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Megaprojects as a vehicle for providing benefits to housing beneficiaries in the eThekwini municipality

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Background: The Integrated Housing Development Plan developed by the eThekwini municipality is aimed at creating sustainable human settlements. It was developed to ensure that by the year 2020, all residents would have access to a housing opportunity which was to include secure tenure, basic services and support in achieving incremental housing improvement in living environments with the requisite social, economic and physical infrastructure. However, this did not materialise because there are a lot of issues that the municipality has continued to grapple with in fulfilling this mandate.

Aim: This article aims at rethinking the modality of megaprojects as a vehicle for providing long-lasting benefits to housing beneficiaries in the eThekwini municipality.

Method: This article is qualitative, and data were collected from members of the Cornubia community, officials from the eThekwini municipality and the KwaZulu-Natal Department of Human Settlements.

Findings: The findings show the role played by megaprojects in creating a quality living environment for communities to meet government objectives. Whilst the South African government through these large-scale projects aims to provide quality accommodation together with basic services, this study also finds that this has cost implications for the poor because of other external factors such as unemployment and lack of access to resources.

Conclusion: Whilst an enormous number of policies have been adopted to address the housing backlog, sustainable human settlements are still a challenge in South Africa. It should be observed that the Department of Human Settlements is chasing a moving target. The article has identified policy gaps in achieving sustainable human settlements which do not adequately address the achievement of integrated human settlements that the government is aiming at.

Keywords: housing; local government; governance; beneficiaries; sustainability.

Introduction

The *Housing Act* of 1997 acknowledges that all South Africa's people shall have access to permanent residential structures with secure tenure. This shall ensure privacy and provide adequate protection against the elements with amenities such as potable water, sanitary facilities, disposal of waste and electricity supply (ed. Department of Housing 1997). Hence, the government committed to ensuring that the right to access housing was to be fulfilled using a state-subsidised approach. The new approach of mega human settlements in South Africa represents a shift from the previously uncoordinated, small-scale, low-impact, sporadic and unsustainable housing development measures. Through these projects, the government aims at achieving diversity in human settlements with an emphasis on social and economic inclusion, whilst at the same time promoting spatial justice (Gauteng Partnership Fund 2020). It should be observed that in seminal work conducted by scholars such as Denicol, Davies and Krystallis (2020), megaprojects are used as a delivery model to produce large-scale complexes and one-off capital investments in the public and private sectors. However, as argued by various authors (Altshuler & Luberoff 2004; Flyvbjerg et al. 2003; Merrow 2011; Priemus & Van Wee 2013), these kinds of projects are very risky endeavours, notoriously tricky to manage, and at the end they fail to achieve their original objectives. In the process, megaprojects professionals have a responsibility of coordinating with multiple forms of the institutional framework, which includes the country's laws, legal agreements with financial institutions, national and provincial legislation and corporate hierarchies.

In the development of integrated human settlements, housing contractors tend to have an increased potential for income from higher-density mixed-used projects. This is because of the increase in floor space, with more sales per square meter and an increase in property values. As a result of the compactness and the higher-density nature of megaprojects, less is spent on the infrastructure and utilities per household (Landman 2010). This article aims at rethinking the modality of megaprojects as a vehicle for providing long-lasting benefits to housing beneficiaries in the eThekwini municipality. It sought responses from research participants on whether there has been a change in the welfare of beneficiaries who have been provided with houses by the municipality through the approach adopted by the government. The findings show the role played by megaprojects in creating a quality living environment for communities to meet government objectives. This article begins by presenting the background of megaprojects in South Africa, then a review of the literature, the theoretical framework on megaprojects, the research methodology used to undertake the study, presentation of findings and discussion of the results, recommendations and finally a conclusion drawn from the results and areas for further research.

Literature review

Megacities' social dimensions of sustainable development can be seen in the population growth, population densities, life expectancy rate, immigration rate, socialisation, inequality of income distribution, rate of crime, varieties of housing shortages, slums, squatters, unemployment rate and unhealthy conditions (Majd & Tabibian 2015). Scholars such as Van Marrewijk et al. (2008) and Capka (2004) reaffirmed that mega construction project definitions refer to huge investment projects, which are aimed at supporting governments in achieving social and economic development objectives. At the same time, these projects attract public and political attention because of their impact on communities, the environment and budgets (Othman & Ahmed 2013). Ibrahim et al. (2020) further defined megaprojects as large-scale investment projects with colossal use of resources including financial, human and equipment.

Megaprojects involve large housing investments, which respond to societal disparities through the provision of substandard housing in South African cities and which address the pro-growth and/or pro-poor agenda (Sutherland et al. 2011). It should be observed that the success of megaprojects depends on whether they are implemented as planned; if not, the intended aims can never be achieved – and this results in chaos and mismanagement. Findings of the research conducted by Gardner (2018) further contends that human settlements strategies are still delivering large-scale, peripheral and income-polarised developments with limited economic opportunities. Housing practitioners, as indicated by Ballard and Rubin (2017), had raised concerns about the

idea of megaprojects, which would result in these large-scale Greenfields aggravating (newly unused land) urban sprawl.

The development of the Cornubia project was to address the challenges of informal settlements from a holistic point of view. The project was expected to consider the complex dynamics of settlements with their origins from poverty, inequality and the continued spatial marginalisation of the poor (eThekwini Municipality 2016/2017; Royal Haskoning 2012). The increase in the demand for large infrastructure investments has been a result of global urbanisation, which results in governments committing to megaprojects. Such projects are highly complex and uncertain and have a social and economic impact on a country's economic growth. Successes and failures of megaprojects always point to the directions of the government of the day. Hence, governments have a responsibility of ensuring that there is a smooth implementation of these projects, which can be achieved through engaging all stakeholders and risk management (Guo et al. 2020). Further to this, Esposito et al. (2021) affirmed that the large-scale developments should be aligned with an overarching institutional strategy that coordinates stakeholder involvement across all spectrums. Scholars such as Marietta, Haffner and Hulse (2021) argued that middle-income households have always experienced problems with affording houses in prime areas with decent jobs, transport and cultural facilities. This is caused by the increased inequalities in accessing resources offered by the cities. Hence, this results in communities spending more time commuting because of the separation of home and workplace.

The approach adopted by the government in addressing housing shortages in South Africa has been delivering houses through megaprojects or catalytic projects. According to Ballard and Rubin (2017), the rationale behind this was to deliver more houses that resulted in achieving the aims of integrated human settlements. Sustainable human settlements, as defined by the Department of Human Settlements (2015: 268), focus on improving the quality of life of households by ensuring that there is:

> [E]nough accommodation which is suitable, relevant, appropriately located, affordable and fiscally sustainable; access to basic services; security of tenure and access to social services and economic opportunities within a reasonable distance.

Challenges of megaprojects in housing delivery

The period of reconstruction post-1994 included the provision of affordable low-cost housing, which served as a critical strategic goal of the Reconstruction and Development for South Africans. This was to promote a sense of community and nation-building through the participation in key decisions affecting all South Africans. Citizen participation is crucial even with the relocation of communities to new settlements. It is important to note that some families have

lived in informal settlements all their lives and the exposure to formal living environment is new. Some of these families have been living in informal settlements all their lives, and they find themselves exposed to formal living environments (Khan, Khan & Govender 2013).

As a result, Cornubia was based on spatial concepts that included compacting the city through densification of urban development, corridors that were to promote the integration of the city, the new nodes in previously disadvantaged areas, urban edges that were to contain the sprawling of informal settlements, whilst at the same time protecting agricultural and environmental resources and open space networks (KZN Department of Human Settlements 2015).

Another notable challenge for megaprojects is the fact that approval takes longer than implementation. Permits should involve prioritising the project and clearly defining the roles and responsibilities of the parties involved. Time frames should be clearly stated, whilst at the same time leaving room for public participation (Garema et al. 2015). The delay in approvals has a negative effect on the cost of projects, as these delays cause a major overrun on the project and overspending (Ballard & Rubin 2017).

Research methodology

The research was qualitative, as the authors sought to understand the role of megaprojects as a vehicle employed by the eThekwini municipality in improving the quality of communities of cities expected to benefit from it.

Biographical data of participants

Data were collected from seven officials employed in the Provincial Department of Human Settlements in KwaZulu-Natal, officials from the Human Settlements Unit in the eThekwini municipality and 100 participants (44 were interviewed and 56 focus grouped) who have benefited from the Cornubia Housing Project. Interviews with officials tested scholarly views that sustainable human settlements should not only be about providing people with houses but should encompass the provision of social amenities, skills development and opportunities.

The secondary data employed in the article was carefully examined and critically engaged; these included textbooks, journal publications, government documents, acts and regulations and Internet sources. The article used semistructured, in-depth one-on-one interviews, and focus groups were conducted to collect data from the participants. According to Hesse-Bibber and Leavy (2011:102), in-depth interviews involve partnerships between interviewers and their respondents. These sessions afford the researcher opportunities to learn about the phenomenon through the perspective and experiences, as well as the languages, of those living the experiences. A total of 44 one-on-one interviews were conducted with the members of the community of Cornubia. During interviews, the respondents

TABLE 1: Representation from officials.

Participants	Organisation	Position	Gender	Age
P1	eThekwini municipality projects	Project Manager, Cornubia	Female	40–50
P2	eThekwini municipality planning	Human Settlements manager	Male	30–40
P3	eThekwini municipality engineering	Manager	Male	30–35
P4	eThekwini municipality housing allocation	Manager	Female	30–40
P5	eThekwini municipality community participation	Public Liaison Officer	Male	20–30
P6	Human settlements province KZN	Chief Director, Sustainable Human Settlements	Male	30–40
P7	Human settlements province KZN	Housing Development Agency Manager	Male	35–40

Source: Mvuyana, B.Y.C., 2019, 'An assessment of an integrated human settlements strategy in creating quality living environment: A case of eThekwini municipality', PhD thesis, University of Kwa-Zulu Natal
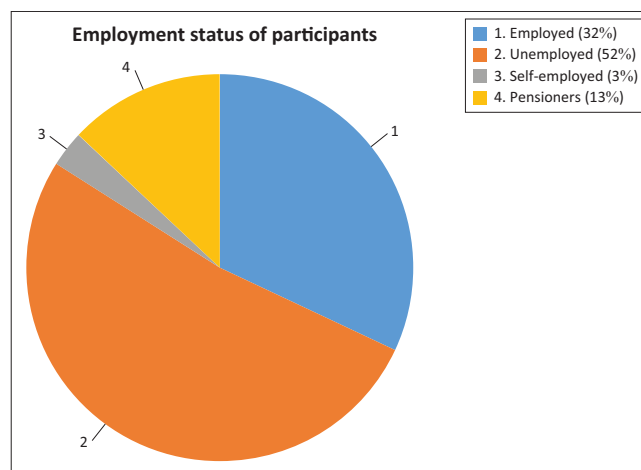
Source: Mvuyana, B.Y.C., 2019, 'An assessment of an integrated human settlements strategy in creating quality living environment: A case of eThekwini municipality', PhD thesis, University of Kwa-Zulu Natal
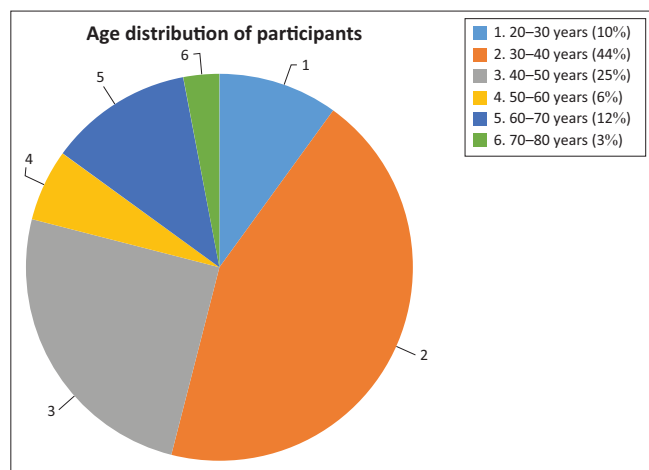
FIGURE 1: Employment status of participants.

had an opportunity to share their stories, pass on their knowledge and give their perspectives.

Representation from community members

The given pie chart is a representation of the employment statistics of the participants who were interviewed during the study. It shows that out of 100 participants, 32% were employed, whilst the other 52% were unemployed, 13% were pensioners and 3% were self-employed. This shows that the study area had a mix of employed and unemployed people, and as a result, they could only afford formal housing provided by the government.
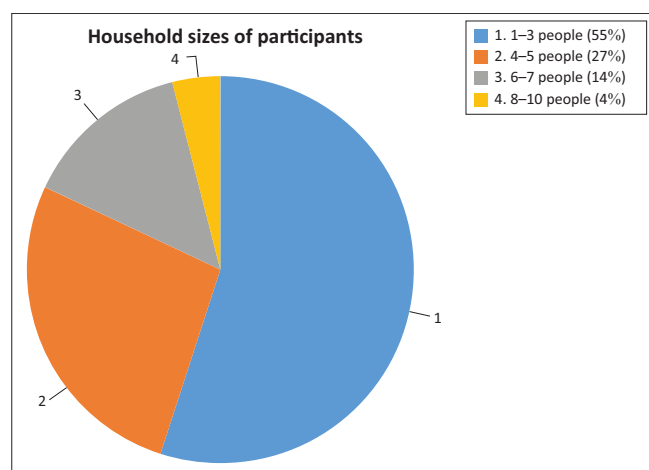
Age distribution of participants

The given chart serves as a representation of the dispersion in terms of age amongst the participants selected for the study. Ten per cent of the participants were between the ages of 20 and 30; 44% were between the ages of 30 and 40; 25% were between 40 and 50 years; 6% were between 50 and 60 years;

FIGURE 2: Age distribution of participants.

FIGURE 3: Household sizes of participants.

12% were between 60 and 70, whilst 3% were between the ages of 70 and 80. The chart further indicates that most beneficiaries were between the ages of 30 and 40 – an age group that is at the stage of raising families. Those who were above 40 had spent most of their time in informal settlements, which were not a better place to raise children.

Household sizes of participants

The given chart is a representation of the size of households determined during the interactions with the study participants. As indicated, 55% of the participants lived in households with 1–3 members, 27% lived with 4–5 members, 14% lived with 6–7 members and 4% lived with 8–10 family members. This is an indication that although some households have been relocated to formal housing, they still contend with overcrowding. This means that families with more than four members are expected to share a two-bedroom house. In such cases, privacy and other issues are compromised. Seven focus group interviews were conducted with members of the community

of Cornubia. The researcher as the facilitator guided the session and ensured that there were no interruptions during interviews. Individuals who were interviewed in focus groups were 56 in total and were of the same orientation and had similar goals. The researchers encouraged members to talk and take turns when talking. The researchers were able to interview members of the Cornubia steering committee involved from the initial stages of the project, up until people were relocated to the new area. The role played by the community in ensuring the quality of life of the people staying in the area was also discussed. In analysing the data, a thematic analysis was used to interpret and present the data collected. This data assisted in bringing into perspective how sustainable human settlements and housing development should seek to create a liveable environment with integral abilities that stimulate an ongoing process of consolidation and upgrading over time.

Findings and discussions

The Spatial Development Plan (SDP) forms part of the Integrated Development Plan (IDP) as it informs and interprets the IDP spatially and provides guidance on the execution of the IDP. It further guides the spatial distribution of land uses in a municipality, giving effect to the spatial vision, goals and objectives of the municipality, whilst prioritising areas for spatial interventions (eThekwini Municipality Spatial Development Framework 2016/2017). Todes (2017) alluded to the fact that concerns have been raised around the usefulness and effectiveness of spatial planning in the face of powerful political and economic interests where institutional capacities are limited. Attention has been drawn away from understanding how people locate and move within the city, what drives their choices and the effects of the patterns on their livelihoods and survival. However, it has failed to achieve the desired spatial transformations towards a more racially and socially integrated city because it is too weak to address property, policy and institutional interests (Todes 2017).

Human settlements can create a highly liveable environment, which also promotes an ongoing process of consolidation and upgrading over time (Council for Scientific and Industrial Research, Building and Construction Technology 2000). In achieving this, the Breaking New Ground (BNG) indicates that a balance should be maintained between economic growth and societal development to achieve sustainable human settlements (DoH 2004). It further indicated that densification is crucial in addressing sustainable human settlements – and ensures that communities are brought closer to economic opportunities, whilst at the same time accessing all amenities. In making this possible, the municipality adopted the strategy of building high-rise structures to accommodate the demand for housing. Densification is a concept used 'in planning, architecture and urban design, which is used to describe, predict and control the use of land' (eThekwini Municipality 2016/2017; Turok 2011). Hence, participants indicated that:

'Apartheid used natural barriers like rivers and mountains to separate communities. They used also man-made barriers like freeways and power lines to separate communities. How can we reverse use the same, you know, the mechanism that they used to separate us, but use them as a matter of integration of communities and ensure that there is equity where there was none before?' (P4)

Hence, a decision had to be made regarding densification to address sustainable human settlements. Bringing communities closer to economic opportunities and accessing all amenities requires the municipality to adopt the strategy of building high-rise structures to accommodate as many people as possible (Mvuyana 2019). Such decisions must be covered in policies that encourage high-urban densities (Boyko & Cooper 2011).

To promote sustainable human settlements, scholars conducted empirical research and supported the idea of higher levels of density housing that would provide benefits for car travel, travel distances and transport costs (Barret 2010; Gakenheimer 2011; Newman & Kenworthy 1991; Nijkamp & Rienstra 2010; Owens 1986; Stead & Marshall 2001; Guindon as cited in Du Plessis 2015). This idea is further supported by Turok (2016) – the efficient land use by municipalities promotes concentrated activity which leads to higher productivity, drives economic growth and takes people out of poverty through employment. Hence, municipalities must ensure that the land identified is near other facilities to achieve integration in human settlements. Increasing sustainability, walkability and accessibility should be considered, as these are important factors that promote integrated human settlements. The integration process should adhere to the principles identified in the BNG. When densifying, the Spatial Development Framework (SDF) should be considered as it stipulates plans for the municipality (Sutherland et al. 2015; Turok 2011; Yusuf & Allopi 2004).

The SDF has been used as the strategy for integrated human settlement development. Human settlement developments should be incorporated into the SDF. Spatial planning can be regarded as the development of urban areas, which can only be achieved through densifying the cities and having mixed-use and high-density public transport routes aimed at integrating cities (IDP 2016/2017; Sim et al. 2016). In the SDF, Cornubia was identified as an investment opportunity located within the Urban Development Corridor. The aim was to redress the imbalances and build future communities by responding appropriately to the needs and growth patterns and trends (Cornubia Spatial Framework Plan 2011). These new nodes from previously disadvantaged communities ensure that communities are connected to the city. The findings indicate that housing projects do not follow spatial plans but are driven by developments in a particular direction. According to the participant from the provincial department of human settlements:

'If you want the clinics, the Department of Health should allocate the funding to cater to a newly established development in terms of the clinics. That is the desired stance, but operationally it does not happen like that all the time.' (P2)

To further illustrate this point, Todes (2008) argued that because the poor rely more on the government, domestic workers and other unskilled workers are not considered once the project has been identified, as the emphasis is more on the locals. Even though the spatial developments have been approved by council, catalytic projects tend to bypass the whole process. Inasmuch as plans are driven by developments in a particular direction, plans for developments must be adopted to meet the requirements (eThekwini Municipality 2015).

Consumer satisfaction in housing strategies

The level of satisfaction in the services provided by the municipality is measured by the services that communities can access. Participants indicated that they were now experiencing problems in accessing other services such as electricity, as in some instances houses were handed over to them without electricity, and this has led to illegal electrical connections. This exposes communities to risks because the services are not provided as expected:

'I used to have electricity in my shack where I used to stay; now that I am here, I no longer have electricity.' (P12)

The presidency, through DHS, has emphasised access to facilities as one of the transitions from housing to human settlements – this was done to ensure that towns and cities were transformed to ensure efficiency, inclusion and sustainability. This was to be achieved by ensuring that communities access facilities such as basic services, sports and recreational and social services within a reasonable distance from where they live (The Presidency 2010).

The Cornubia project was aimed at ensuring that the beneficiaries have access to services which would lead to integrated human settlements. As a result, the Integrated Residential Development Programme (IRDP) stipulates that suitable land is identified for such projects, which includes the acquisition of land and the servicing of the site for a variety of land uses including commercial, recreational, schools and clinics (DHS 2014). The findings indicate the importance of consumer education in respect of issues such as these, where communities should be made aware that some of the services cannot be provided immediately after they had taken occupation. The community participant indicated that:

'Officials together with the community leader came to notify us that we were to be moved to an area called Cornubia.' (P75)

During the planning stage of megaprojects, all stakeholders must be involved, and the issues raised here should be discussed as they affect communities directly. In this way, communities tend to understand that facilities cannot be provided overnight but that plans are underway once the funding has been secured. Such engagements can also reduce service delivery protests (Zonke & Matsiliza 2015). Housing delivery protests tend to be fuelled by other services which are not delivered by other sectors. Booysen (2007) and Bond and Mottiar (2013) confirmed that community protest is caused by the poor quality of services delivered, as well as public representation at the grass-roots level.

Increase in household size and housing allocation

The Integrated Human Settlements Strategy is aimed at ensuring that communities are accommodated in houses that cater to the needs of different household sizes. Household sizes have always been a problem for poor black South Africans – whether they are living in informal settlements, townships or rural areas. The exodus of people from rural to urban areas has also resulted in some people not being accommodated in suitable areas (Mvuyana 2019). The community participant indicated that:

> 'As we continue to give birth to children these houses are going to be small as time goes on because the majority of us are not interested in family planning.' (P35)

The physical domain, as indicated by Busch-Geertsema, confirms that there should be enough space for houses to accommodate the needs of a household in terms of quality and quantity (Busch-Geertsema, Culhane & Fitzpatrick l. 2016). Some scholars indicate that the past model of freehold did not deal with the dynamics of poverty as class distinctions amongst the poor, because the housing model did not accommodate household sizes (Bauman, Bolnick & Mitlin 2000; Biermann 2004; Huchzermery 2001; Seekings 2000). The findings indicate that the new model of integrated human settlements should also consider household sizes when designing the projects to be implemented. The participant from the community indicated that:

> 'I have a family of five and these units are very small. My son sleeps in the dinning room because he can not share a bedroom with his sisters.' (P57)

Breakdown of network connections

The National Development Plan (NDP) (2012) acknowledged that in South Africa, there is a sound spatial structure, with economic activities distributed across metropolitan cities as well as large towns and cities which are linked by the established networks and connected by infrastructure. However, the challenge is that there is a dysfunctional and inequitable settlement pattern, which causes many people to live in poverty – including those in rural areas. Hence, participants were concerned about members of the community who abandoned their new houses and returned to informal settlements:

> 'Some of us travel long distances to work and we come back late. We are aware that some have decided to abandon these houses and go back to informal settlements.' (P45)

To this effect, the findings indicate that there should be proper engagements with communities before they are relocated to new areas. The importance of profiling communities should be prioritised to prevent cases where people would be relocated far from their places of work:

> 'In this new area, we are expected to have more money for the services and other things. Life is expensive in this place. Even going to town requires money to pay for the taxi.' (P41)

If beneficiaries continue to work far from their homes, sustainable human settlements will not be achieved and this would not improve the quality of life of beneficiaries. The findings further indicate that the quality of the houses delivered is measured by the satisfaction of beneficiaries with the services provided to them (Mzini, Masike & Maoba 2013).

Recommendations
Policy gaps in housing development

In the South African context, integrated human settlements, as advocated in the BNG, were aimed at ensuring a variety of land uses that would provide social, economic and environmental integration. Planning by municipalities should be aimed at integrating communities from different walks of life. A variety of developments were identified by the DHS, through municipalities, to ensure that people were relocated to new developments close to economic opportunities and had access to all amenities as stipulated in the BNG (Department of Human Settlements 2017). This holistic approach was also advocated by the United Nations New Urban Agenda, where governments had to commit to ensuring that integration in human settlements was achieved through the provision of mixed-use housing in suitably located areas (New Urban Agenda 2018). Intergovernmental relations should be promoted amongst all three spheres of government, as mandated by the Constitution of the Republic (Kahn, Madue & Kalema 2018). To this effect, an appropriate legislative and policy framework for human settlements is formulated to support the operation of an efficient, effective and transparent planning system. The proposed framework should consider issues of socio-economic factors, employment, education and income, as it can assist the government in addressing the needs of beneficiaries. The role of the private sector should be clearly defined in housing development; hence, parameters should be set by the government to avoid cases of corruption as currently experienced in the country (Mvuyana 2019). To date, the DHS in South Africa relies on the Housing Policies and Strategies adopted post-1994, as there is no Human Settlements Act which regulates integrated human settlements.

Housing policy reforms

Much like this article, a study conducted by Mvuyana (2019) identified the gaps in the megaprojects and their failure to improve the quality of life in communities as expected. The concepts of integrated human settlements can only be applicable if communities are relocated closer to economic activities, having access to facilities such as schools, clinics, recreational centres and other facilities that are aimed at completing settlements. This article further recommends that future research should be conducted around the development of an alternative approach to be considered in the development of smaller social housing estates that are more evenly distributed throughout and across urban areas, effectively deconcentrating social housing estates rather than

the people living in them (OECD 2020). These mini projects will ensure that family ties are not broken (as happens with the megaprojects), communities will not have to travel long distances to places of work and communities may return to their areas of abode.

Integration amongst government departments

The BNG has emphasised the need to give attention to development planning to ensure that sustainable settlements are developed. The issues to be considered are the location for development, layout planning and design and infrastructure development, as well as maintenance and interdepartmental planning. The study recommends that interdepartmental planning should include all the departments which provide services to complete human settlements – for example, public transport, education, sports and recreation, etc. The article further recommends that government departments through integration should be able to provide a human settlement product that includes housing, transport, water, sanitation, electricity, land, environment, social, economic and governance. Housing provision should not be seen as a responsibility of the DHS alone but should be the responsibility of all government departments. Proper planning from all line departments should be the key to ensuring that all services are provided simultaneously. Integration can only be achieved when all line departments share their vision, mission, departmental objectives, strategic plans and operational plans. This involves the cooperation of all the three spheres of government, as some of the functions do not rest with municipalities, but with provinces and the national government.

Conclusion

It should be observed that the concept of human settlements is aimed at completing an individual, as it has been acknowledged in the BNG, by building a nonracial, integrated society, which can be achieved through sustainable human settlements as well as quality housing. It should also be observed that integrated human settlements have a new meaning to beneficiaries, as it is the beginning of a new life altogether. It should be acknowledged that municipalities, through housing delivery, should ensure that quality living environments are created whilst providing houses on the other hand. Municipalities cannot do this alone; other departments involved in housing development should also collaborate with the municipality. It is important to note that housing delivery should not be aimed at providing large numbers of units to accommodate communities to address the housing backlog but should also ensure that urban opportunities are provided to beneficiaries.

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Competing interests

Authors' contributions

All authors have contributed to the preparation of this article.

Ethical considerations

Funding information

Data availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Disclaimer

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