to be deteriorating. The United Nations (UN), which is made up of 193 nations, adopted the 2030 Agenda for Sustainable Development in 2015. The historic agenda outlines 17 Sustainable Development Goals (SDGs), as well as objectives for human and environmental dignity, peace, and prosperity (United Nations General Assembly 2015). The Sustainable Development Goals (SDGs), also known as the Global Goals, were enacted as a global call to action to eradicate poverty, safeguard the environment, and guarantee that by the year 2030, peace and prosperity will be experienced by everyone. The 17 SDGs are interconnected; they acknowledge that decisions made in one area will have an impact on those made in others and that sustainable development must strike a balance between social, economic, and environmental sustainability. The plan's SDG 11 aims to make "cities and human settlements inclusive, safe, resilient, and sustainable." According to the objective, communities should make sure that everyone has access to public transportation, safe and affordable housing, and open green areas. In light of this, cities should be resilient to natural disasters, protect people who are susceptible, and limit economic loss (Hák, Janoušková, and Moldan 2016).

Creating sustainable cities that can resist both climate change and unexpected growth is the overall objective of SDG 11, which is extensive and complex. The Agenda for Sustainable Development and its objectives are crucial because as cities expand in size and population, countries must contend with new problems. According to the SDG 11 progress

review for 2019, "Urban areas around the world are growing faster than their inhabitants. Areas occupied by cities increased 1.28 times faster than their populations between 2000 and 2014. This indicates that urban areas are dispersing and getting less concentrated. Some urban dwellers are consequently cut off from essential infrastructure like public transportation. Despite the fact that SDG 11 is largely focused on government action, the projects require support from both ordinary residents and community leaders. People can, for instance, make improvements to their neighborhood parks, plant gardens on their rooftops, or participate in community composting initiatives to raise the standard of existing green spaces and build new ones in new locations. People may promote sustainable cities on a global scale by taking little measures in their own neighborhoods.

2.3. Habitat Agenda

Habitat II reaffirms the conclusions of pertinent recent world conferences and has developed them into an agenda for human settlements: the Habitat Agenda. This agenda was developed after taking into account the experience since the first United Nations Conference on Human Settlements, held in Vancouver, Canada, in 1976. According to Cohen (2016), the Habitat Agenda is an appeal for action from all corners of the world. It presents a hopeful picture of sustainable human settlements—where everyone has access to adequate accommodation, a safe and secure environment, essential services, and gainful employment—within a framework of objectives, guiding principles, and commitments (Cociña, Frediani, Acuto and Levy 2019).

The Habitat Agenda's goals are completely in line with the objectives and tenets of the United Nations Charter as well as with international law. Parnell (2016) emphasizes that the sovereign right and responsibility to implement the Habitat Agenda rests with each State, in accordance with all human rights and fundamental freedoms, including the right to development, and with full consideration for and respect for the various religious and ethical values, cultural backgrounds, and philosophical convictions of individuals and their communities – helping everyone fully exercise their human rights in order to fulfil the goals of adequate housing for all and the development of human settlements in a sustainable manner.

2.4. Sustainability pillars and Indicators

Sustainability is concerned with four key areas, being the social sustainability, economic sustainability, environmental sustainability and institutional sustainability. Sustainability Indicators offer a crucial tool for mapping the sustainable development process and tracking the sustainability of our settlements. The South African Department of Human Settlements, a signatory to the Habitat Agenda, has accepted responsibility for adapting the Agenda's principles to the local situation. The Habitat Agenda also serves as the foundation for the nation's reporting to the UN Commission on Human Settlements. Consequently, the Habitat Agenda served as the standard by which the researcher in this study evaluated the sustainability of social housing in Germiston.

2.4.1. Social sustainability indicators

Assuring people have a high quality of life is at the heart of social sustainability. The characteristics of life determinants are taken from the Habitat Agenda definition of sustainable human settlements as giving all people equal opportunities to live a healthy, safe, and productive life in harmony with nature, their cultural heritage, as well as their cultural and spiritual values. The Habitat Agenda focused on several social issues, including health, safety, shelter, a productive life, self-determination, and the quality of the built environment.

2.4.2. Environmental sustainability indicators

According to the Habitat Agenda, a sustainable human settlement makes effective use of resources while taking the precautionary principle into account and staying within the eco-systems' carrying capacity. A community that practices ecological responsibility would thereby reduce waste and pollution as well as the use of resources like water, electricity, and arable land. Simultaneously, it would take proactive measures to ensure the protection of ecologically sensitive sites like wetlands, areas with a high biodiversity, regions essential to the upkeep of the world's life-support systems like forests, the habitats of endangered species, as well as sites of exceptional natural beauty that are a part of the world heritage. (UN Habitat 2015). Several indicators have been developed for analysing the sustainability of the biophysical environment. The key issue is resource use which is determined by the energy use and waste produced.

2.4.3. Institutional sustainability

The ability of local and national governments to supply and maintain an adequate standard of living within the economic and ecological limits imposed on them is crucial to the development of sustainable human settlements. The

ability to develop and implement pro-grams and projects that support sustainable development is determined in large part by institutional resources (financial and human), the willingness to implement policies that sup-port sustainable settlements, operational effectiveness, and operational capacity.

2.4.4. Economic sustainability

Economic sustainability refers to striking a balance between affordability and the long-term maintenance of affordable housing, which includes paying for private financing. Simply said, this suggests that project income should exceed project costs. In order to maximize the amount of money that can be used to invest in the sector's further expansion while simultaneously ensuring positive social and environmental results, the developing sector must improve its financial performance. Therefore, increasing yield and reducing costs are important for economic sustainability (UN Habitat 2015)

2.5. Neo Marxist theory

The Neo-Marxist theory serves as the theoretical foundation for this study. A critical theory often applied to issues of economics, it postulates that the state should offer social housing, not the private sector (Ball and Harloe 1992). The theory further suggests that handing over this responsibility for housing supply to the private sector will result in the commodification of housing, which will then cause inequality and the exploitation of the underprivileged by capitalists (Pugh 1990). In South Africa, social housing is in the ambit of the government (SHRA 2017). Section 26 Chapter two of the Constitution (Act 108 of 1996) of the country enshrines the right to housing as a basic right, one which cannot be commoditized (Ogunsanya 2010). As such, Smith (1999) contends that the government must accept responsibility for such actions if the goal of social housing provision is to eliminate poverty. In turn, this will lessen the likelihood of the underprivileged being exploited by neoliberal interests. The theory further supposes that if the government takes on the responsibility of providing this type of housing opportunity, it will be empowered to acquire land; thereby allowing the poor to be housed on well-located land that is in close proximity to services and opportunities. The Neo-Marxist theory focuses mainly on the delivery of the social housing project. However, there arises a gap as this theory does not touch upon how the projects should be in order to be perceived as being sustainable. A sustainability indicator from the Habitat Agenda was therefore adopted in this study as it addresses sustainability in social housing projects within both developing and developed countries.

3. Methods

Add Quantitative research methodology was used for the study, which comprised both primary and secondary data. Questionnaires were distributed randomly to tenants in the social housing development/projects in order to gather primary data. To form part of the sample within the study, the tenants had to meet this criterion:

- Be the immediate tenant within the room they are occupying
- Have the willingness to partake in the study
- Be of any gender

The study was restricted to only three of Germiston's four social housing units that were included in the study, namely Airport Park, Delville, and Chris Hani Village. At the time of conducting this research, there were ongoing tenants' riots and strikes occurring in the Pharoe Park social housing units which led to the project being excluded from the study. Data were gathered through surveys conducted in the social housing buildings, with 20 tenants from each of the three projects being chosen to participate in the study. The surveys were conducted during the month of September 2018. Surveys were deemed to be pertinent since they guaranteed a high response rate and reduced the likelihood of bias because they were delivered in the same manner. Furthermore, the questionnaire contained both open ended and closed-ended questions, which made it simpler to compare the responses.

Examining the EMM's publications and those of the social housing organization Ekurhuleni Housing Company (EHC) allowed for the collection of secondary data. The aim of the study was to assess the sustainability of social housing projects in Germiston: Ekurhuleni. A total sample of 60 tenants in the social housing units answered questionnaires which helped the researcher have a better understanding on what happens in the social housing projects. Descriptive statistics was used to analyse the participants' responses from the survey. The responses were interpreted and recorded in the form of tables

4. Data Collection

Questionnaires were administered to 20 tenants of each social housing project (Airport Park; Delville and Chris Hani Village), thus making a total of 60 questionnaires altogether. The findings obtained from the questionnaires were analysed using version 11 of the Statistical Package for the Social Sciences (SPSS) software/program. The results were discussed based on the sections covered in the questionnaires and also referring to the four aspects of sustainability (economic, environmental, social and institutional sustainability). Six sections were covered in the questionnaire and these are the Demographics section (Section 1); section on attitudes towards the units (Section 2); section on Social Sustainability (Section 3); Environmental sustainability (Section 4); Economic sustainability (Section 5); Institutional Sustainability (Section 6). The Habitat Agenda was used to assess the sustainability of each project based on the categories and indicators set out for each house/human settlement to meet for them to be regarded as sustainable.

The questionnaires were personally distributed to the tenants by the researcher. Before the researcher could go into the units, she had to obtain permission from the social housing institution (SHI). The researcher submitted the letter from the University of Johannesburg (signed by the supervisor and researcher) to the SHI where they had to provide the go-ahead. The letter requested the go-ahead to carry out all sorts of surveys the researcher had to do to support the study. The Community Development Officer within the SHI then provided the researcher with a permission letter to go into the units before commencing with the data collection. The data was then completed over a period of one month.

5. Results and Discussions

This section focuses on outlining results and findings from the study and surveys conducted.

5.1 Assessing the sustainability of the social housing projects using Marxist theory

According to the Neo-Marxist view, the government must create and offer social housing if it is to reduce poverty and strive to fill the housing gap. All social housing projects in Germiston and the greater EMM region are created and administered by the municipality, which is represented by the SHI, a municipality-affiliated organization. The research demonstrates that the Germiston social housing developments are examples where the former is accurate.

5.2 Assessing the sustainability of the social housing projects using the sustainability indicator

This section assesses the sustainability of the social housing projects using the sustainability indicator as set out in the Habitat Agenda

5.2.1. Social sustainability

The social facets of sustainable development call for city governments to promote the creation of just and equitable societies that promote good human development and give individuals access to chances for self-actualization and a respectable standard of living (Table 1). In or-der to promote sustainability in social housing, focus is drawn on addressing social inequalities in the satisfaction of basic health, recreational, and educational needs as well as participatory democracy, which are essential components of development (Oriye et al. 2012). In addition, the addressing of gender inequality is an important consideration (Gurran 2003). Additionally, to ensure that this social sustainability is achieved in the provision of social housing, related indicators can be implemented, such as access to facilities and amenities, amount of living space, health of the occupants, community spirit and social interaction, sense of safety, and neighbourhood as a place to live in (Ebsen and Rambol 2000).

Table 1: Level of satisfaction based on various social sustainability elements

Indicators		id	Mi	ssing	Total	
		Percent	N	Percent	N	Percent
Safety in and around the where it is located	61	100,0%	0	0,0%	61	100,0%
Security within the project	60	100,0%	0	0,0%	60	100,0%
Recreational facilities	60	100,0%	0	0,0%	60	100,0%

Location (Location in relation to social amenities)	59	98,4%	1	1,6%	61	100,0%
Accessibility (using public transport)	59	98,4%	1	1,6%	61	100,0%
Facilities for the disabled	59	98,4%	1	1,6%	61	100,0%
Aesthetics of the units (design and comfort)	59	98,4%	1	1,6%	61	100,0%

The respondents were highly satisfied with how social projects can be accessed even when using public transport. Other respondents felt neutral towards the aesthetics of the units. The general complaint here was that the stairs were tiring and were not safe for children as they may trip and fall. Another complaint was that the stairs are equally not good for pregnant women as they are many and are higher. Other respondents outlined that they were highly unsatisfied with the recreational facilities within the projects. The general argument placed here was that because there are no recreational facilities where children can play, they end up playing in the car parking area which then puts people's cars at risk of being damaged by the children in any manner

5.2.2. Environmental Sustainability

The environmental components of sustainable development demand that there be a balance between preserving the natural environment and its resources and exploiting them in a way that will continue to allow the earth to sustain a decent standard of living for people. Environmental sustainability typically emphasizes avoiding pollution caused by the consumption of energy, water, materials, and land and optimizing the use of recycled materials and renewable resources (Ebsen and Rambol 2000). In order to state that we have a sustainable social housing development ecologically, this means that all processes of interaction with the environment in the creation, use, and upkeep of the units will be undertaken with the goal of conserving the environment as much as possible (Table 2).

Table 2: Tenants' satisfaction with the electrical supply and connections in the units

Satisfact	Satisfaction with the electrical supply and connections in the units			No	Total		
Project	Delville Ext.9	Count	17	17 3			
		% within Project	85,0%	15,0%	100,0%		
	Chris Hani Village	Count	17	3	20		
		% within Project	85,0%	15,0%	100,0%		
	Airport Park	Count	19	1	20		
		% within Project	95,0%	5,0%	100,0%		
Total		Count	53	7	60		
		% within Project	88,3%	11,7%	100,0%		

88% of the respondents are happy with the units' power supply. However, 12% of them said that they are not happy with their connection because they believe it to be costly and short-lived (Table 3).

Table 3: Availability of reliable water supply

Availabi	Yes	No	Total		
Project	Delville Ext.9	Count	19	1	20
		% within Project	95,0%	5,0%	100,0%
	Chris Hani Village	Count	20	0	20

		% within Project	100,0%	0,0%	100,0%
	Airport Park	Count	20	0	20
		% within Project	100,0%	0,0%	100,0%
Total		Count	59	1	60
		% within Project	98,3%	1,7%	100,0%

All respondents agreed that the water supply they have is reliable.

5.2.3. Economic sustainability

For a social housing project to be considered economically sustainable, it must be made available at costs that the target group can afford; otherwise, the program may fail owing to unsustainability. This is corroborated by Higgins (2013) who goes on to state that establishing economic sustainability in social housing provision will not only expand the supply of these housing opportunities but will also boost the nation's overall economic growth. According to Higgins (2013) as the supply of sustainable social housing increases, so will the country's economy and, in turn, the number of jobs available, improving everyone's quality of life. Economic stability will consequently make it possible to use current technologies to encourage the adequate provision of sustainable social housing for addressing housing demands. The primary goal of this part was to determine whether or not the respondents thought that these dwelling options were financially feasible for themselves (Table 4).

Total Thoughts about the rent payable It is reasonable It is way too expensive Delville Project Count 13 20 Ext.9 % 65,0% 35,0% 100.0% within Project Chris Hani 10 10 20 Count Village 50,0% 50,0% 100,0% % within Project 17 20 Airport Count Park 85,0% 100.0% % within 15,0% Project Total Count 40 20 66,7% 33,3% 100,0% within Project

Table 4: Affordability of the units

A third (33%) of the respondents think the rent is pricey. First of all, the majority of respondents claimed that the monthly rent is excessively expensive because it represents more than 30% of their income. Second, the rent increases by 10% each year, which causes tenants to face more financial hardships because their wages do not also increase by 10% yearly. Because they live close to their place of employment and services like supermarkets, shopping centres, restaurants, and public parks, 67 percent of them still believe their housing expenses are affordable, despite the yearly hikes.

5.2.4. Institutional Sustainability

For the institutional component of sustainability to be realized, the Social Housing Institution that oversees these projects must create an atmosphere where all members of the community may take part in making decisions that may have an impact on them and their time spent in those units. Information regarding purchases that can have an impact on the residents' lives should be equally accessible by the SHI. The company should be open and transparent in all other aspects of its business, and all current and potential tenants should have access to a detailed accounting of how

the money it makes is spent. Last but not least, the institution needs to be able to respond rapidly to any issues tenants may have, including maintenance issues or any requests made by residents (Table 5).

Table 5: Management style in the housing scheme

How is the management style in this social housing project?		They have a good relationship with their tenants		are to	There is no relationship between management and the tenants	Other	Total	
Project Delville		Count	7	6		7	0	20
	Ext.9	% within Project	35,0%	30,0%		35,0%	0,0%	100,0%
	Chris	Count	14	3		2	1	20
	Hani Village	% within Project	70,0%	15,0%		10,0%	5,0%	100,0%
	Airport	Count	13	4		3	0	20
	Park	% within Project	65,0%	20,0%		15,0%	0,0%	100,0%
Total		Count	34	13		12	1	60
		% within Project	56,7%	21,7%		20,0%	1,7%	100,0%

56% of the respondents stated that management and tenants get along well. This indicates that the management genuinely cares about the renters and isn't just interested in maintaining the status quo. 44 percent of respondents disagree with this idea, arguing that tenants are unable to express their opinions and that there is no interaction between the management and tenants (21 percent and 23 percent respectfully) (Table 6).

Table 6: Quality of services provided by management

How is the	How is the quality of services rendered by the management?			Bad	Excellent	Total
Project	Delville Ext.9	Count	9	7	4	20
		% within Project	45,0%	35,0%	20,0%	100,0%
	Chris Hani Village	Count	17	3	0	20
		% within Project	85,0%	15,0%	0,0%	100,0%
	Airport Park	Count	17	3	0	20
		% within Project	85,0%	15,0%	0,0%	100,0%
Total		Count	43	13	4	60
		% within Project	71,7%	21,7%	6,7%	100,0%

In this study, all aspects of building services were evaluated, including restrooms, water and electricity supply, waste disposal, and electrical fixtures including plugs, lights, and cable connections. While a majority of respondents (71%) consider the services to be only good, only a small minority (8%) believe they are great. When compared to those who thought the services were great, there was a lot more discontent. 21 percent of the respondents thought the services were subpar and felt that the process for handling tenant complaints needed to be changed (Table 7).

Table 7: Tenant-management relationship

How can you rate the management- tenant relationship and why Good Bad Tota
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Project	Delville Ext.9	Count	11	9	20
		% within Project	55,0%	45,0%	100,0%
	Chris Hani Village	Count	14	6	20
		% within Project	70,0%	30,0%	100,0%
	Airport Park	Count	17	3	20
		% within Project	85,0%	15,0%	100,0%
Total		Count	42	18	60
		% within Project	70,0%	30,0%	100,0%

Among the respondents, 69% said they have a positive relationship with EHC management. This is confirmed by the justifications they provided for why they are content with the degree of interaction the managing body has with them and why they feel free to voice their concerns and opinions during the managing body's frequent meetings. However, 31% of the respondents argue that their relationship with the controlling body is poor since it doesn't adequately address the issues or obstacles they bring up during those meetings. They continued by claiming that the management was ineffective at resolving issues in the social housing developments.

6. Conclusion

The objective of this paper was to assess the sustainability of social housing in Germiston. The findings are that the projects do not live up to the requirements of the UN Habitat. As such, these social housing projects were found to not meet the definition of sustainable social housing. Therefore, it is recommended that through long-term affordability measures, the annual rent increases in the housing plan be eliminated. By employing a concept called long-term affordability, social housing units are guaranteed to be inexpensive for a set amount of time, such as 10, 20, 40, or 60 years. It is also advised that the government offer sizeable capital subsidies to pay for the expenses of creating units of acceptable quality as well as to provide money to pay for the operating expenses on a yearly basis. Additionally, the government may offer registered social housing institutions tax advantages and programs to lower land costs. In this manner, they could guarantee that rents are reasonable for the intended audience.

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Zenzile Mbinza is a development planner who has worked in the public and private sector. His experience ranges from land use management, the formulation of Spatial Development Frameworks, the reviewing and formulation of Integrated Development Plans. He also has vast experience in settlement rehabilitation and upgrading. Recently, his research has primarily focused on place-branding, the disambiguation of township spaces, place-making, strategic spatial planning, understanding and responding to the informal economy, metropolitan planning, and regional economic analysis.

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