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1

Manuscript title: Towards Sustainable Informal Settlements: A Toolkit for Community-Led Upgrading in Durban, South Africa

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2

Abstract

Across sub-Saharan Africa, 238 million people live in slums or informal settlements. Due to rapid urbanisation and population growth, informal settlements have become a major challenge in the urban landscape, exacerbating issues related to poverty, inadequate infrastructure, housing and poor living conditions. As part of a collaborative interdisciplinary project ISULABANTU, this paper provides an overview of toolkits focused on informal settlement upgrading (ISU) in South Africa and presents the process of an integrated toolkit development for sustainable human settlements in Durban which was informed by participatory action research and co-production strategies. A toolkit can be a valuable and effective way of engaging communities in the process of ISU and for community members to take full ownership of the process, designing strategies which best respond to their needs. The review of existing toolkits has revealed several critical gaps related to community-led practices, integrated approaches to housing and environmental management, and gender. The integrated ISULABANTU toolkit aims to fill these gaps and complement the existing resources. It provides a framework for action research, active involvement of and partnership building with local communities in upgrading practices required to achieve sustainable human settlements.

3

1. Introduction

Across sub-Saharan Africa, 238 million people live in slums or informal settlements (UN Stats, 2020). Due to rapid urbanisation and population growth, informal settlements are a major challenge in the urban landscape, exacerbating issues related to poverty, inadequate infrastructure, housing and poor living conditions. But despite an increasing emphasis on participatory upgrading, communities are often constrained by the lack of resources or technical knowledge to lead these processes, particularly when urban policies are designed and implemented without a clear understanding of local conditions. In post-apartheid South Africa, access to adequate housing has been a major topic and since 1994 both the Reconstruction and Development Program (RDP) and the Constitution of South Africa made assurances to reduce the housing crisis. Over 50% of the population live in urban centres, where more than 2,700 informal settlements exist, accounting for around 20% of total households (SA Human Rights Commission, 2018). In Durban, the 2016 Census data report that 13.29% of all households in eThekwini municipality live in informal settlements (STATS SA, 2016), many of which lack access to basic services. Living conditions are further exacerbated by the intensification of climate change resulting in heatwaves and heavy rainfalls (Roberts, 2008).

This paper is part of a collaborative interdisciplinary project ISULABANTU[1] in Durban, South Africa. Its core research question is: *how can participatory approaches be successfully utilised to produce an integrated environmental and construction management strategy to enhance community self-reliance in informal settlements in eThekwini Municipality?* Adopting

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[1] www.isulabantu.org

a participatory action research-based methodology, the project explored community participation in Informal Settlements Upgrading (ISU) to enhance skills, explore indigenous knowledge and share lessons between communities, local and national authorities aligning infrastructure provision with self-built housing (Huchzermeyer and Karam, 2006).

This paper sets out two objectives. Firstly, it provides a desk review of existing toolkits focused on the issue of informal settlement upgrading in South Africa. By identifying gaps and demonstrating how to address them, the ISULABANTU toolkit highlights its main contribution to the body of knowledge and resources for ISU.

Secondly, it presents the process of development of an integrated toolkit for sustainable human settlements in Durban. The toolkit consists of a range of resources, namely: *A Practical Guide for Communities*, a *Community Engagement Strategy,* videos and easily accessible project and policy briefs, as well as a series of multi-stakeholder workshops and dissemination events which have been used as tools to facilitate engagement with and among community members, practitioners, academics, policymakers and other relevant stakeholders. The toolkit has been co-produced with local communities, local authorities and NGOs, and directly addresses the needs expressed by local community members. Focusing on implementing both services and housing through community-led processes, it serves as guidelines for informal and low-income communities (in Durban and South Africa) willing to lead upgrading efforts themselves, as well as practitioners and policy makers engaged in ISU and urban planning.

2.   The ISULABANTU approach

2.1 The ISULABANTU project

5

ISULABANTU has a twofold meaning - it is an acronym for Informal Settlement Upgrading and also means a 'great idea' or a 'vision' in isiZulu, while "LabaNtu" stands for people, acknowledging the community engaging as co-investigators. The project sought to shift from the dependency syndrome of municipalities as providers of subsidised housing to support communities by strengthening their capacity to guide urban development themselves. With a focus on Durban Metropolitan Area, the project has undertaken data collection, capacity building and community mapping in three case study settlements: Havelock, Piesang River and Namibia Stop 8 (Appendix 1).

ISULABANTU supports the incremental upgrading model which includes basic service provision and *in-situ* settlements upgrade. Under this approach, local authorities provide basic services such as water, sanitation, electricity, roads, footpaths and some essential social services, such as access to education, healthcare and recreational spaces (NUSP, 2015). Local communities drive their own housing improvements through self-building as a comprehensive and inclusive approach to ISU. This model differs significantly from the state-subsidised housing provision and is an important step on communities' path to self-reliance. This means that upgrading is not just housing or service delivery *per se* but development of social fabric, including access to job opportunities, health facilities, schools, and public transport (Huchzermeyer, 2004).

The ISULABANTU approach has been influenced by a range of literature on co-production – a term first used by Ostrom (1996) which has been interpreted as "*the joint production of public services between citizen and state, with any one or more element of the*

6

production process being shared" (Mitlin, 2008, p.340). The case study approach has sought to promote co-production between individual residents, community organisations, NGOs and civil servants, while key strategies included:

- *Reframing* and enhancing urban transformations from the perspective of the communities themselves, by articulating and mapping positive drivers in their practice, improvement opportunities, and the barriers they faced in the process.

- Mapping *synergies* between community-led approaches and the inputs from local actors, institutions, experts and industries.

- Facilitating *integration* between non-expert knowledge (or co-produced knowledge) and technical (expert) knowledge on finance, planning, environmental and construction management across project phases.

- Facilitating the *continuous engagement* of *residents* as co-producers of knowledge throughout the research by creating an action-research approach to be utilised within each project phase.

Despite the challenges and difference in contexts, all activities were conducted in collaboration with residents willing to participate in the creation of an integrated toolkit. Members of the communities were trained as Community Researchers (CRs) to further enhance technical, management and communication skills to engage with fellow settlement dwellers, ultimately becoming leaders and advocates of their respective communities' upgrading efforts.

2.2 Methodology

2.2.1 Action research and co-production

ISULABANTU adopted an action research-based methodology to promote direct change within three case studies and inform future policy and practice (Appendix 1). In particular, 'co-production of knowledge' was the chosen process through which both residents in the case study areas, as well as community organisations, South African policymakers and practitioners, had an active role in the research, as discussed by various scholars (Chevalier and Buckles, 2008; Community Places, 2014; Fals Borda, 1995; Urban Forum and NAVCA, 2009). Co-production represents "*one way in which poor urban communities have been able to secure significant improvements to their living environments under conditions in which governments are either unwilling or unable to deliver land and services*" (Watson, 2014, p.63). Critics argue that public participation approaches are prone to be captured by particular groups (Cooke and Kothari, 2001), and can be antagonising and discouraging for participants – who feel unheard, emphasising divisions within a community (Innes and Booher, 2004).

Figure 1 shows the combination of individual and group participatory action research tools that have been applied in the project. The tools included:

- Individual activities focused on user experience of housing and environmental management services under bottom-up upgrading strategies: observations, transect walks, in-depth interviews, recording of everyday activities.

- Group activities to discuss neighbourhood and community upgrading of housing, infrastructure, public spaces, passages, main roads and the surroundings. Methods included: focus group discussions, collaborative mind mapping, priority exercises and mapping games.

- Participatory workshops and awareness raising events before beginning fieldwork in any given area.

- Community events open to the public, with outreach to validate data, and to get feedback from local residents.

2.2.2 Community engagement

Community engagement was a key process to involve a group of 22 CRs in the research design and ultimately development and dissemination of the research outputs. The aim was to meaningfully engage with communities on the basis of mutual benefit, in a way that minimises risk for the community, and any interventions are sustainable after the official engagement has ended. The advantages of this kind of engagement result in cost savings, improved prospects of project's sustainability and livelihood development, a deeper sense of empowerment and local ownership of the upgrading project.

The project advocated for the establishment of a trustful relationship and partnership between communities (informal settlements dwellers, community leaders) and other stakeholders, such as municipality officials, ward councillors, project managers, NGOs and Community Development Organisations (CDOs). At the start of the project, the team developed a Community Engagement Strategy (CES toolkit document), which included guidelines on how to engage with community groups, municipality officers, NGO officials, academic staff and students.

9

2.2.3 A review of ISU Toolkits in South Africa

As part of the toolkit development, the project team undertook a desktop-based review of the

existing ISU toolkits in South Africa in order to identify any gaps and opportunities to fill and

capitalise on. Key evaluation criteria included:

- a primary focus on community-driven upgrading practices;

- the scale: national, regional, and/or local;

- the audience: communities, practitioners, policy makers, Community Based

   Organisations (CBOs);

- the level of integration of housing and environmental management;

- the inclusion of participatory approaches; and,

- gender-inclusive strategies.

A resource toolkit can take different shapes and forms: from comprehensive documents,

to a set of resources which serve as tools for a specific activity. In this paper, we define a

toolkit as a package of resources that: 1) is process oriented and delivers a road map; 2)

outlines an approach for informal settlement upgrading; and 3) targets specific audiences (users

and beneficiaries), such as communities, practitioners, policymakers, and/or civil society

groups. Table 1 presents a summary of the toolkits considered in the literature review.

One of the most widely disseminated resources is the *National Upgrading Support*

Programme (NUSP) Resource Kit housed within the National Department of Human

Settlements. The NUSP toolkit targets practitioners and local authorities and includes a manual

and training materials. The thirteen-part manual covers different steps of the upgrading process,

10

including policies, planning, design, monitoring and evaluation, and sustainability in concise chapters with training materials and links to additional resources. These include a participant's booklet and a facilitator's upgrading guide. Topics overlap with the manual and include additional information on social dimensions in informal settlements, participatory approaches, construction, and institutional arrangements. The NUSP toolkit is well-recognised in the South African practitioner and academic communities.

The *Upscaling City-wide Informal Settlement Upgrading in South Africa: A City-wide Approach* toolkit (2017) is part of the Cities Support Programme, partly implemented by NUSP. It targets *"metro officials and decision-makers involved in informal settlement upgrading as well as those within provincial and national government departments which play important roles in upgrading."* A secondary audience includes NGOs, CSOs, the private sector, and community leadership. Focused at the programme level, the toolkit is designed to assist metros in developing a *"city-wide approach to scaling up their informal settlements upgrading work"* through the consolidation of *"existing good practices and addressing the most critical barriers"* identified by the metros themselves.

The Development Action Group (DAG), the Department of Human Settlements (and NUSP), and the Housing Development Agency (HDA) created a toolkit that presents a participatory approach to upgrading. *Participatory Action Planning for Informal Settlement Upgrading* (2015) highlights the importance of participation and aims to *"support officials, communities and practitioners in the planning phase of ISU"*. The toolkit stems from the socio-technical support provided by DAG to the City of Cape Town in 2013. It outlines the

justification for and key principles of participatory action planning. It also includes discussion

on how to enable participation at different societal levels (settlements, area, city-wide). The

toolkit covers workshops as a methodology for undertaking rapid participatory action planning.

Other toolkits have also highlighted the importance of participation in the upgrading

process. *Towards Incremental Informal Settlement Upgrading* (2016), a toolkit developed for

the Western Cape Government by the Isandla Institute, PDG and Habitat for Humanity South

Africa, aims to guide municipalities' physical interventions in informal settlements. It seeks to

"*assist municipal officials to co-create, in collaboration with informal settlement communities,*

design, tenure, services and shelter options that speak to the different types of informal

settlements in their jurisdiction". The toolkit highlights the planning and design phases as

critical moments in the upgrading process and emphasises the need for creating channels of

participation. It focuses on co-production and co-creation throughout the upgrading process

and discusses the utility of community action plans.

3. The ISULABANTU integrated toolkit for ISU

The toolkit development phase of ISULABANTU focused on discussing and assessing

findings from the previous project phases together with   CRs   from Havelock, to identify the

key challenges and relevant stakeholders for community-led ISU. Through six participatory

design workshop sessions, the academic team and CRs agreed on the format and content of the

resources to be included in the toolkit, to stimulate a dialogue with informal communities and

strengthen their capacity to drive the upgrading process themselves.

Formats such as a guide, video documentary, a project and four policy briefs have been

incorporated in the toolkit to respond to the different stakeholders involved in upgrading

processes. In particular, the *Practical Guide for Communities* provides an extensive set of

guidelines covering key challenges affecting informal settlements, such as environmental

issues, housing design and construction, (formal and informal) material procurement,

livelihoods and urban farming, highlighting the importance of community participation and

leadership. A video documentary was made in collaboration with CRs to show the challenging

living conditions in a dense informal settlement based on Havelock. It is an accessible tool

easy to share with other local communities, CBOs and external stakeholders to mobilise and

empower informal dwellers. The video also sought to demonstrate the value of drone images

and collaborative mapping.

The toolkit was developed through participatory workshops and in-country dissemination

events to ensure   buy-in from local communities (Table 2). Building on the capabilities of

communities and interests (i.e. mobilisation, sweat equity, need for housing and land) and

integrating them into technical and financial strategies (e.g. group saving schemes) allowed for

the implementation of community-led strategies that promote ownership and control of ISU,

and skills development of community members. This aspect of community-led upgrading has

also been emphasised across all toolkit resources.

3.1 Addressing the gaps in ISU toolkits

The review of existing toolkits has revealed several gaps, primarily around issues related to

community-led practices, integrated approaches to housing and environmental management,

and gender. The ISULABANTU toolkit was specifically designed to address those gaps and

13

complement existing toolkits.

3.1.1 Resources specifically designed by and for communities

There is a significant amount of discourse on participatory planning approaches and the importance of including communities in the upgrading process (Lizarralde, 2011; Marais and Ntema, 2013; UN-Habitat, 2020). However, community participation in low-cost housing projects is complex with various degrees of engagement (Chitekwe-Biti *et al.*, 2012; Iglesias, 2012; Mitlin, 2008; Smith and Brown, 2019). Each of the reviewed toolkits acknowledges the need for participatory approaches in some way, whether by providing guidance on enabling participation or by stressing the importance of participatory design of any physical interventions. However, none of the toolkits demonstrates components exclusively geared towards communities, i.e. with the communities as the primary audience.

The reviewed toolkits primarily focus on incorporating the communities into a predefined process. In contrast, the ISULABANTU toolkit has aimed to help communities define the process themselves and tailor it to meet their unique needs, emphasising the need to go beyond participation towards community leadership. This has been achieved by developing the *Practical Guide for Communities*. Co-produced with a group of CRs (Havelock case study), it offers a number of tools to facilitate needs assessment and upgrading processes. These include recommendations on effective engagement with local leadership, settlement profiling and enumeration, participatory mapping, incremental upgrading as well as self-building using reused and/or recycled materials and environmental management including waste management and disaster risk prevention. The guide has been shared on the project's website and distributed

14

in a printed version primarily to the community members and stakeholders such as policymakers and practitioners, through a series of dissemination events. Recognising that community structures are built around self-organised practices according to specific needs, it highlights the call for iteration to adapt those structures when needs change to ensure sustainability.

3.1.2 Integrated approaches to housing and environmental management driven by communities

None of the reviewed toolkits features an integrated approach to housing and environmental management driven predominantly by communities. Environmental considerations of any kind have been largely absent in the considered toolkits. There is a strong focus on self-building in individual dwellings rather than an integrated approach between housing and infrastructure services at a neighbourhood level.

ISULABANTU's focus on an integrated approach to upgrading is innovative and stands out amongst the approaches taken in existing resources. This unique feature has also been incorporated into the toolkit design which has stressed the need for holistic approaches to environmental management and housing provision led by local communities. This message has been at the forefront of a series of Policy Briefs for decision-makers and practitioners. For community members, who themselves highlighted the need to include environmental management in ISU, guidelines on easily accessible resources on issues such as solid waste management and urban farming have been provided.

15

3.1.3 The missing gender lens

Similarly, as with integrated approaches to housing and service provision, all the reviewed toolkits lacked gender focus. Women both bear the brunt of lack of access to housing and infrastructure and are active enablers and participants in the process of securing those basic needs (Rakodi, 1991). While the ISULABANTU methodology was not designed with gender as a leading component, gender did play an important role during data collection in toolkit preparation. During fieldwork, focus group discussions targeted female groups to capture the needs of women. Discussions around urban farming highlighted that older women within all three communities both had the skills and interest to be further engaged in leading localised initiatives versus men who were more interested in developing skills around housing construction (Bisaga *et al.*, 2019). These findings and gender-specific feedback were then integrated into the toolkit, with female CRs additionally feeding into the shaping of the series of outputs in order to ensure topics of particular importance to women in the three communities were fully reflected.

3.2 Barriers and drivers of community-led upgrading

Findings from the project revealed a number of barriers and drivers to self-organisation (Table 3).

ISULABANTU demonstrated that leadership, membership-based representative structures (e.g. FEDUP group savings) and the establishment of community-based structures (e.g. community committees) are key in organised and strategic responses to community issues.

16

Accessing representational and decision-making structures at ward- and city-level allows access to political and non-political structures for accessing services and for negotiating and advocating for their own priorities in the upgrading process. Adaptability to new needs and circumstances, e.g. community structures which are built around self-organised practices according to specific requirements, is equally critical. In instances where needs change, those structures must be able to adapt in order to ensure sustainability and continuity. Finally, an integrated approach to *in-situ* upgrading should involve building on the capabilities of communities and their interests (i.e. mobilisation, sweat equity, need for housing and land), with regards to the different needs of men and women, and integrating them in the technical and financial strategies. This, in turn, allows for the implementation of community-led strategies promoting ownership and control of the project, and skills development among community members.

A key barrier is the lack of continuity in self-organisation strategies causing loss of valuable skills, knowledge, social capital, and loss of interest and credibility among residents and potential new members. Similarly, lack of tangible/explicit benefits (e.g. material or monetary) can be an obstacle for community mobilisation which further exacerbates the lack of capacity and motivation of residents to engage with decision-making or issues that might be confrontational. Community organisation practices are highly vulnerable to politicised interventions, whether within the community or by external actors, which can negatively affect the integrity and community spirit. This vulnerability can also result in a heavy reliance on the committee, ward councillor or CSOs to lead initiatives, instead of community members taking it onto themselves. Finally, a conflictive relationship with surrounding formal residential

17

neighbourhoods can hinder community-led efforts due to the potential threats stemming from the

imbalance of powers between the formal and better-off settlements and the informal ones.

4. Discussion

Community participation and ownership constitute the baseline for defining sustainability in

the context of ISU. In ISULABANTU, the process of developing a toolkit *with* a local

community and *for* the same and other informal communities empowered the participants, who

shared their knowledge, needs and expectations to improve the living conditions. This adds to

the ongoing critique of slum demolition and relocation as the state's macro-economic target to

meet the physical aspects of housing shortage and infrastructure provision rather than the

improvement of poor living conditions and livelihood development (Cirolia *et al*., 2017; Del

Mistro and Hensher 2009; Huchzermeyer, 2009; Massey, 2014). In response to this,

ISULABANTU's Practical Guide for Communities has engaged with local residents

demonstrating the social, economic and environmental value of incremental and participatory

upgrading when integrating affordable, resource-efficient and low-carbon self-building

strategies with infrastructure design and delivery, as discussed in Hyman and Pieterse (2017)

and Kimari and Ernston (2020).

During the toolkit development and dissemination events, local residents and

municipality officials provided positive feedback on the fieldwork activities and action

research methods applied by the CRs and the academic team. For example, an official from

eThekwini Planning Unit emphasised that:

"*Over the past four years ISULABANTU provided meaningful community participation*

18

as a means to accept informality and work with it, instead of finding ways to eradicate

it".

A CR explained the significant impact that the toolkit development had on his

community:

"Thank you so much to ISULABANTU to open our minds about working together and

being united to make change for our own settlement" [*Havelock CR*]

Another CR showed his gratitude for the pictures and maps of the settlement developed

by the team, as they can be used for negotiations with the municipality and to stimulate a

discussion with other communities facing similar challenges:

"I also thank you for pictures and the maps. They made a huge contribution to us

because we usually have sub regional meetings in this area and we invite other

communities, so they will see that ISULABANTU have positive contribution to informal

settlements" [*Havelock, CR*].

ISULABANTU revealed that self-building is a core aspect of the proposed toolkit and

should be for any future toolkits developed and used by eThekwini municipality in relation to

project management and improved quality in construction. However, there is a clear need for

community engagement and coordination beyond self-building, as a sole focus on top

structures can make communities less interested in inclusive neighbourhood planning, spatial

integration and community layout, which are major causes of conflict. The ISULABANTU

toolkit calls   for a combined implementation of housing and services through community-led

processes. Informal settlements offer opportunities for an integrated approach to urban

19

regeneration, including informal economy, social and cultural aspects, alongside infrastructure and self-build incremental processes (Amado *et al.* 2016). Low-cost housing provision calls for housing and infrastructure services integration (Acolin and Green, 2017). Access to infrastructure services in urban informal settlements has a direct impact on health, education, income and housing (Parikh and McRobie, 2009; Parikh and Parikh, 2008). Studies show that residents prioritise access to services such as water and sanitation (Parikh, 2007), further validated by Ntema *et al.* (2018) with residents in Freedom Square (Bloemfontein, South Africa) who identify urban management and physical infrastructure as high priorities. Parikh *et al.* (2020) observed that residents in Havelock prioritised infrastructure due to poor environmental conditions.

According to the current eThekwini Spatial Development Framework, informal settlements must be fully upgraded and integrated into the broader urban fabric to overcome spatial, social and economic segregation through incremental, participatory and partnership-oriented approaches (eThekwini municipality, 2015). The issue with integrated housing and environmental services stems from the different approaches in assessing the level of a successful upgrading project between local authorities and communities. For eThekwini municipality, a successful upgrading project traditionally meant a successful delivery of physical aspects, such as infrastructure and services. The empirical research of ISULABANTU, however, revealed that a successful project is additionally about full ownership of the upgrading, social cohesion, livelihood development and tenure security. Alongside physical integration (housing and services), municipal integration is critical. The project findings show

20

that local government innovation and leadership is missing from both current upgrading

programmes and existing toolkits, and is also key in resolving or reforming the issue of land

tenure. Long-term commitment or at least recognition from eThekwini municipality and central

government in land tenure (even if title deeds are delayed) is a minimum precondition for

unlocking community-led upgrading, as also argued by Lizarralde (2011). ISULABANTU also

revealed the mentality of working in silos, no clear alignment between individual departments,

complex political agendas challenging to navigate, along with long bureaucratic processes in

the municipality's administration. Departmental communication issues are then magnified by

the time they reach communities due to the extended time scales and increased tensions.

The community-led nature of designing and applying the toolkit can help facilitate more

decision-making responsibility over the housing process, retain social capital and trigger

economic development through the ability to offer services based on the community's newly

gained/ improved skills (Huchzermeyer, 2009; Tissington, 2011). This can lead to the creation

of more inclusive and sustainable human settlements where community members make the

most critical decisions themselves, according to their needs (ibid.). The success of *in-situ*

upgrading programmes can be attributed to the skills of informal dwellers by enabling them to

address their existing housing and infrastructure needs (Huchzermeyer, 2009). Grassroots

toolkits (ISULABANTU) can therefore have an empowering effect on skills development and

enhancement of involved residents, as the adopted action research methods revealed a

correlation between the provision of training and satisfaction rate of housing and self-building

practices.

21

5. Conclusions and recommendations

Sustainable and resilient cities require inclusive development with contextually appropriate solutions. Integrated participatory upgrading processes are vital to ensure that communities not only actively participate in, but also drive the design of strategies and solutions and are able to sustain them. Traditionally in South Africa, engineering solutions have been top-down with technical experts providing solutions to local communities. The ISULABANTU toolkit provides a socio-technical framework for active involvement and partnership building with local communities to ensure sustainability of upgrading efforts and achieving sustainable human settlements.

The toolkit provides built environment professionals with a roadmap on how to engage with local communities and co-develop integrated interventions which consider local needs and aspirations for upgrading settlements in a sustainable manner. In particular, this toolkit provides a methodological approach to co-develop and deliver infrastructural solutions which are appropriate to local contexts and cognisant of key challenges facing local communities, thus boosting their acceptability. At policy level, harmonisation across ministries and departments will lead to more responsive and sustainable solutions. Furthermore, the knowledge generated through the research has a wider relevance for cities in South Africa and other countries with similar challenges by offering tools and guidelines which can be adopted and adapted according to the local context.

It is important to note that the process of toolkit development itself strengthened the relationship between the Havelock community and the municipality. In addition to a

22

catastrophic event caused by fire in December 2019 which engulfed the whole settlement, the initiatives led by the CRs and other community representatives have resulted in the settlement being incrementally upgraded. eThekwini municipality is currently looking to invest resources into upgrading water and sanitation facilities in Havelock; while a local non-profit organisation (Project Preparation Trust) is currently testing new dwelling typologies (double-storey shacks) and a multi-hazard approach to disaster risk reduction, such as climate-proof dwelling design in 10 informal settlements in Durban, including Havelock.

While there are several toolkits for ISU in South Africa, this paper argues that all prominent ones lack a specific community focus, integration of housing and environmental management, and gender inclusion. These critical factors have been addressed by the ISULABANTU toolkit which has complemented and filled the gap in the existing body of similar resources; hence, the following recommendations can be drawn for engineering sustainability:

- Each informal settlement is unique with its own needs, requirements and self-organisation practices. The appplication of the proposed toolkit should be done in an adaptable and flexible fashion to assist in the process of mobilising community members to take ownership of the project.

- The application of community-led toolkits is an opportunity to shift away from the traditional top-down approach often criticised for its poor community engagement, lack of skills training and capacitiy building, leading to poor livelihood development and long-term housing provision.

23

- This approach can be applied to other resource challenged settings such as refugee camps, remote and deprived communities globally. Strong community engagement component and local contextual solutions should be at the heart of built environment interventions to build sustainable communities.

Future research on ISULABANTU toolkit deployment should focus on adaptations for easy replication and utilisation of the toolkit by informal settlements dwellers, community organisations, practitioners and local administration officials in South Africa and beyond. The uptake of the toolkit may require some form of intermediary and/or financial support to be applied effectively by various communities. To achieve this, the importance of effective communication and meaningful partnerships is key in integrating housing with services, and adopting a gender-inclusive approach. There is also an opportunity to build on the existing set of resources by partnering with national and international stakeholders (e.g. National Treasury, SDI, UN-Habitat, UNDP) working on ISU to facilitate further exchange of knowledge and best practice. This can boost the potential of the toolkit to contribute to the building of sustainable and resilient cities in the Global South.

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24

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publication.

Appendix 1: The three selected case studies in Durban metropolitan area

ISULABANTU has undertaken data collection, capacity building and community mapping in

three case study settlements: Havelock, Piesang River and Namibia Stop 8. The case study

selection criteria focused on the presence of strong elements of community leadership, an active

support organisation, community self-organisation practices (e.g. stokvels, saving groups), and

good documentation of historical development and upgrading models used in the past (Bisaga *et*

al., 2019; Parikh *et al*., 2020).

Namibia Stop 8	Piesang River	Havelock
Located in Inanda the northern region of eThekwini on the outskirts of Durban, Namibia Stop 8 was built in 2010-2014 by community contractors who delivered 2,500 dwellings providing homes for 10,000 people (SDI South African Alliance , 2012).	Piesang River is an old informal settlement, in close proximity to Namibia Stop 8, which pioneered strong elements of community	Originating in 1986, Havelock is located 8km from Durban city centre with 200 self-built houses and approximately 400 inhabitants. The land had been overgrown by vegetation prior to the construction

Namibia Stop 8 has been a greenfield project, where residents were largely moved from two neighbouring areas

(Namibia and Stop 8) as part of a re-blocking exercise for services and housing.

The housing provided was a mixture of government-provided RDP houses which were 40sqm and 96 houses built through the Federation of the Urban and Rural Poor (FEDUP). which were larger at 56sqm. FEDUP used the participatory PHP model that is predicated on a community-driven participatory approach. uTshani Fund, partner of the SA SDI Alliance and support

leadership and negotiation with the SA government around housing delivery. Piesang River is located near the townships of Inanda and KwaMashu, 25 km northwest of Durban. The settlement was established through the purchase of land and its subdivision, followed by the gradual settling of adjacent land in the 1970s-80s. Civic structures were formed in the late 1980s by the United Democratic Front, eventually leading to land regularisation and the extension of infrastructure into the settlement (Huchzermeyer, 2004). Incrementally upgraded with formal structures, a variety of building types were constructed, such as two-story flats, cottages, and single-story houses. Houses have access to water supply,

of informal dwellings on a steep terrain with a polluted stream located at the bottom, overflowing during heavy rains. Their settlement is characterised by several hazards, such as: illegal electrical connections, dangerous electrical cables sprawled across paths, fire hazards and flooding. Havelock has no household toilets and the municipality has installed ablution blocks to collect water, located at the edge of the settlement. The land is partly owned by the municipality and partly privately, with private owners wanting to demolish the shacks. Havelock has revealed some signals of community participatory initiatives and community leadership. In 2012, with the assistance of the Informal Settlements Network (ISN), the settlement conducted a first in-depth enumeration of the shacks. Willingness to engage in participatory processes has been demonstrated with the assistance of ISN and Community Organisation

26

organisation provided the finance facilities to FEDUP, who acted as community contractors and led the provision of self-build housing. The site has piped water, electricity lines, access roads (although these do not reach all properties) and a sewage system. The area suffers from water shortage and electricity supply intermittency.	sewage systems and electricity.	Resource Centre (CORC) under SA SDI Alliance, who mobilised the procurement of building materials, the development of community savings scheme and other service related community projects such as the crèche and recycling of glass bottles. Since 1999, Havelock has been subject to several minor fire episodes, until the last major incident in December 2019, which burned down the whole settlement. There was an enumeration exercise planned for December 2019 to update the previous one which has now been postponed. Nevertheless, Havelock is currently on the priority list of eThekwini municipality for *in-situ*, incremental upgrading; hence, the potential to transfer knowledge and lessons learned from Namibia Stop 8 and Piesang River.

References

Acolin, A. and Green, R. K. (2017). Measuring housing affordability in São Paulo metropolitan region: Incorporating location. *Cities*, 62(2017), pp. 41-49.

Amado, M.P., Ramalhete, A., Amado, A.R. and Freitas, J.C. (2016). Regeneration of informal areas: An integrated approach. *Cities,* 58(October 2016), pp. 59-69.

Bisaga, I., Parikh, P. and Loggia, C. (2019). Challenges and Opportunities for Sustainable Urban Farming in South African Low-Income Settlements: A Case Study in Durban, *Sustainability*, MDPI, Open Access Journal, vol. 11(20), pp. 1-26.

Chevalier, J. and Buckles, D. (2008). *A Guide to Collaborative Inquiry and Social Engagement*. Sage: London.

Chitekwe-Biti, B., Mudimu, P., Nyama, G.M., and Jera, T. (2012). Developing an informal settlement upgrading protocol in Zimbabwe- the Epworth story. *Environment and Urbanization*, 24(1), pp. 131-148.

Cirolia, L.R, Gorgens, T., van Donk, M., Smit, W. and Drimie, S. (2017). Upgrading informal settlements in South Africa: an Introduction. (pp. 3-25) In: Cirolia, L.R. Gorgens, T., van Donk, M., Smit, W. and Drimie, S. (2017). *Upgrading Informal Settlements in South Africa. A partnership-based approach.* Cape Town: UCT Press.

Community Places (2014). *Community Planning Toolkit – Community Engagement.* Community Places: Belfast.

Cooke, B., and Kothari, U. (2001). *Participation: The new tyranny*. New York, NY: Palgrave.

Del Mistro, R. and Hensher, D. (2009). Upgrading Informal Settlements in South Africa:

28

Policy, Rhetoric and what Residents really Value, *Housing Studies* 24(3), pp. : 333-3–354.

Development Action Group (DAG) (2015). *Participatory action planning for informal settlement upgrading*. Available online: http://thehda.co.za/pdf/uploads/multimedia/Partic ipatory_Action_Planning_for_Informal_Settlement_Upgrad.pdf [Accessed 17/06/2020].

eThekwini Municipality (2015). Draft Spatial Development Framework Review 2015-2016, [online] available from http://www.durban.gov.za/Resource_Centre/reports/Framework_P lanning/Pages/default.aspx. [Accessed 15/07/2019].

Fals Borda, O. (1995). Research for social justice: Some North-South convergences, Plenary Address at the Southern Sociological Society Meeting, Atlanta, April 8 1995. Available online: www.comm-org.wisc.edu/si/falsborda.htm [Accessed 17/06/2020].

Housing Development Agency (HDA) (2015). Informal settlement upgrading: Incrementally upgrading tenure under customary administration, RESEARCH SERIES PUBLISHED BY THE HOUSING DEVELOPMENT AGENCY. Available online: http://thehda.co.za/pdf/uploads/multimedia/isu_upgrading_tenure_publication_2015_-1.p df. [Accessed 15/06/2020].

Huchzermeyer, M. (2004). *Unlawful occupation: informal settlements and urban policy in South Africa and Brazil*. Africa World Press.

Huchzermeyer, M. (2009). Enumeration as a grassroots tool towards securing tenure in slums: insights from Kisumu, Kenya. *Urban Forum*, 20, pp. 271-292.

Hyman, K. & Pieterse, E. (2017). Infrastructure deficits and potential in African cities. In S.

Hall & R. Burdett *The SAGE Handbook of the 21st century city* (pp. 429-452), SAGE, doi: 10.4135/9781526402059.n23

Iglesias, T. (2012), Housing Paradigms, in Smith S.J. et al. (eds), *International Encyclopedia of Housing and Home*, Elsevier.

Innes, J. and Booher, D. (2004). Reframing public participation: Strategies for the 21st century. *Planning Theory & Practice*, 5(4), pp. 419 –436.

ISANDLA Institute, PDG and Habitat for Humanity (2016). *Towards Informal Settlement Upgrading. Supporting municipalities in identifying contextually appropriate options.* Available online: https://www.salzburgglobal.org/fileadmin/user_upload/Documents/201 0-2019/2018/Session_595/Western_Cape_ISSP_Design__Tenure_Options_2016.pdf [Accessed 17/06/2020].

Karam, A. and Huchzermeyer, M. (2006). *Informal settlements: A perpetual challenge?* UCT Press, 1st Ed.

Kimari, W. and Ernstson, H. (2020). Imperial remains and imperial invitations: Centering race within the contemporary large-scale infrastructures of East Africa. Antipode.

Lizarralde, G. (2011). Stakeholder participation and incremental housing in subsidized housing projects in Colombia and South Africa. *Habitat International*, 35(2), pp. 175-187.

Marais, L. and Ntema, J. (2013). The upgrading of an informal settlement in South Africa: Two decades onwards. *Habitat International,* 39(July 2013), pp. 85-95.

Massey, R. (2014). Exploring counter-conduct in upgraded informal settlements: The case of women residents in Makhaza and New Rest (Cape Town), South Africa, *Habitat*

International, 44, pp. 290–296.

Misselhorn, M. (2017). *A Programme Management Toolkit for Metros: Preparing to Scale Up Informal Settlement Upgrading in South Africa. A City-Wide Approach*. Available online: https://csp.treasury.gov.za/Resource%20_Centre/Conferences/Documents/Informal%20S ettlements%20Upgrading%20Workshop%20(4-5%20December%202017)/170803.Upgra ding%20Toolkit%20r97.pdf [Accessed 17/06/2020].

Mitlin, D. (2008). With and beyond the state: Coproduction as a route to political influence, power and transformation for grassroots organizations. *Environment and Urbanization* 20(2), pp. 339–360.

National Upgrading Support Programme (2017). Resources. Available online: http://upgradingsupport.org/resources [Accessed 17/06/2020].

National Upgrading Support Programme (NUSP) (2015). Introduction to Informal Settlement Upgrading Section 9: Building Houses Incrementally. Available online: http://upgradingsupport.org/uploads/resource_documents/participants-combined/Chapter-9-Building-Incrementally-May-2016.pdf [Accessed 15/06/2020].

National Upgrading Supporting Programme (NUSP) (2015). Training Manuals. Section 9. Building Incrementally. Available online: http://upgradingsupport.org/uploads/resource_d ocuments/trainingmanual-combined/Chapter-9-Building-Incrementally-May-2016.pdf [Accessed 15/06/2020].

Ntema, J., Massey, R., Marais, L., Cloete, J. and Lenka, M., (2018). Informal settlement upgrading in South Africa: beneficiaries' perceptions over nearly twenty-five

years. *Journal of Urbanism: International Research on Placemaking and Urban Sustainability*, 11(4), pp.460-479.

Ostrom, E. (1996). Crossing the Great Divide: Coproduction, synergy, and development. *World Development* 24(6), pp. 1073–1087.

Parikh, P. (2007). *Health Impact of Water and Sanitation in the Low-Income Settlements of India and South Africa*. In Proceedings of International Conference of Computing and Control for the Water Industry: Water Management Challenges in Global Change, edited by B. Ulanicki, K. Vairavamoorthy, D. Butler, P. Bounds,

and F. Memon, 659–666. London: Taylor & Francis.

Parikh, P. and Mcrobie, F.A. (2009). Engineering as a tool for improving human habitat. *International Journal of Management and Decision Making,* 10(3), pp. 270-281.

Parikh, P. and Parikh, H. (2008). Slum networking–A paradigm shift to transcend poverty with water, environmental sanitation and hidden resources. Water and Urban Development Paradigms: Towards an Integration of Engineering, *Design and Management Approaches*, p. 357.

Parikh, P., Bisaga, I., Loggia, C., Georgiadou, M.C. and Ojo-Aromokudu, J. (2020). Barriers and opportunities for participatory environmental upgrading: Case study of Havelock informal settlement, Durban. *City and Environment Interactions*, 5.

Rakodi, C. (1991). Women's work or household strategies?, *Environment and Urbanization,* 3(2), pp. 39-45.

Roberts, D. (2008). Thinking globally, acting locally-institutionalizing climate change at the

32

local government level in Durban, South Africa. *Environment and Urbanization*, 20(2), pp. 521-537.

SA Human Rights Commission (2018). *Response to Questionnaire: Informal settlements and human rights*. Available online: https://www.ohchr.org/Documents/Issues/Housing/Infor malSettlements/SouthAfricanHumanRightsCommission.pdf [Accessed 16/06/2020].

Smith, T.A. and Brown, A. (2019). Community-led housing and urban livelihoods: Measuring employment in low-income housing delivery. *Habitat International*, 94.

Statistics South Africa (STATS SA) (2016). Community Survey 2016. Available online: http://cs2016.statssa.gov.za/wp-content/uploads/2017/07/CS-in-brief-14-07-2017-with-co ver_1.pdf. [Accessed 15/06/2020].

Tissington, K. (2011). *A resource guide to housing in South Africa 1994-2010. Legislation, policy, programmes and practice*. Johannesburg: Socio-Economic Rights Institute of South Africa (SERI). Available online: http://www.seri-sa.org/images/stories/SERI_Hous ing_Resource_Guide_Feb11.pdf [Accessed 15/ 06/2020].

Turok, I. and Visagie, J. (2018). Inclusive Urban Development in South Africa: What Does It Mean and How Can It Be Measured?, IDS Working Paper, Volume 2018 No 512. Available online: https://opendocs.ids.ac.uk/opendocs/bitstream/handle/20.500.12413/13 770/Wp512_Online.pdf?sequence=1 [Accessed: 15/06/2020]

UN Stats (2020). SDGs Report Goal 11. Available online: https://unstats.un.org/sdgs/report/2019/goal-11/ [Accessed 17/06/2020].

UN-Habitat. (2020). *Caribbean Strategy for Informal Settlements Upgrading*, United Nations

33

Human Settlements Programme (UN-Habitat)

Urban Forum and National Association for Volunteer and Community Assistance (NAVCA) (2009). *Developing your Comprehensive Community Engagement Strategy: A Comprehensive Guide for Local Strategic Partnerships*. Available online: www.navca.org.uk/ [Accessed 15/06/2020].

Watson, V. (2014). Co-production and collaboration in planning – The difference". *Planning Theory & Practice,*15(1), pp. 62–76.

Table 1. Summary of toolkits considered in the literature review

Components/Toolkit	*National Upgrading Support Programme (NUSP) Resource Kit*	*Upscaling City-wide Informal Settlement Upgrading in South Africa: A City-wide Approach*	*Participatory Action Planning for Informal Settlement Upgrading*	*Towards Incremental Informal Settlement Upgrading*
Summary	Includes a manual covering the steps in the upgrading process and training materials for participants and facilitators.	Aims to help cities address upgrading at a programmatic level through a city-wide approach that incorporates best practices and barriers identified by cities themselves.	Promotes the use of Participatory Action Planning in settlement upgrading and includes guidance on enabling participation.	Aims to ensure that physical interventions are participatory.
Scale	National	City-level	Settlement-level	Provincial (Western Cape)
Audience	Practitioners and local authorities	Government officials at metro, provincial and national levels; NGOs, CSOs, the private sector and community leadership	Municipality officials, communities, and practitioners	Municipal officials
Community focus	No	No	No	No
Integration of housing and environmental management	No	No	No	No
Participatory approaches	Yes	Yes	Yes	Yes
Gender-inclusive strategies	No	No	No	No

Table 2. Resources included in the ISULABANTU toolkit

Resources	What does the resource cover?	Practice-focused?	Policy-focused?
A Practical Guide for Communities	Effective methods for engaging with local leadership	✓	
	Co-production strategies for settlement profiling and community enumeration	✓	✓
	Spatial and participatory mapping	✓	✓
	Incremental upgrading	✓	✓
	Community waste management	✓	
	Disaster risk prevention and management	✓	
	Self-building	✓	
	Dwelling design (materials and techniques)	✓	
	Livelihood strategies	✓	
Policy Briefs	A deep dive into the project's approaches, research methods used, findings and recommendations, particularly for policy makers, as well as practitioners and others interested in informal settlement upgrading in South Africa	✓	
Project Brief	Insights on the background of the project, its approach and methodological tools, as well as the three case study sites (Havelock, Namibia Stop 8 and Piesang River) along with the project team's community engagement strategy	✓	✓

Video: Havelock Informal Settlement	A documentary demonstrating the realities of living in an informal settlement	✓	✓
Community Engagement Strategy	A set of guidelines on how to engage with community groups, municipality officials, NGOs, academic staff and students	✓	
Community workshops	A series of solution-oriented workshops aimed at identifying priority needs of community members across the case study informal settlements and designing context-specific strategies for ISU	✓	✓
Dissemination events	A series of 3 dissemination events organised in a workshop style to engage with the communities, practitioners, policymakers, academics and other stakeholders involved in ISU in formats and share project findings and results	✓	✓

Table 3. Drivers and barriers of community-led informal settlement upgrading

Drivers	Leadership and membership-based representative and community structures
	Access to decision-making structures (ward or city level)
	Adaptability to change
	An integrated and gender-inclusive approach
Barriers	Lack of continuity of self-organisation
	Lack of tangible benefits
	Lack of capacity and motivation among community members
	Vulnerability to politicised interventions
	Reliance on *others* to lead initiatives
	Conflictive relationship with neighbouring areas

Figure 1. Participatory action research tools used in the three case study communities of Namibia Stop 8, Piesang River and Havelock to facilitate co-production of knowledge and the toolkit development
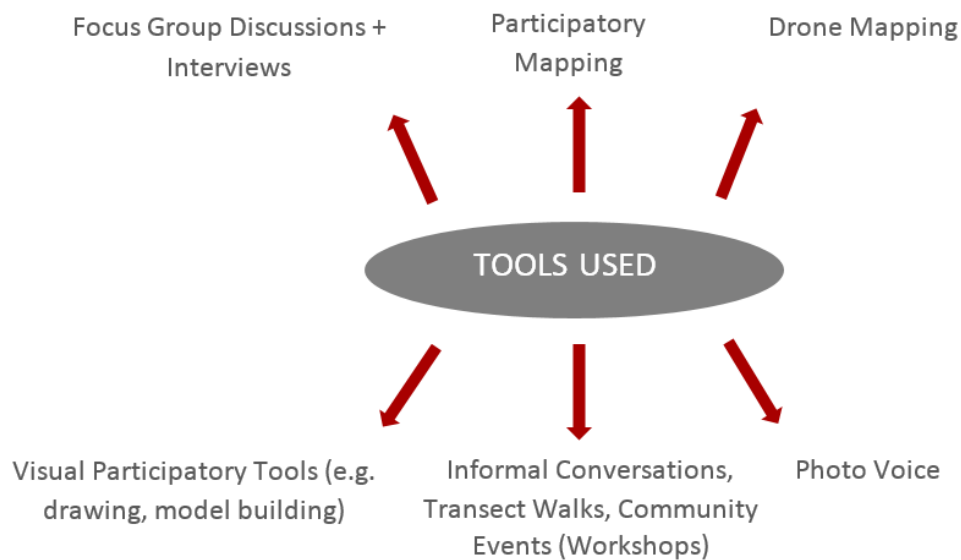
Figure 2. Community workshops in Havelock, March 2019 (left) and Piesang River, May 2017 (right)

Figure 3. Examples of ISULABANTU toolkit resources: the documentary video of Havelock informal settlement (left) and the Practical Guide for Communities (right)