The role of in-situ upgrading of informal settlements in the creation of sustainable livelihoods. The case of Havelock, Durban, South Africa

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Abstract: Since the turn of the 21st century, upgrading initiatives in informal settlements have emerged as central pillars of pro-poor housing policies in the developing countries. This occurs in a context where African countries such as South Africa have witnessed exponential growth in informal settlements over the past few decades, partly because of institutional failure to address poverty, and also to meet the ever-increasing demand for affordable housing in the face of rapid urbanization and urban growth. Likewise, upgrading initiatives in informal settlements have emerged with a view to creating sustainable livelihoods by addressing chronic deprivation among informal settlements dwellers. This article is premised on the fact that although in-situ upgrading initiatives have been widely employed in the attempt to address poverty among informal dwellers in many African cities, the role of these initiatives in the creation of sustainable livelihoods is subject to ongoing debate. Using the case study of Havelock informal settlement in-situ upgrading initiative, this paper investigates the ways and extent to which in-situ informal settlement upgrading initiatives enhance sustainable livelihoods among beneficiary households and communities. A mixed methods research design based on key informant qualitative interviews, household surveys and transect walks was used as the primary data collection tool and technique. The main findings of this paper are that for informal settlement upgrading initiatives to enhance sustainable livelihoods, they need to be gender sensitive and they also need to prioritize the provision of infrastructure that addresses the most pressing vulnerabilities of informal communities and income generating initiatives. In addition, the research also notes that informal settlement upgrading initiatives require the buy-in and support of the adjacent formal neighbourhoods for them to enhance livelihoods that are integrated with the local neighbourhood context.

Keywords: Havelock informal settlement, Informal settlements, informal settlements upgrading, in-situ upgrading of informal settlements, sustainable livelihoods.

Introduction

The challenge of informal settlements in cities across the developing countries and particularly those on the African continent is well documented. For various reasons, there has been exponential growth in the prevalence of informal settlements since the end of colonialism in most African countries. The ending of political restrictions to human movement and settlement in African countries came with the end of colonial rule and the dawn of democratic political dispensations. Likewise, since the end of colonial rural in most African countries, there has been massive rural to urban migration by the poor masses in search of socio-economic opportunities. This has also meant that urbanization and urban growth, especially in African countries south of the Sahara, have been driven by rural to urban migration and natural increase, considering the youthful and economically active nature of urban populations. Weak governance and the inability of post-colonial governments to deliver services to the marginalized poor people, especially those residing in cities, have also spurred the growth of informal settlements in African cities.

From the aforementioned context, one may note that informal settlements are largely a product of premature urbanization in Africa. Geyer, Geyer and Du Plessis (2013) argue that most of the urbanization and urban growth that is occurring in Africa is premature, in the sense that the increase is city populations has not been matched by the availability and provision of socio-economic opportunities. Socio-economic opportunities and basic services are too narrow and too few for the majority of the poor people in the cities, and access to decent affordable housing has been a major challenge, with the relatively higher number of poor people resorting to informal housing for shelter. Informal settlements are a clear manifestation of poverty and chronic deprivation of the very basic

essentials of life. They are characterized by lack of basic services, overcrowding, unhygienic and polluted living environments, and in most cases, the residents are deprived of dignified living arrangements (Cherunya, Truffer, Samuel and Luth 2020).

To address the challenge of informal settlements, upgrading initiatives in these areas have emerged as central to pro-poor housing policy initiatives in most African countries. Upgrading initiatives have been implemented in most African cities, not only with a view to improving the physical character of informal dwelling units and access to basic municipal services, but also to address poverty among the informal settlement dwellers holistically. In this respect, the focus of informal settlement upgrading initiatives, especially in-situ upgrading initiatives, has been to upgrade the physical environment incrementally with regard to the dwelling units and infrastructure services such as water and sanitation, while also creating sustainable livelihoods through enhancement of the social, physical and capital base of the dwellers. It should be noted however, that the role of informal settlement upgrading initiatives in addressing chronic deprivation through the creation of sustainable livelihoods has not, relatively speaking, been properly researched (Marais, Ntema, Cloete and Lenka 2018) and empirical evidence in this regard is not particularly well documented.

This paper investigates the role of in-situ upgrading of informal settlements in the creation of sustainable livelihoods. It has used the case study of Havelock informal settlement, which is located in the city of Durban in South Africa. Since the end of the apartheid era, informal settlements have mushroomed in and around South African urban areas and have been a major development planning challenge. Weimann and Oni (2019: 3) point out that in sub-Saharan Africa, South Africa is the most urbanized country and has an urbanization rate of 66%. Weimann and Oni (2019) go on to highlight that in this context of relatively high urbanization rates, housing backlogs have manifested themselves with the mushrooming of informal settlements. Likewise, informal settlement upgrading initiatives focusing on improving the physical environment and alleviating poverty in informal settlements have been a pillar of post-apartheid housing policy in South Africa.

Literature review

Informal settlements and informal settlement upgrading

According to Mohanty (2019, cited in Mohanty 2020: 2), the concept of 'informal settlements' refers to squatter settlements and slums that are self-constructed entities within cities and towns as a result of informal urbanization. The main characteristics of informal settlements include lack of tenure, housing not following by-laws, land not owned by residents, illegal building units, social exclusion, crime, poverty, and the relative lack of municipal intervention in service delivery (Wekesa, Steyn and Otieno 2011: 240; Mohanty, 2020; El Menshawy, Aly and Salman 2011: 170). From precedent literature on the different types of informal settlements, one notes that they are characterized by lack of tenure, housing that does not adhere to city by-laws, land that is not owned by the residents, lack of adequate access to basic needs and services, buildings units, subdivisions and street layouts that are not legal, social exclusion, a high crime rate and general poverty, poor living conditions and hazardous locations, relative lack of municipal assistance and service delivery, lack of safety for the youth and children, no schools or health facilities, lack of places for community gatherings and discussions (Tsenkova, Badyina and Potsiou 2008), and the lack of effective road networks (Wekesa, Steyn and Otieno 2011: 240).

Informal settlements arise as a result of deprivation, alternative housing strategies, entrepreneurial squatting, conservational squatting and political squatting (Mohanty 2020: 4). It is also important to emphasize that informal settlements are caused by marginalization coupled with social exclusion, because a large percentage of the people in cities do not have access to resources and opportunities and as such refuge in informal settlements offers them a chance of survival and access to a range of precarious livelihoods (Dovey 2016: 61). The proliferation of informal settlements is also evidence that the locus of global poverty is moving to cities (El Menshawy et al 2011: 169). Informal settlements are also a manifestation of urban poverty in the sense that they are characterized by inadequate access to water, sanitation, infrastructure and services, poor housing quality and overcrowding (UN-Habitat 2003, cited in Mohanty 2020: 1). The challenge of the urbanization of poverty and in particular informal settlements is more apparent in the developing world. According to Weiman and Oni (2019: 1), the majority (55%) of the population in sub-Saharan Africa now lives in informal settlements, a proportion that is notably larger than the global average of (30%) and other developing regions including South Asia (31%).

Informal settlement upgrading has focused on the measures that are taken in order to improve upon the poor conditions found in informal settlements and the allocation of fundamental resources and facilities that improve the quality of life and the standard of living of the dwellers. Interventions with regard to informal settlements intends to improve the living conditions and move towards achieving sustainable livelihoods (Cirolia 2017: 29). During the 20th century, informal settlement upgrading was established as a strategy to combat the poor conditions of the traditional inner-city informal settlements. Before the use of an upgrading strategy, these informal settlements were simply demolished and replaced by formal housing. This initiative failed to solve the key issues that lead to the emergence of informal settlements, such as the inability to access and acquire land or afford proper

housing, poverty etc. Informal settlement upgrading can be defined as an economic, social and environmental improvement undertaken in collaboration with, and amongst individuals, households, communities and the government, to ensure sustainable development and sustainable livelihoods for the informal settlement dwellers (Abbott 2002: 318).

The challenges posed by informal settlements have been widely addressed using informal settlement upgrading initiatives. Informal settlement upgrading is a term used to describe the measures that are taken in order to improve the poor conditions found in informal settlements and the allocation of fundamental resources and facilities that enhance the quality of life and the standard of living of the dwellers. Approaches to the upgrading of informal settlements include in-situ incremental upgrading, rollover strategies and relocations. Ehebrecht (2014: 16) notes that the informal settlement upgrading initiatives have evolved and shifted the focus from technical infrastructure and service delivery only, to also include social issues such as reducing insecurity of tenure, protecting existing social networks and livelihoods, understanding peoples' specific local needs, fostering local economic development and allowing for active and comprehensive participation of beneficiaries.

The sustainable livelihoods framework and informal settlement upgrading initiatives

The term 'livelihood' can be looked at as having capabilities, assets and also material and social resources; it implies being able to do the activities that are needed to ensure a means of living. A livelihood can be said to be sustainable when it is capable of resiliency, in the midst of shocks and stresses, which allows it to maintain or enhance both its capabilities and assets for the present and also for the future. This is all to be accomplished without damaging or undermining the environment. Sustainable livelihoods for households can be created by making use of the assets that are available to them or are within their reach in their socioeconomic and physical contexts (Lloyd-Jones and Rakodi 2014: 6). In order to analyse the core factors that affect livelihoods, reference is made to the livelihood framework which also demonstrates the relationships between the main factors affecting livelihoods. The framework offers a better understanding of the issues that poor people are facing, and also outlines the most effective methods that can be employed as interventions in an effort to support livelihoods. There are assets that can be used by individuals and households to create sustainable livelihoods, and these include human, social, financial, natural and physical capital (Lloyd-Jones and Rakodi 2014: 11).

The sustainable livelihoods framework has largely been used to inform poverty alleviation strategies in rural areas (Cherunya et al, 2020). Cherunya et al (2020) argue that questions have therefore been asked about the applicability of the framework in urban areas where the profile of households may vary drastically in terms of their asset profile, possessions and the activities that they engage in for a living. To address this limitation of using and applying the sustainable livelihoods framework to the urban context, the practice-based theory has been used as a framework for conceptualizing and framing sustainable livelihoods in an urban set up. According to McElhinney and Muehlmann (2006), practice theory looks at ways in which human action is constrained by structure and also the ways in which human agency responds to the structure so that it that may transform or reinforce the status quo. Therefore, central to practice theory is the notion of duality or co-constitution of elements at one level of social action (Breiger, 2000: 92). One notes that, applied to understanding the role of informal settlement upgrading initiatives in poverty alleviation in an urban setting, practice theory emphasizes the role of both societal structures and individual ingenuity in creating sustainable livelihoods. For the practical application of the Sustainable Livelihoods Framework in the urban setting, Cherunya et al (2021) employed the Oscillating Domestic Spaces (ODS) approach. According to this approach, domestic space comprises the social and physical areas of the home and oscillations denote changes in the external environment and personal circumstances that enable or inhibit individuals in terms of performing certain practices and activities.

The South African context

The history of informal settlements in South Africa dates back the apartheid era. During the apartheid era there were state engineered restrictions to urban growth and urbanization based on the racial segregationist policies of the apartheid government. The apartheid racial segregation policies, known as influx control legislation, included acts such as the Group Areas Act of 1950, the Promotion of Bantu Self Government Act of 1959 and the so-called pass laws act (the Native Laws Amendment Act of 1952), restricted the settlement of the majority Black population group in South Africa in urban areas. During the apartheid period, informal settlements were relatively few and were hardly visible as they were deemed illegal. However, as the apartheid restrictions on movement of the Black population group together with restrictions on settlement in urban areas started to collapse because of the lack of responsiveness to the needs and aspirations of the majority of the population in terms of accessing socio-economic opportunities in cities, informal settlements started to increase dramatically in and around South Africa's cities.

From the late 1980s, reforms to apartheid spatial planning policies and legislation started being introduced and these embraced inclusive approaches to the various forms of urbanization and urban growth (Mabin and Smit, 1997). Legislation such as the Development Facilitation Act (DFA), 67 of 1995 and the Less Formal Township

Establishment Act (LEFTEA), 113 of 1991, were introduced, embracing informal settlement as a form of shelter in designated parts of urban areas (Harrison, 1992). In 1994, when South Africa became a democratic country, inclusive and democratic policies and legislations were entrenched through the introduction of a new democratic constitution. In line with the new democratic political dispensation, new inclusive policies and legislation to manage urbanization and urban growth were introduced. The Housing Act, 107 of 1997, was introduced with a view to facilitating sustainable housing development and also spelling out the roles and responsibilities of the different spheres of government in housing provision. In 2001, the Breaking New Ground (BNG) housing policy was introduced with the goal of creating sustainable human settlements and widening housing choices for low-income groups. In addition, central to the BNG policy has been using access to housing as a means of addressing poverty through promoting access to basic services and socio-economic opportunities (Mkuzo, Mayekiso and Gwandure 2019). Informal settlement upgrading initiatives have been central to the BNG policy initiatives. In 2004 the South African government introduced a comprehensive housing plan (CHP) in line with the principles of the BNG. Central to the CHP is the speedy eradication of informal settlements, and a key pillar of the CHP is informal settlement upgrading initiatives and use of housing provision as a strategy for poverty alleviation. The South African Government (2011) reports that by June 2011 approximately 206 informal settlements had been formalized.

Methodology

The Havelock informal settlement case study

To assess the role of informal settlement upgrading initiatives in the creation of sustainable livelihoods, this paper has used a case study of the Havelock informal settlement in-situ incremental upgrading initiative in the city of Durban, South Africa. Havelock informal settlement is located 8 km north of the Durban city centre, adjacent to a Greenwood suburb in an area called Sanderson Place (Mancitsana, 2012). The locality of the Havelock informal settlement in the city of Durban is shown in Figure 1 below.

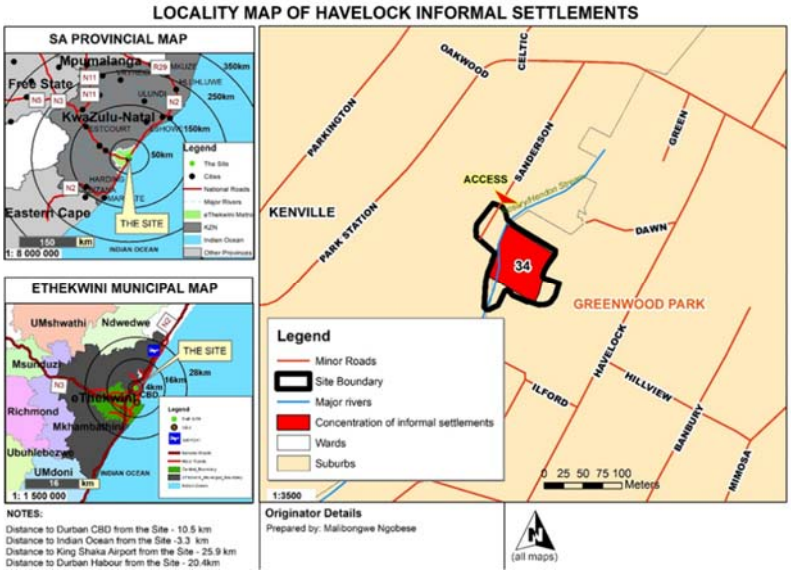

Figure 1: Locality of Havelock informal settlement

The settlement was established in around 1986, towards the end of the apartheid era in South Africa. Ever since the establishment of this settlement there has been concern about the wellbeing and living conditions of its inhabitants because of overcrowding and lack of basic services such as water, sanitation and electricity. The informal settlement is located on land owned partly privately and partly by KwaZulu Natal Provincial Housing Department (Georgiadou, Loggia, Bisaga and Parikh 2020; Mancitsana 2012) and as such security of tenure of the inhabitants has been a concern.

A household enumeration report of Havelock informal settlement by Mancitsana (2012) indicates very high levels of poverty and deprivation among the residents of the settlement. According to Mancitsana (2012), Havelock informal settlement had approximately 214 shacks that were home to about 389 residents, most of whom had not attended schooling beyond Grade 12. In addition, 27,76% of the residents were unemployed, and most of the households in the neighbourhood earned less than R3 000.00 per month.

In view of this, the incremental in-situ upgrading of Havelock informal settlement was initiated, with the intention of not only improving access to basic services and infrastructure such as water and sanitation, but also of addressing poverty through the creation of sustainable livelihoods. The in-situ upgrading initiative has been based on a public private partnership between the city of Durban local municipality, the community of Havelock and certain non-governmental organizations, namely the Informal Settlement Network (ISN) and the Community Organization Resource Centre (CORC). According to Thomas (2012), the upgrading of Havelock has been community led and it began with the community in collaboration with NGOs, who formulated a plan for the in-situ upgrading that was approved by the municipality. Thomas (2012) also highlights that the upgrading initiative and plan was approved by the Community Upgrading Finance Facility (CUFF), an alliance seed capital funding initiative, and the Durban City municipality was willing to collaborate. The incremental upgrading work in the settlement focused on terracing, landscaping, provision of ablution facilities, and sewerage drainage provision.

Data collection tools and techniques

A mixed methods approach to data collection was adopted in this research study. According to Creswell (2014: 77; Creswell, 2021), mixed methods research entails an approach to data collection that encompasses both qualitative and quantitative data collection tools and techniques. The data collection tools and techniques for this study included a household survey to collect quantitative data, qualitative key informant interviews, geographic information systems (GIS) mapping of the study area, and onsite observations based on transect walks in the study area.

The household survey was done using a structured questionnaire that focused on the profile of respondents, household characteristics, upgrading initiatives in the area, and the role that the upgrading initiative played in enhancing human, social, physical and financial capital. The household survey questionnaire was administered to a sample of 130 households that were selected by means of a simple random sampling technique. Simple random sampling grants each member in a population an equal opportunity of being selected and eliminates the likelihood of researcher or participant bias (Acharya, Prakash, Saxena and Nigam 2013: 330). Havelock has a total of approximately 200 dwelling units and the sample size of 130 was informed by the recommendation of Leedy and Ormrod (2015), who argue that the recommended sample size for a study population of around 500 is more than 50% of the total population. Key informant qualitative data collection was based on semi-structured interviews with stakeholders and role players in the study area, namely the ward councillor, relevant municipal officials from the Housing and Planning Departments, and community leaders who happened to be ward committee members. Observations during transect walks in the study area were done based on an observation checklist to assess the physical environment of the settlement, and focusing on the status of the in-situ upgrading. GIS mapping analysed the locality, base information and facilities in the neighbourhood.

Analysis of findings and results

Demographic profile of respondents

The entire sample of 130 respondents who participated in the study identified themselves as being members of the Black African population group. IsiZulu was the most common home language in the area, with 103 (79%) of the respondents identifying as such, followed by isiXhosa, with 22 respondents (17%). People who spoke Sesotho and Sepedi as their home language formed 2% of the sample respectively. Of the 130 household representatives that were interviewed, 74 (57%) were female and 56 (43%) were male. The analysis of the age variation among the representatives of the households indicated the following: 31 – 35 years, 28 respondents (21.5%); 56 – 60 years, 26 respondents (20%); and 26 – 30 years, 18 respondents (13.8%); with the 36 – 40 years, 41 – 45 years and 46 – 50 years age groups having 16 respondents (12.3%) each. The age groups with the least respondents were those from 0 – 14 years, 1 respondent (0.76%); 21 – 25 years, 2 respondents (1.5%); and 15 – 20 years and > 60 years having 3 respondents (2.3%) each. The age analysis of the respondents suggests that the majority of the household representatives in Havelock were of the working age population group.

Most of the respondents (60, or 60%) had been living in their present homes in Havelock for 6 – 10 years, followed by those who had been living there for > 15 years (45 or 35%), 11 – 15 years (12 or 9%), 2 – 5 years (12 or 9%), and 0 -2 years (1 or 1%) respectively. These findings indicate that the majority of the residents in Havelock had been living there for a relatively long time and could have formed deeper and essential social networks which supported the idea of in-situ upgrading rather than relocating. The size of households also indicated that most households had 2 – 5 members, 101 respondents (77%); with < 2 members, 23 (18%); 6 – 10 members, 5 (4%); and 16 – 20 members 1 (1%).

The Havelock informal settlement upgrading initiative

The perceptions of the Havelock informal settlement upgrading initiative in terms of its initiation, key role players, aims and objectives were gathered from key informant interviews and the household survey. Key informant

interviews highlighted that the upgrading initiative was initiated by Eco along with ISULabantu. It was also emphasized that the upgrading initiative displayed various characteristics, which allows it to be classified as an incremental upgrading approach with in-situ and community-led upgrading attributes. The upgrading project started in 2016 and ended in 2020. The first phase of the project was the conducting of intense research, followed by a presentation of different design typologies and the securing of funding and contractors. The mapping, enumeration, and numbering of dwellings were all part of the situational analysis before the actual upgrading process began. It was also noted that the project engaged many stakeholders, and as part of the research phase, a trip to the United Kingdom was made to evaluate how informal settlement upgrading is handled there. The aims and objectives of the upgrading initiative were to improve the quality of housing in Havelock and to better arrange the facilities in the area. The project also aimed to create an efficient road network that would allow for effective service delivery. The upgrading was also looking to advance the knowledge and skills of the members of the community that were involved in the project, in order to give them International experiences and perspectives.

All of the participants in the household survey were well informed about the Havelock informal settlement in-situ upgrading programme. The respondents indicated that they were aware of, and were well informed about, the informal settlement upgrading initiative. All of the respondents also noted that there was communication between community members, municipal officials, and the ward councillor about the project. Community meetings were mostly used as the main communication channel. Respondents also highlighted that the upgrading initiative did not involve any demolition of structures or relocation of residents, and did not include any upgrading of facilities such as community halls or educational facilities. Most respondents (99%) noted that that the upgrading initiative included the provision of Category B1 (Interim basic services) communal water and sanitation provision, electricity connections, storm water management, and solid waste management services.

The playground for children, sanitation blocks, and washing lines are some of the amenities that were provisioned during the upgrading initiative. These are shown in Figures 2 and 3 respectively.

Figure 2 Children's playground

Figure 3 The sanitation block

The respondents' perceptions about the socio-economic interventions that the upgrading initiative also entailed are shown in Table 1. 102 (78%) of the respondents disagreed that the empowerment of women and children was part of the upgrading initiative whilst 28 (22%) agreed. 126 (97%) agreed that the playgrounds were part of the upgrading initiative and 4 (3%) disagreed. It should be noted that all respondents felt that the upgrading initiative did not involve any community entertainment, sport development or public health initiatives.

Table 1: Socio-economic interventions of the Havelock upgrading initiative

What did the socio-economic interventions of the upgrading entail?		
Empowering the youth and women's groups		
Yes	28	22%
No	102	78%
Playground		
Yes	126	97%
No	4	3%
Community entertainment		

Yes	0	0%
No	130	100%
Support sport development		
Yes	0	0%
No	130	100%
Public health		
Yes	0	0%
No	130	100%

Most of the respondents (105, or 81%), agreed that the initiative was community led, whilst 25 (19%) did not agree that the initiative was community led. The findings about the role and nature of the community participation in the upgrading initiative are shown in Table 2.

Table 2: The role of the community in the Havelock in-situ upgrading initiative

How did the community participate in the upgrading process?	No. of respondents	Percentage (%)
Input project ideas and desires for the community		
Yes	125	96%
No	5	4%
Enumeration		
Yes	118	91%
No	12	9%
Labour force		
Yes	67	52%
No	63	48%
Secure investors		
Yes	0	0%
No	130	100%
Site Management		
Yes	5	4%
No	125	96%

Table 2 shows the nature of the community involvement and their contribution to the upgrading initiative. Table 2 shows that 125 respondents (96%) indicated that they had an input to the framing of the initiative and also had input in terms of the desires of the community in the project, whereas 5 (4%) noted they did not participate in this regard. In Table 2, one notes that 118 (91%) respondents indicated that the community was involved in the enumeration of shacks for the upgrade, while 12 (9%) respondents indicated that the community was not involved. A total of 67 (52%) of the respondents indicated that there was community participation in the labour force, while 63 (48%) responded that the community did not participate in labour provision. The community did not participate in the process of securing investors, as the results show that 100% of the sample responded by stating no. Only 5 respondents (4%) agreed that the community was involved in site management, while 125 (96%) of the sample disagreed. In-depth qualitative interviews indicated that the community took it upon themselves to keep the informal settlement clean and pollution-free as part of the upgrading initiative. In addition, as part of the upgrade, Havelock residents also established a robust local police forum which has effective methods for gathering crime information and has a constant grasp of what is going on in the neighbourhood. It was noted that as an outcome of this, residents could now leave their clothing outside on the washing lines without worrying about it being stolen or damaged, because crime has been drastically reduced.

The in situ-upgrading initiative and human capital development

Findings reported under this section aimed to establish the ways in which the Havelock informal settlement upgrading initiative improved human capital among the beneficiaries of the initiative. Focus was on access to knowledge, finding employment, poverty alleviation initiatives, education and health related issues. Figure 4 demonstrates the responses of the research sample regarding aspects of the initiative that increased the employment rate in their households, to which 72 respondents answered that there had been no increase, while 14

answered that there had been skill advancement, 3 responded that there had been NGO involvement, 16 that there were youth empowerment projects, and 25 stated that there had been government interventions.

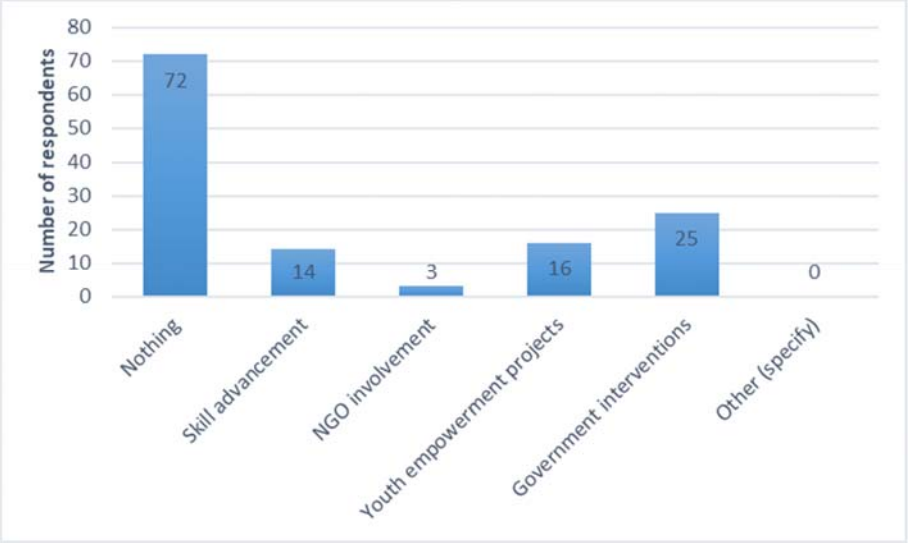

Figure 4: Aspects of the upgrading initiative that increased household employment rates

The information presented in Table 3 reflects the participants' responses with regard to the human capital contribution of the initiative. 100% of the sample indicated that the informal settlement upgrading did not equip the community with the skill set that would allow them to solve the challenges in their households. The community has access to community soup kitchens and charity clothing schemes, as was indicated by the entire sample. With regard to the support of informal businesses, 45% indicated that there was support, whereas 55% disagreed. 97% of respondents indicated the existence of self-help groups such as farmers, and 3% answered there were none. When examining the sample's satisfaction with the improvement of human capital indicators in their households, high percentages show a considerable amount of dissatisfaction.

Table 3: Contribution to human capital development in the in-situ upgrading initiative

	No. of respondents	**Percentage (%)**
Has the ability to solve challenges within your household improved?		
Yes	0	0%
No	130	100%
What solutions to poverty are being implemented in your community?		
Community soup kitchen		
Yes	130	100%
No	0	0%
Charity clothing centres		
Yes	130	100%
No	0	0%
Support of informal businesses		
Yes	59	45%
No	71	55%
Self-help group initiatives (farming)		
Yes	126	97%
No	4	3%
Government interventions		
Yes	67	52%

No	63	48%
To what extent are you satisfied with the improvement of the human capital indicators in your household?		
Access to information		
Strongly dissatisfied	42	32%
Dissatisfied	84	65%
Neutral	4	3%
Satisfied	0	0%
Strongly satisfied	0	0%
Equality		
Strongly dissatisfied	34	26%
Dissatisfied	88	68%
Neutral	8	6%
Satisfied	0	0%
Strongly satisfied	0	0%
Use of technology and availability of technology tools		
Strongly dissatisfied	35	27%
Dissatisfied	68	53%
Neutral	26	20%
Satisfied	1	0%
Strongly satisfied	0	0%
Education and Skills		
Strongly dissatisfied	21	16%
Dissatisfied	63	49%
Neutral	43	33%
Satisfied	3	2%
Strongly satisfied	0	0%
Communication		
Strongly dissatisfied	17	13%
Dissatisfied	66	51%
Neutral	45	35%
Satisfied	2	1%
Strongly satisfied	0	0%
Health related issues		
Strongly dissatisfied	44	34%
Dissatisfied	79	61%
Neutral	7	5%
Satisfied	0	0%
Strongly satisfied	0	0%

In-depth qualitative interviews with key informants and community members indicated that the location of the informal settlement is what attracts low-skilled, poor people to Havelock, and many of the residents in the community are working as domestic workers and landscapers in the neighbouring suburbs. In this regard it was noted that the upgrading initiative did little to improve the skill sets of most residents of the settlement, who are vulnerable to seasonal variations in employment, especially with regard to gardening and landscaping job opportunities in the nearly suburbs. It was noted that a sizeable number of the people in the community work as gardeners and landscapers in the nearby suburbs and these job opportunities are mostly available during the rainy season; during the dry season, such opportunities are limited. This means that during summer most of the gardeners and landscapers are jobless and in turn it was felt that the upgrading initiative did little to assist those people who were dependent upon seasonal opportunities for work.

The in situ upgrading initiative and social capital

Social capital is another one of the indicators used to assess the livelihood of a household and also a community. This essentially looks at the ability and opportunities of people to form relationships and networks that assist them to achieve a better standard of living. The Table 4 depicts data on the facilities available in Havelock that promote better networks and relationships. Churches and traditional gatherings received positive responses from the entire

sample. 29 respondents (22%) answered positively to active open spaces being able to facilitate human interaction and 101 (78%) responded in the negative.

Table 4: Facilities that promote better social networks

	No. of respondents	Percentage (%)
What facilities exist to strengthen relationships between community members?		
Churches		
Yes	130	100%
No	0	0%
Traditional gatherings		
Yes	130	100%
No	0	0%
Active open spaces		
Yes	29	22%
No	101	78%
Sport and entertainment facilities		
Yes	0	0%
No	130	100%
Community centres		
Yes	0	0%
No	130	100%
Other (Specify)		
Yes	0	0%
No	130	100%

The sample was questioned about the number of people in their households who were actively involved in community groups in order to gauge the level of social networking in the community. The results showed that 21% of households had no one who was a member of a community group, 67% had between 1 and 2 people who were community group members, and 12% had between 2 and 3 people who were group members. In contrast, 30% of the respondents reported having 1 to 2 active stokvel members in their homes, while 70% of them stated that no members of their households participated in stokvels. The study's survey responses revealed that 20% of respondents had no household members who belonged to any religious or traditional groups, 61% had 1 to 2 members who did, and 19% had 3 to 5 household members who belonged to such organisations.

Respondents were questioned about the relationships with their neighbours, community leaders, counsellor and external business owners. For the respondents' relationships with their neighbours, the study recorded that 5% of the sample reported a poor relationship, 23% reported a fair relationship, and 72% felt that they had a good relationship with their neighbours. The sample indicated that 5% of those surveyed had a poor relationship with their community leader, compared to 26% who had a fair relationship, and 69% who had a good relationship. 6% of the sample mentioned having a poor relationship with their ward counsellor, whereas 38% had a fair relationship and the remaining 55% had a good relationship with their ward counsellor. 34% of the sample reported having a poor relationship with external business owners, 52% a fair relationship, and the remaining 14% a good relationship. Figure 5 illustrates the availability of community groups that cater for the poor in Havelock, in terms of which the results indicate that 97% of the sample attested to their presence and 3% stated that they were not available.

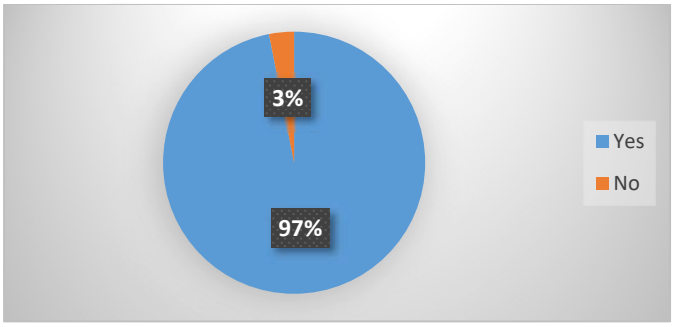

Figure 5: Existence of community groups that cater for the poor

Survey respondents were also questioned about the tools available to help them reach employment hubs. Using the data gathered, it was observed that 96% of respondents said yes to social media, and 94% to newspapers. 90% of respondents said yes to referrals and 7% said yes to recruitment agencies. The remaining percentages from each total replied in the negative.

When questioned as to what brought the community together, 14% of the sample cited the community police forum, while 96% cited community development. 6% of the sample said that local businesses were also involved. Table 5 shows the findings with regard to the different gender-based community groups that exist in Havelock.

Table 5: Gender based community groups

	No. of respondents	**Percentage (%)**
Which gender-based community groups are available to your household?		
Women's farming group		
Yes	70	54%
No	60	46%
Women's Thursday prayer group		
Yes	114	88%
No	16	12%
How many household members have been employed, funded, trained, educated, empowered or appointed through relationships and connections to the community?		
None	104	80%
1 - 2 people	20	20%
3 - 5 people	0	0%
>5 people	0	0%

Table 4 shows that 54% of respondents in the sample acknowledge the existence of the women's farming group, whereas 46% do not. Based on responses of 88% of the respondents, there is a women's Thursday prayer group. However, 80% of the sample responded that none of their household members had benefited from social capital, while the remaining 20% declared that 1 to 2 members did benefit.

The upgrading initiative and natural capital

The world's reserves of water, land, air, and both renewable and non-renewable resources are collectively referred to as natural capital. Sustainable livelihoods can be achieved through access to, and sustainable utilisation of natural resources. This validates the assessment of the informal settlement's access to land and its resources, as well as to information and the ability to harness these resources in order to support a living. Table 6 shows the findings on the extent to which the upgrading initiative enhanced access to natural capital. The entire sample of 130 respondents indicated that the upgrading had not improved their access to natural resources. 13% of the sample had access to land for farming, of which 2% were engaged in animal farming and 11% in subsistence farming. The entire sample indicated that they obtained their water from a local community tap.

Table 6: The up-grading initiative and access to natural capital

	No. of respondents	**Percentage (%)**
Has the upgrading improved your access and rights to natural resources?		
Yes	0	0%
No	130	100%
Does your household have access to land for farming?		
Yes	17	13%
No	113	87%

If Yes, what type of farming are your household members involved in?		
None	113	87%
Animal farming	2	2%
Subsistence	15	11%

The community's approach to conserving and sustainably exploiting natural resources showed that 86% of the participants attested to conserving the environment, while the other 24% indicated that they hadn't done anything about it. 61% of the sample reported abiding by the municipality's regulations, while the other 39% indicated that they did not. Only 17% of the respondents had planted pollinator-friendly plants; the other 83% had not. When it comes to reusing and recycling, 74% of the sample claimed that they practised this, and the other 26% that they did not. 40% of the sample answered yes to conserving energy on the survey questionnaire and 60% answered no. The majority of the sample did not actively reduce greenhouse emissions in their household according to the results presented below, as 77% answered no and only 22% answered yes.

The upgrading initiative and physical capital

Physical capital refers to the essential facilities and materials for production required to maintain living standards. As part of the survey questionnaire, access to physical capital was also assessed in Havelock, more specifically in regard to how the upgrading had affected it. The households in Havelock lack the basic facilities to function on a daily basis and no improvements had been made to their homes, as was indicated by 100% of the sample. When asked about the rate of improvement in service delivery, the entire sample indicated that it was poor. When it came to the rate of improvement of security, 65% of the sample indicated it was fair, 33% indicated poor and 2% indicated good.

Based on the responses from the research sample, the data in Table 7 illustrates the infrastructure to which the Havelock households have access. 78% of those surveyed stated that they had access to emergency facilities, while 22% did not; 100% said they lacked access to formal roads, quality housing, and streetlights. Only 29% of the sample indicated having access to fencing, while the other 71% did not. When it came to the matter of the rate of improvement in mobility, the whole research sample indicated that this was poor as there were only informal pedestrian paths in Havelock.

Table 7: Availability of safety infrastructure

	No. of respondents	Percentage (%)
What safety infrastructure is available to your household?		
Emergency facilities		
Yes	101	78%
No	29	22%
Streetlights		
Yes	0	0%
No	130	100%
Quality housing		
Yes	0	0%
No	130	100%
Formal roads		
Yes	0	0%
No	130	100%
Fencing		
Yes	38	29%
No	92	71%
Other (Specify)		
Yes	0	0%
No	130	100%

According to the findings of the household survey, 100% of the respondents noted that access to energy resources was limited. 42% of respondents relied on gas, paraffin and candles for energy, and 58% used other sources of electricity, the majority of which were illegal. Nobody received power/energy from a government agency directly.

68% of the respondents stated that the improvement of waste disposal was fair, 38% indicated that it was poor, and 2% stated that it was good. The sample as a whole used indoor dumpsters for waste disposal. As per the survey responses, there are no clothing shops in Havelock. 100% of the sample responded in the negative when asked about community clothing shops. The entire sample indicated the presence of a spaza shop in the community, and also a tavern. 60% recognised an existing repair shop, but 33% did not.

The upgrading initiative and financial capital

Financial capital in the context of the sustainable livelihoods approach refers to the resources people utilise to make a living, and it includes the crucial availability of money or an equivalent that allows people to choose from a variety of livelihood choices. According to the survey results, the whole sample indicated that Havelock's improvement level in terms of financial assets and knowledge was poor. Financial studies, debt management services, and other such services were not available. 100% of the respondents again indicated that there had not been any financially liberating policies implemented by authorities in Havelock. The results of the examination of access to financially liberating rights are shown in Table 8.

Table 6 shows that 88% of respondents said they had access to financially liberating rights, compared to 12% who said they did not. According to the survey findings in Table 8, 20% of the sample was exposed to the right to equality, while 80% was not. 88% of the sample had access to the right to education, leaving 12% without. None of the respondents had access to the right to adequate housing, and all but 12% of them received social grants.

Table 8: Financially liberating rights

	No. of respondents	**Percentage (%)**
What financially liberating rights have been made available to your household?		
None		
Yes	16	12%
No	114	88%
The right to equality		
Yes	26	20%
No	104	80%
The right to education		
Yes	114	88%
No	16	12%
The right to adequate housing		
Yes	0	0%
No	130	100%
The right to social grants		
Yes	111	85%
No	19	15%
Other (Specify)		
Yes	0	0%
No	130	100%

The household survey also indicated that 71% of the research sample had fair access to credit, 28% had poor access and only 1% had good credit. When it came to the access to loans category, 65% had fair access, 27% had poor access and 8% had good access. As per the responses to the survey questionnaire, 98% of the sample lacked the ability to generate income for their households. 2% felt that they had a fair ability, and none were good at generating income. When also questioned about the methods they used to increase their capacity to earn income, 83 (64%) of the respondents responded nothing, 22 (17%) mentioned the flow of information, and 23 (18%) claimed the access to banks. 71 (55%) respondents had no one who owns valuable assets in their households and 59 (45%) had 1 to 2 people in their homes who own something valuable.

The vulnerability context and the upgrading initiative

The seasonality, patterns, and shocks that have an impact on people's quality of life are referred to as the vulnerability context. The ability to withstand these shocks and trends reflect sustainability. The results in this section illustrate whether Havelock is capable of withstanding or recovering from these patterns or not. According to survey findings, the level of improvement in shock resistance is poor, as reported by 100% of the sample. A test of Havelock's resilience to shocks included the assessment of factors such as fire breakouts, criminality, flooding, infections, and sicknesses in order to determine the area's vulnerability.

The data in Figure 6 shows the preparedness of the community against fire outbreaks by evaluating the measures taken by certain percentages of the research sample to prevent such shocks. 90 (69%) of the respondents have not taken any precautions to prevent fire outbreaks, 39 (30%) have detached houses and 1(1%) has a fire-proofed house.

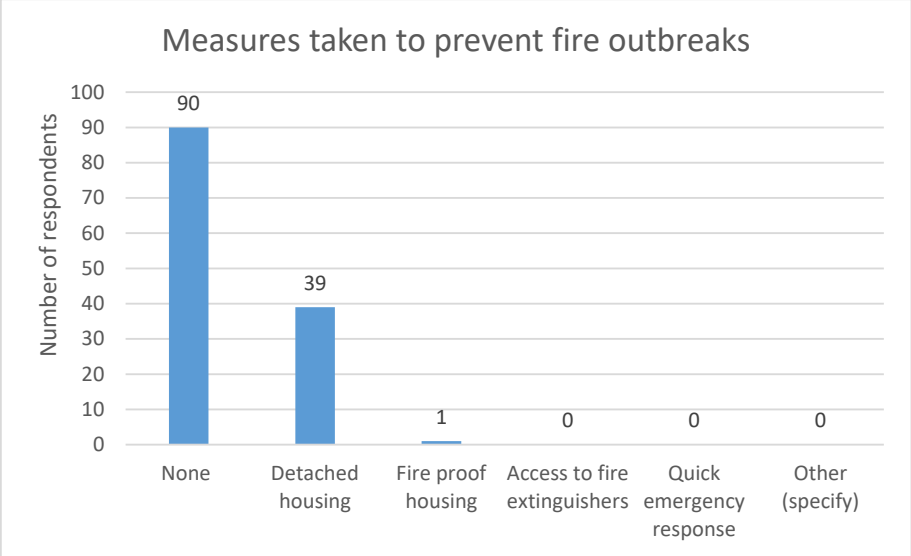

Figure 6: Measures taken to prevent fire outbreaks

Research into the community's preparedness for criminality looked at the measures each household has in place to prevent it or to increase security. The responses to the survey question reflected that 30% of the sample had no measures in place to prevent crime and the other 70% had strategies on how to prevent it. 34% of the respondents had fencing as a protective measure against crime, but the remaining 66% did not. 65% were reliant on the emergency facilities for safety and as a factor for crime prevention, and 35% were not.

According to the information collected, Havelock is vulnerable to flooding, as 100% of the sample indicated that they had no measures in place to reduce the impact of flooding or to avoid it completely. The household survey also focused on the ability of the Havelock community to prevent, counter and recover from illnesses. This was done by looking at the measures they employed to do this, and the percentage of the respondents who practised them. The data reflects that 24% of the respondents did not have anything place to prepare themselves for illnesses and 76% did have certain strategies. 25% of the sample indicated that they engaged in public health education. Access to clinics and hospitals was indicated by 40% of the respondents as a measure they had available to prevent, counter or overcome illnesses. 62% of the sample stated that pollution reduction was an effective method that they employed to combat illnesses and infections.

Access to smartphones and/or computers and familiarity with online job application processes were used to assess the adaptability of the community to the rapid pace of development in the world. The results illustrate that 79% of the respondents had 1 to 2 people in their households with access to smartphones and/or computers. 19% stated that 3 to 5 people had access to smartphones and/or computers in their households. 2% of the sample did not have access to these devices at all. When it comes to online applications, either for work or education, 63% of the respondents indicated that 1 to 2 people in their homes were familiar with the process. Households who had 3 to 4 people familiar with online job applications made up 6% of the sample, and 31% had no one at all.

The perceptions of the owners of adjacent properties form part of the vulnerability of the Havelock informal settlement, presenting the main obstacle to the upgrading project's progress. Owners expressed concerns that the land and their possessions might lose market value. They expressed concern that local crime would increase and the allure of the suburb would be affected. They were worried about the construction process as well, because progress would include frequent truck traffic, noise pollution, and a lot of dust. The Havelock informal settlements furthermore occupy a fairly small amount of land, which poses a significant obstacle to the upgrading process, as sustainable development also includes agricultural development, walkability, and a large ecosystem. The unavailability of land to expand the settlement therefore limits the range of development.

Discussion of findings

Findings from the Havelock informal settlement case study dispute the argument by Cherunya et al (2020), that in urban areas, low-income households may vary drastically in terms of their socio-economic profile: this was not the case in the Havelock case study. In the Havelock informal settlement, there are more females than males, the majority of the residents are between the ages of 26 and 60, and most are domestic workers in the neighbouring suburbs. The entire population of Havelock is black, with the majority identifying as isiZulu-speaking people. The residents that have spent the most years in their homes have spent between 6 and 10 years there, with some having been there for more than 15 years. The dominant type of household is the nuclear household, followed by extended households and also composite households. Most households have between 2 and 5 people. Therefore, one notes that the Havelock informal settlement has a relatively homogenous population and as such there is no need for a much-differentiated approach to the upgrading initiative, in particular with respect to the support given to livelihoods development. It should be noted that the only differentiation in the profile of the community was based on gender. There were more females than males in Havelock and it was noted the social capital requirements for females were different, especially considering that community-focused groups are gender-related, such as the Thursday women's prayers group.

The findings also indicate that the Havelock in-situ upgrading project was community led, and that there was common understanding in terms of the roles and responsibilities of all the stakeholders from the outset. The community was encouraged to propose their ideas on how to move forward with the upgrading, to assist in conducting the enumeration, and to serve as part of the labour force. The community held mass meetings and gathered with the ward counsellor to discuss the crucial matters of the community. The upgrading was classified as being category B in terms of the South African policy for the in-situ upgrading of informal settlements. As such, focus was on the provision of interim basic services. Although the upgrading process did not increase the security of tenure, it should be noted that one success story of the Havelock informal settlement upgrading initiative has been the establishment of a children's playground, a facility which is not usually provided for when focus is on interim provision of services. Through community led initiatives, however, this was made possible.

When discussing livelihoods in the Havelock informal settlement, the asset pentagon as well as the vulnerability context have to be the focal points of the assessment. Havelock has poor human capital. The results support this finding by indicating that the upgrading did not improve the resident's access to education, did not improve the process of job searching, and also did not provide assistance in the alleviating of poverty. The community has to rely on charity organisations and to fend for themselves. The access to information is poor, as is access to equality. The use of technology and the skill sets possessed by residents are also poor. Communication is fair but the quality of health is poor. In most households only 1 or 2 people are working. Most people do not have access to education.

The residents of Havelock do not have social networking connections or relationships that allow them to advance in life, whether this is in business or in education. This constitutes bad social capital, which is exposed in Havelock by the lack of infrastructure that could support the formation of these relationships. Churches and traditional gatherings are where people usually meet and interact. Nonetheless the number of people involved in groups such as stokvels and religious groups is commendable. Havelock residents have good relationships with each other, their leadership and external investors. There is a presence in terms of community groups that cater for the poor. Social media and referrals are their means for accessing the employment hubs in the community, and the community police forum as well as development tend to unite the community. Gender-related groups include the women's Thursday prayer group. The results indicate that the major portion of the sample have not gained access to opportunities because of their connections.

The access to land for farming and agriculture is a huge part of sustainable livelihoods and the Havelock residents do not have access to natural resources, land or farming activities. The households in Havelock abide by the environmental conservation regulations, but they still are not able to generate income from natural resources. This constitutes a poor level of natural capital. When it comes to physical capital, the community of Havelock recorded that they have had a fair improvement in security. Emergency facilities are in close proximity: this was the only infrastructure that they indicated having. There are poor mobility networks in the settlements and also a lack of electricity. Better waste removal methods could also alleviate the situation. They only have a few local businesses which support only a few for a certain period of time.

Havelock informal settlements have poor financial capital. This is underscored by their lack of access to rights that could financially liberate individuals. They are only exposed to the right to education and social grants. The residents have fair access to credit and loans but a very poor ability to generate income, and not many individuals own assets in the community. The Havelock community is very vulnerable to threats and shocks: the fact that it once almost burned to the ground is testimony to this. The community still has poor measures in terms of the prevention of fires, with only detached housing for a few. Fencing and quick emergency response are the only measures they have against crime. Pollution reduction, public education and access to clinics are the only measures

in place against disease. There are no measures in place against flooding. The access to electronic gadgets and the ability to use them is fair.

Conclusion and recommendations

To ensure that the plans to upgrade the informal settlement create sustainable livelihoods, there should be policies in place guiding the upgrading process based on the type of informal settlement that is being upgraded, where it is located and who occupies it. The upgrading policies should factor in the Sustainable Livelihoods Approach (SLA) as a guide in developing the aims and objectives of the upgrading process. There should be policies in place that enable a follow-up process after the upgrading of an informal settlement, regarding whether the changes implemented were sustainable or not and whether the approach was effective of not. The case of the Havelock informal settlement upgrading initiative has demonstrated the need for in-situ upgrading initiatives to prioritize infrastructure that addresses the most pressing vulnerabilities for the informal settlements in question. Although the Havelock informal settlement is vulnerable to flooding because it is located adjacent to a river, no infrastructure was provided as part of the interim services to address this. In addition, although the informal settlement of Havelock is susceptible to frequent fire outbreaks due to overcrowding and energy used for cooking and lighting such as gas and paraffin, there were no efforts made to provide electricity as part of these interim services.

The attitudes and support of formal neighbourhoods that are located adjacent to informal settlement upgrading initiatives is also crucial to the success of these initiatives. In the case of Havelock informal settlement, concern has been expressed by the adjacent formal property owners about the existence of the Havelock informal settlement so close to their backyards. They argue that the informal settlement harbours criminals and is also negatively affecting their property values. However, given that Havelock informal settlement occupies a relatively ti ny, overcrowded piece of land, for the upgrading initiative to be sustainable there is a need for the settlement to be co-sharing some of the facilities with the adjacent neighbourhood, even going so far as to expand further, thus encroaching upon and becoming properly integrated with the adjacent formal neighbourhood. Therefore, without the support and buy-in of the neighbouring communities and formal neighbourhoods, it will be a challenge for informal settlement upgrading initiatives to fully achieve enhanced livelihoods.

The study of Havelock informal settlement has also underscored the trends and patterns that suggest that people typically choose to reside in areas that are close to centres of economic activity, which is one of the main reasons for the creation of informal settlements. Reduced slum formation in urban areas will enable the urban people to live in accordance with the standards of sustainable livelihoods. This can be made possible by the provision of decent and inexpensive housing adjacent to locations where there are employment possibilities, decent educational facilities, economic prospects, and basic amenities. A highly recommended goal to prioritise in the upgrading programmes is security of tenure, which speaks to the people's sense of belonging and right to ownership, and is a crucial element in providing people with sustainable livelihoods.

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