NDIFUNA UKWAZI

KWALANGALIBALELE PROJECT

A BAG



FILLS

A HOME

RETHINKING EMERGENCY HOUSING

Published by Ndifuna Ukwazi

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WHO THIS CASE STUDY IS FOR

UNDERSTANDING THE COMMUNITY, CIVIL SOCIETY AND GOVERNMENT ROLES IN KWALANGALIBALELE

The KwaLangaLibalele case study is intended for communities living in vulnerable areas, particularly those experiencing insecure tenure, inadequate housing and climate-related risks such as flooding and fires. It documents how residents can participate in identifying risks, shaping solutions and influencing decisions about their homes.

It is also relevant to NGOs, community-based organisations and social movements that support communities experiencing housing and climate vulnerability. The project highlights the role of organisations in facilitating community participation, providing support, navigating institutional processes and connecting community priorities with government systems.

For government and public institutions, the case study offers a practical example of how existing housing, informal settlement and climate-response systems interact with community-led initiatives. It highlights both the opportunities and barriers encountered when trying to improve housing conditions within contexts of insecure tenure and regulatory uncertainty.

Importantly, KwaLangaLibalele is not presented as a replacement for the State's responsibility to provide adequate emergency responses following climate- and disaster-related events. The project focuses specifically on people living in informal and temporary housing who are particularly exposed to flooding, fires and other climate-related risks, often while waiting for more secure and permanent housing. It demonstrates how community-led action, supported by civil society and responsive public institutions, can strengthen disaster responses by providing more dignified, climate-resilient and people-centred emergency housing interventions.

EXECUTIVE SUMMARY

FROM SANDBAGS TO SECURITY: THE KWALANGALIBALELE PILOT PROJECT

KwaLangaLibalele is a community-based housing pilot in Langa, Cape Town, that explored an alternative approach to responding to housing vulnerability, particularly in a context of repeated flooding, spreading fires and inadequate emergency housing responses. The project tested the use of sandbag construction and Ecobeam technology while working with the existing household, site and community context rather than relying on a standardised emergency housing model.

This case study documents what happened during the project, how it was implemented, what was learned, and what the experience reveals about the wider housing system. It follows the project from its initial conception and partnerships through planning, community engagement, design, construction, workshops and engagement with relevant institutions. The project also provides an opportunity to examine the practical challenges of introducing an Alternative Building Technology into an existing informal housing environment. These included technical considerations, funding and procurement, construction processes, community participation, project coordination and navigating municipal requirements. Rather than presenting these challenges as failures, the case study treats them as important evidence about what is required to make alternative approaches work through community-based methods.

The publication therefore uses KwaLangaLibalele as a learning case, and it considers what can be taken from the experience for future pilots, emergency housing programmes and efforts to support more climate-responsive and community-led housing. It asks what needs to change for approaches such as this to move beyond individual demonstrations and become more viable within the systems that shape housing delivery in Cape Town.



INTRODUCTION

This case study focuses on the KwaLangaLibalele Project, a community-led pilot initiative implemented in Langa, Cape Town. The project responds to the everyday realities faced by residents living in informal settlements, where flooding, inadequate infrastructure, and unsafe housing conditions continue to shape daily life. While these challenges are widely recognised, existing housing and emergency responses often remain slow, standardised, and disconnected from lived experience (SERI, 2018 et al). In this context, the project explores what more grounded and responsive approaches to housing might look like in practice.

The KwaLangaLibalele Project is intentionally small in scale, as it centres on the upgrading of a single flood-prone household while engaging a broader network of community members and local structures. This approach reflects lessons from incremental upgrading practices, which emphasise working at a manageable scale while building knowledge that can inform wider interventions (Development Action Group, 2017). By focusing on a specific household, the project is able to respond directly to local conditions rather than applying a standardised solution. At the same time, it creates space for wider community involvement, shared learning, and collective reflection. At its core, the project adopts an approach that understands housing as a process rather than a once-off delivery.

This perspective draws on a growing body of work around co-production and participatory development, which highlights the importance of involving communities in shaping their own environments (Mitlin & Satterthwaite, 2004; Isandla Institute, 2016). In this project, community members are not treated as passive beneficiaries, but as active participants in decision-making, design, and construction. This process supports local ownership, builds practical skills, and strengthens the social networks that are critical to implementation.

SECURITY OF TENURE

The Security of Tenure Programme at Ndifuna Ukwazi (NU) works to advance more secure and dignified living conditions for people living in informal settlements. It focuses on strengthening residents' ability to remain in their homes and access basic services, while challenging systems that produce insecurity and displacement. The KwaLangaLibalele Project sits within this programme as a practical pilot, exploring how emergency housing responses and alternative building technologies can support greater security, dignity and resilience while longer-term tenure solutions are pursued.

> **IT IS A PRACTICAL INTERVENTION AIMED AT IMPROVING LIVING CONDITIONS**

A HISTORY OF LANGA

LANGA IS NOT JUST A PLACE. IT IS A BEGINNING.

Established in 1927, Langa was the first formally planned African township in Cape Town. It was created by the City Council under the segregationist policies that would later crystallise into apartheid. Its formation was not incidental; it was deliberate, calculated, and spatial. Black African residents, many of whom had previously lived in District Six and other central areas, were forcibly relocated to the periphery of the city, of which then Langa was designed as a site of control, a controlled movement, controlled labour, controlled lives.

The name Langa carries a layered historical meaning. While langa means “sun” in isiXhosa, the name of the township is also understood to derive from Inkosi Langalibalele, the 19th-century leader of the amaHlubi who resisted colonial authority in Natal and was imprisoned on Robben Island (Department of Sport, Arts and Culture, 2023). The area was later associated with “Langalibalele’s Location”, making the name a reminder of both place and resistance. In this sense, the township carries within it a quiet contradiction, a place born out of oppression, named after resistance, and that tension continues to define Langa today.

Located approximately 10 kilometres from Cape Town’s city centre, Langa sits along key transport corridors, bordered by the N2 highway and in proximity to industrial zones.

> **A PLACE BORN OUT OF OPPRESSION, NAMED AFTER RESISTANCE**

Its location reflects a familiar apartheid logic close enough to supply labour to the city, but far enough to remain socially and spatially excluded yet over time, this marginality has been reworked by its residents into something else: a place of resilience, density, and ongoing urban life.



MAPPING LANGA:
HOUSING, GROWTH AND SPATIAL CHANGE



MAP 1: 1958, Apartheid-era migration overcrowded Langa, as thousands of Black South Africans moved to Cape Town despite strict urban controls.

MAP 2: 1980 Population, depicting the historical change and map of Langa.





MAP 3: 1996, Langa's growth reflected on the dawn of democracy.

MAP 4: 2004, Langa's growth reflected changing ideas of urban living, expanding beyond its original boundaries and form.



LANGA: A LIVING ARCHIVE OF STRUGGLE, SETTLEMENT, AND URBAN POSSIBILITY

Housing in Cape Town continues to reflect deep inequalities rooted in apartheid spatial planning. Despite programmes such as Breaking New Ground (BNG) housing and emergency interventions, delivery remains slow and uneven, leaving many households reliant on informal and often vulnerable forms of housing (Ndifuna Ukwazi, 2020; DAG, 2019). Centralised waiting lists and allocation systems can leave households waiting for years, while gaps between policy and implementation continue to limit pathways to secure and affordable housing.

Langa reflects these wider challenges, with an estimated population of over 50,000 within a relatively small geographic area, it is one of Cape Town's densely settled urban areas. This density is lived through the close proximity of homes, shared services and constant negotiation of limited space. Its built environment reflects layers of history: formal housing, former migrant labour hostels, backyard dwellings and informal settlements, alongside newer housing developments. Government programmes, including the N2 Gateway and later Southern Corridor initiatives, have shaped housing delivery in and around Langa. At the same time, informal settlements have expanded as households seek access to homes near employment and transport in the absence of sufficient secure options.

Joe Slovo illustrates this history, as the settlement grew from approximately 1,195 dwellings in 1996 to 4,571 in 2002 (HDA, 2016). Its location along the N2 corridor made it a major focus of the N2 Gateway Project, which sought to address informal settlement conditions through formal housing, upgrading and relocation. However, implementation was accompanied by contestation around affordability, participation, tenure security and relocation away from established livelihoods (Western Cape Government, 2010; Constitutional Court of South Africa, 2009). Langa therefore provides more than a backdrop to KwaLangaLibalele. It is a place where the histories of housing exclusion, informal settlement, community resilience and the ongoing struggle for well-located housing remain visible.

THE JOE SLOVO PROJECT

The Joe Slovo housing project forms part of the N2 Gateway Human Settlements Programme, launched in 2004/05 as a national housing initiative along the N2 corridor. It aimed to replace informal settlement conditions with formal, serviced and higher-density housing while keeping residents close to employment and public transport (Department of Human Settlements, 2011). The project was developed in phases, with Phase 3 planned for approximately 2,886 housing units, including higher-density units and supporting infrastructure (HDA, 2017). The project involved the National Department of Human Settlements, Western Cape Government, City of Cape Town and Housing Development Agency (HDA). Joe Slovo is therefore an important part of Langa's housing history, demonstrating the scale of formal housing investment in the area and the continued need for additional affordable and secure housing.

The continued presence of informal settlements reflects the gap between formal housing delivery and demand for well-located accommodation. Residents have responded by building, extending and adapting their homes, while organising collectively and engaging with the state. In Langa, housing is therefore not simply delivered; it is continuously made and shaped by residents. Yet overcrowding, flooding and fire remain significant risks, particularly in constrained and low-lying areas (City of Cape Town, 2023). Langa reflects both persistent housing inequality and the possibilities for community-led, climate-resilient upgrading. Its proximity to employment, transport and social infrastructure highlights the importance of spatial justice, ensuring that low-income communities can access well-located urban opportunities and remain connected to the city.

FRAMING THE ISSUE

WHY THIS PROJECT, WHY NOW?

Cape Town's housing crisis is not simply a question of how many houses are still needed; it is also about where housing is built, how it is built, who it is built for, and whether it responds to the realities of people's lives and is sensitive to concerns such as safety, livelihood and health. Three decades after apartheid, low-income households continue to face limited access to well-located land and affordable housing, while informal settlements, backyard dwellings and overcrowded homes have become enduring parts of the urban landscape. In Cape Town, these pressures are intensified by a highly unequal property market, limited public land and the continued peripheralisation of low-income households.

Climate change is adding another layer to these existing inequalities, especially for households living in informal settlements and backyard structures. Flooding, fires and extreme weather are not future risks. They are already part of everyday life, yet the systems responding to these hazards often treat them as once-off emergencies, focusing on providing immediate shelter rather than addressing the conditions that make households vulnerable in the first place. This creates an important tension where the state needs to respond quickly to housing emergencies, but the way emergency housing is delivered can reproduce the same spatial and material vulnerabilities it is intended to address. Relocation can separate households from jobs, services, healthcare pathways, and social networks, while standardised emergency structures may provide immediate shelter without creating longer-term channels towards safe, durable and dignified housing.

This is where Alternative Building Technologies (ABTs) become relevant. ABTs are often discussed as a technical solution to the housing crisis, but their potential is broader. They raise questions about how housing is produced, who participates in its production, what materials are valued, and whether housing systems can become more responsive to local conditions. Their adoption, however, remains constrained by regulatory systems, institutional practices, financing models, perceptions of quality and the continued dominance of conventional construction.

The KwaLangaLibalele pilot sits within this tension, located in Langa. The project responds to a household affected by repeated flooding and explores what becomes possible when emergency housing is approached through in-situ upgrading, community participation, climate resilience and an alternative building technology. Rather than treating the household as a recipient of a housing product, the project creates an opportunity to work with existing conditions, knowledge and community relationships.

> **INFORMAL SETTLEMENTS HAVE BECOME ENDURING PARTS OF THE URBAN LANDSCAPE**

The project therefore asks a broader question: what would emergency housing look like if it was designed around the realities of people and places rather than a standardised delivery model? This requires looking beyond the technology to the systems, institutions and relationships that determine whether an alternative approach can work.

KwaLangaLibalele is not presented as a solution to South Africa's housing crisis, but as a practical case through which to examine the possibilities and limitations of doing housing differently. It brings together questions of housing delivery, spatial justice, climate resilience, community agency and alternative building technologies, while exposing the institutional barriers between what is technically possible and what housing systems can support.

HOUSING, INFORMAL SETTLEMENTS AND CLIMATE VULNERABILITY

Climate vulnerability in informal settlements cannot be separated from the conditions in which people are housed. Where households live with overcrowding, inadequate infrastructure, insecure tenure and limited access to services, climate events can deepen existing inequalities. Flooding, fire, extreme heat and other hazards do not affect all parts of the city equally; their impacts are shaped by where people live, the quality of infrastructure available to them, and the resources they have to respond and recover. This makes climate resilience a housing and spatial justice issue, not only an environmental one. It requires attention to the everyday conditions that make households vulnerable, as well as the systems that determine where investment, infrastructure and protection are provided. For informal settlements, the question is therefore not simply how to respond when disaster occurs, but how planning, upgrading and housing interventions can reduce vulnerability over time.

PROCESS HOUSE, PHILIPPI



FIGURE 1. PROCESS HOUSE, PHILIPPI, SHOWING THE INCREMENTAL DEVELOPMENT OF THE STRUCTURE. SANDBAGGING.



FIGURE 2. PROCESS HOUSE, PHILIPPI, SHOWING THE INCREMENTAL DEVELOPMENT OF THE STRUCTURE, EXTERNAL ZINC FITTING.

In 2014, UBU entered the Better Living Challenge, run by the Western Cape Government and CCDI (now CDI), with a proposal for an incremental house using sandbag/EcoBeam technology. Following the public vote, Power Construction donated the concrete raft foundation, and construction began in May 2015 in the informal settlement of Sweet Home, Philippi. The project began as two single-storey semi-detached shacks and was developed gradually with community members into a completed two-storey plastered house. Over 2.5 years, the project explored incremental housing, alternative building methods, local knowledge and community participation, while demonstrating how a commonly rejected shack typology could be transformed over time.

WHAT WE SHOULDN'T FORGET: CLOSING THE GAP TOWARDS THE BIGGER PICTURE

HOUSING, SITE AND SERVICES, SECURITY OF TENURE

The bigger picture is that people are waiting for housing. Across Cape Town, thousands of households remain on the municipal housing demand database while living in informal settlements, backyard structures, occupations and other precarious forms of accommodation. Being on the housing list does not provide immediate security or certainty about when a suitable home will become available. This waiting period matters because while households wait for formal housing, they remain exposed to overcrowding, inadequate services, insecure tenure and climate-related risks. Housing delivery takes time and depends on land, funding, infrastructure and implementation, but people cannot wait without somewhere to live. Temporary and emergency housing therefore sits within this wider gap between immediate need and longer-term housing security in response to climate-related issues. What should not be forgotten is that emergency responses must consider the conditions in which people are waiting. Affordability, location, dignity, durability and climate resilience matter because temporary or incremental interventions may become part of people's lives for much longer than anticipated.

AN INSTITUTIONAL OUTLOOK, HOW EMERGENCY HOUSING WORKS: FROM DISASTER TO DELIVERY

Emergency housing forms part of South Africa's human settlements system, providing immediate assistance when fires, floods or severe storms make homes unsafe or uninhabitable. The National Housing Code (2009) positions it as temporary relief while longer-term solutions are pursued. For communities, however, the system can be difficult to navigate: who responds, assesses damage, pays and provides accommodation? These questions matter because emergency housing involves national, provincial and local government, alongside disaster-management structures, with responsibilities spanning different stages of response and recovery.

WHO IS RESPONSIBLE?

NATIONAL LEVEL: At national level, the Department of Human Settlements sets the policy, funding and implementation framework for emergency housing through the National Housing Code, norms and standards.

PROVINCIAL LEVEL: At provincial level, the Western Cape Government coordinates human settlements planning and implementation, working with municipalities and national government on housing and disaster-related interventions.

LOCAL LEVEL: At local level, the City of Cape Town coordinates the immediate response, including identifying affected households, assessing conditions, coordinating services and accommodation. Disaster Risk Management plays a key role during fires, floods and other emergencies.

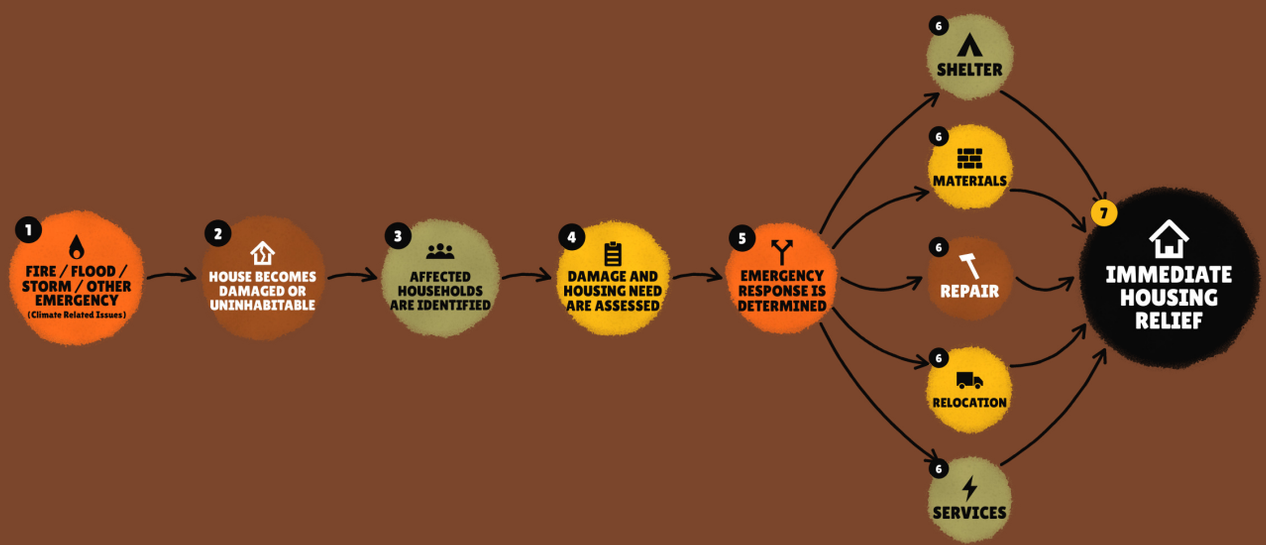
However, this structure changed significantly in April 2023 whereas prior to this change, emergency housing funding was administered through provincial and municipal emergency housing grants. The government identified delays in disaster assessments, applications, funding approvals and land acquisition as major problems. From 1 April 2023, the National Department of Human Settlements took over implementation of the Emergency Housing Programme, while the provincial and municipal emergency housing grants ceased to exist. An Emergency Housing Command Centre was established to coordinate the national disaster response.



FIGURE 3: HENDRICKS, A. (2024) FLOODED INFORMAL SETTLEMENT IN CAPE TOWN PHOTOGRAPH. GROUNDUP, 10 JULY. AVAILABLE AT: GROUNDUP

WHAT TRIGGERS AN EMERGENCY HOUSING RESPONSE?

The National Housing Code identifies emergency situations as those involving exceptional housing needs. This includes situations where settlements or houses have been destroyed by fire, flooding, storms or other disasters, or where existing housing has become uninhabitable. The programme can also support households requiring temporary accommodation during informal settlement upgrading or other circumstances where people cannot safely remain in their existing homes.



Emergency housing can take different forms, including temporary shelter, materials, services, relocation, serviced sites, or support to repair damaged homes. It does not necessarily mean receiving a completed house.

In practice, emergency housing can provide materials such as zinc sheets, nails, wooden poles and other basic building materials, often in set quantities. These materials are already part of the state's emergency response and provide immediate relief to households after a disaster. **BUT HOW LONG ARE THEY EXPECTED TO LAST? ARE THE QUANTITIES AND MATERIALS SUFFICIENT FOR HOUSEHOLDS FACING RECURRING FLOODS, FIRES OR STORMS? IF THE SAME RISKS CONTINUE, CAN A TEMPORARY MATERIAL RESPONSE PROVIDE LASTING PROTECTION?** These questions raise a wider concern about the sustainability of emergency housing standards and whether the materials provided are appropriate for the conditions people experience. Rather than questioning whether emergency assistance is needed, the question is whether the current form of assistance is enough to reduce vulnerability over time, particularly where climate-related disasters are becoming part of a recurring cycle.

On 14 December 2020, the City of Cape Town announced that its additional fire and flood building-kit service would no longer be available for isolated incidents outside declared disasters, following national funding cuts. The City had provided these kits for more than a decade, supplying basic materials to help affected households rebuild. Thereafter, kits would only be issued following a declared disaster, alongside household verification, damage assessment, debris removal and site demarcation.
The City also introduced proof-of-residence certificates for qualifying residents. This provides an important example of emergency housing as a material response, while raising questions about the adequacy and longer-term sustainability of providing basic rebuilding materials where climate-related risks may recur (City of Cape Town, 2020).

WHAT SHOULD THE HOUSEHOLDS RECEIVE?

The immediate objective is straightforward, a household whose home has been destroyed or rendered unsafe should receive some form of safe and habitable shelter. The National Housing Code allows emergency assistance to provide temporary housing relief until more permanent housing can be provided.

The intended outcome can therefore be understood in three stages:

IMMEDIATE OUTCOME: The household is protected from homelessness and immediate exposure.

SHORT-TERM OUTCOME: The household has access to safer accommodation while longer-term options are considered.

LONGER-TERM OUTCOME: The household moves towards more secure, adequate and sustainable housing. It is the gap between these three stages that creates some of the most important questions about emergency housing.

WHEN TEMPORARY BECOMES LONG-TERM

Emergency housing may respond to an immediate crisis, but the vulnerability behind that crisis is rarely temporary. Relocation can also disrupt livelihoods, education, transport and community networks. The key question is therefore what is provided, where, for how long, and whether the response reduces vulnerability or simply extends temporary conditions.

WHY THIS PROCESS MATTERS FOR KWALANGALIBALELE

Understanding this process provides the basis for understanding why the KwaLangaLibalele pilot was undertaken. The project does not attempt to replace the national Emergency Housing Programme. Instead, it engages with a specific gap within the system: what happens when an emergency response is required, but the household remains in the same situation and continues to face the environmental conditions that made the home vulnerable? The pilot therefore asks whether emergency housing can do more than replace damaged shelter. Can it improve the durability of the structure? Can it respond to flooding and other climate risks? Can it remain in situ? Can communities participate in the process? And can an Alternative Building Technology provide evidence of a different way of responding?

THESE QUESTIONS

SHIFT THE FOCUS FROM THE EMERGENCY HOUSING PRODUCT ALONE TO THE WIDER PROCESS AND OUTCOME.

PRODUCT: What is provided or built?

PROCESS: Who decides, funds, designs, builds and participates?

OUTCOME: Does the intervention simply provide immediate relief, or does it also reduce vulnerability and contribute to longer-term housing security?

KwaLangaLibalele sits within this wider gap, providing a small-scale opportunity to test whether emergency housing can move beyond cycles of damage and replacement towards greater durability, climate resilience and community agency. The following section examines how this alternative approach was tested in practice in Langa.

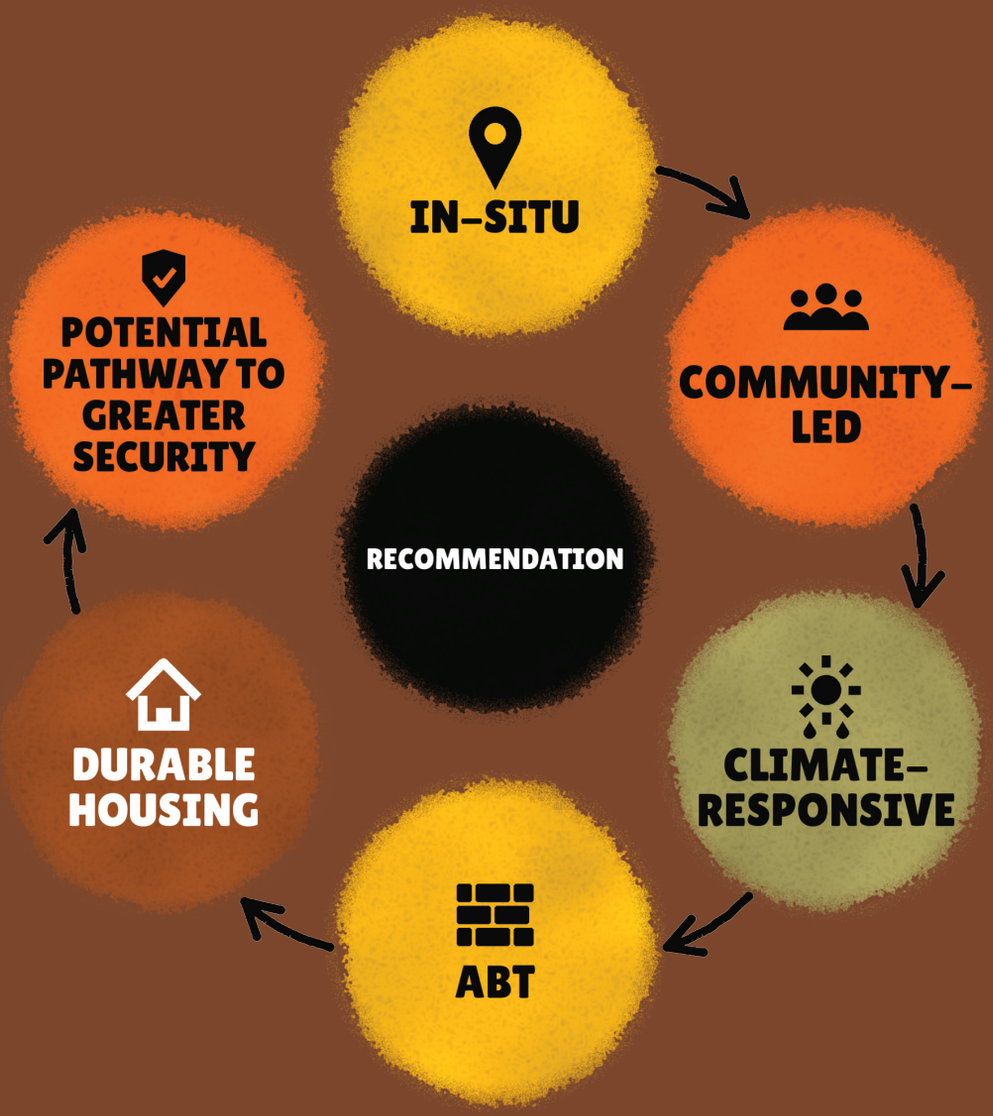


FIGURE 4: CITY OF CAPE TOWN (2016), INTEGRATED HUMAN SETTLEMENTS FIVE-YEAR PLAN 2016/17: EMERGENCY HOUSING KIT, CAPE TOWN



THE CYCLE OF EMERGENCY HOUSING

FROM DISASTER TO DISPLACEMENT

EMERGENCY HOUSING BEGINS WITH A DISRUPTION: a fire, flood, severe weather event or other incident that damages a home and can leave a household displaced. But these events do not happen in isolation. In informal settlements, exposure to flooding, fire and other climate-related risks is shaped by overcrowding, inadequate infrastructure, insecure tenure, poor services and limited access to safe and affordable housing.

THE RESULT CAN BE A CYCLE: existing vulnerability → climate-related event → displacement → emergency response → recovery → renewed vulnerability. Emergency housing provides an important response within this cycle through temporary shelter, emergency materials, basic services, repairs or relocation. However, where the conditions that contributed to the displacement remain, households can continue to face the same risks.

THIS RAISES A QUESTION OF SUSTAINABILITY: does the response only address the immediate impact, or can it also reduce the vulnerability that produced the crisis? KwaLangaLibalele sits within this tension, exploring whether an emergency response can provide immediate relief while also contributing to greater durability, climate resilience and community agency.



The response may stabilise a household after a disaster, but it does not necessarily create longer-term security. Emergency materials or temporary accommodation can address immediate needs while households remain exposed to insecure tenure, inadequate infrastructure and recurring climate-related risks. Relocation can deepen this insecurity when it separates people from employment, transport, schools, care networks and community relationships. The question is therefore not only whether emergency shelter is provided, but whether the response supports people to remain safely connected to their communities and move towards greater housing security. This is where emergency response connects directly to the broader question of security of tenure.

SECURITY OF TENURE AND EMERGENCY HOUSING

Security of tenure is not only about ownership, but the ability to remain safely in a place one calls home. For households in precarious housing, displacement can disrupt livelihoods, social networks and access to the city. The Bromwell Street case shows how relocation can become a question of spatial justice when people are separated from established lives and support networks. The 2024 Constitutional Court judgment on Temporary Emergency Accommodation further recognised the importance of location, individual circumstances and Cape Town's spatial inequality. KwaLangaLibalele asks how emergency housing can meet immediate needs while protecting dignity, location and longer-term housing security.

CONFRONTING THE GAP:
THE KWALANGALIBALELE PILOT PROJECT

It is within this gap between emergency response and longer-term resilience that the KwaLangaLibalele pilot becomes relevant. The project does not seek to replace the emergency housing system, nor does it suggest that one building technology can resolve the housing crisis. Instead, it asks whether there are opportunities to intervene differently within the cycle: to respond to an immediate housing need while also improving the durability, safety and climate resilience of the home itself.

Alternative Building Technology is therefore not an end in itself, but a way of testing a different approach to emergency housing, one that connects incremental upgrading, community participation and longer-term housing security. By building in situ, the pilot keeps the household within its existing community while responding to its environmental vulnerabilities. The value is not only in the house, but in the evidence it creates: can emergency housing move beyond replacing damaged structures towards reducing future vulnerability? The pilot also highlights the practical and institutional barriers to recognising, funding and scaling these approaches.



The cycle therefore provides the problem that this publication seeks to examine: if the same conditions continue to produce the same housing emergencies, can changing the way we build become part of changing the cycle itself?

> **THE VALUE IS NOT ONLY IN THE HOUSE, BUT IN THE EVIDENCE IT CREATES.**



CLIMATE CHANGE,
INFORMAL SETTLEMENTS AND THE NEED FOR COMMUNITY-LED RESILIENCE

CLIMATE RISK AND INFORMAL SETTLEMENTS

The IPCC explains climate risk through the interaction of hazard, exposure and vulnerability, with adaptive capacity shaping how people respond (IPCC, 2022). A heavy rainfall event is a hazard, but its impact depends on where people live, the quality of infrastructure and housing, and the resources available to prepare, respond and recover. The same hazard can therefore affect communities differently. This is particularly important in informal settlements, where infrastructure deficits, insecure housing and limited adaptive capacity can increase exposure and vulnerability (IPCC, 2022). Across African cities, rapid urbanisation and infrastructure pressures further shape these risks. In Cape Town, existing hazards such as flooding, fire, strong winds and heavy rainfall can become more damaging where these conditions already exist. Climate change can intensify these hazards, but inequality determines how severely they are experienced (IPCC, 2022).

FIRE, WIND AND THE VULNERABILITY OF INFORMAL SETTLEMENTS

Fire risk is shaped by climate, settlement density and housing conditions. Hot, dry and windy conditions can accelerate fires, while dense layouts and combustible materials increase their spread (IPCC, 2022; City of Cape Town, 2024). Recent fires in Overcome Heights and Jika Joe displaced households and destroyed homes (IOL, 2026). A fire-resistant pilot in Overcome Heights also showed how building materials can reduce fire spread (People's Post, 2024). Climate conditions therefore become a housing risk where settlement layout, infrastructure and construction increase vulnerability.

RAINFALL, FLOODING AND URBAN INFRASTRUCTURE

Flooding is a recurring reality for many communities in Cape Town. Recent events in 2024, 2025 and 2026 affected informal settlements across Khayelitsha, Philippi, Gugulethu, Nyanga, Delft and other areas, displacing households and damaging homes (GroundUp, 2024; GroundUp, 2025; City of Cape Town, 2026). These events reflect a changing climate, but flooding is also shaped by where people live and the condition of urban infrastructure. Low-lying settlements, limited drainage, inadequate infrastructure and homes vulnerable to prolonged exposure increase the impacts of heavy rainfall. The City recognises that informal settlements are often located in flood-prone areas and that stormwater investment has not kept pace with development (City of Cape Town, 2025).
Flooding is therefore both a climate and housing problem: climate change can intensify rainfall risks, while existing urban inequality determines who is most exposed and how quickly households can recover.

CLIMATE CHANGE, SEA-LEVEL RISE AND SPATIAL INEQUALITY

Cape Town's coastal location makes sea-level rise an important climate risk, increasing exposure to coastal flooding and storm surges (IPCC, 2022). But vulnerability is also shaped by access to safe land, secure housing and resources to respond. Low-income households often have fewer options to relocate or protect their homes.
Sea-level rise therefore raises questions of spatial justice: where people live, the quality of infrastructure available, and whether safe, well-located land is accessible (IPCC, 2022).

EXTREME HEAT, RISING
TEMPERATURES AND INADEQUATE HOUSING AND INFORMAL SETTLEMENTS

FROM INTERNATIONAL CLIMATE POLICY TO LOCAL REALITY

These relationships are reflected across climate policy as SDG 11 calls for inclusive, safe, resilient and sustainable cities, while SDG 13 calls for urgent action on climate change (UN, 2015). South Africa's Just Transition Framework similarly emphasises climate action that is socially inclusive, while the Climate Change Act 22 of 2024 establishes a framework for a low-carbon and climate-resilient society (PCC, 2022; RSA, 2024). South Africa's policy framework builds on the National Climate Change Response White Paper (DoEA, 2011) and its updated Nationally Determined Contribution, which commits to climate mitigation, adaptation and resilience (RSA, 2021). At provincial level, the Western Cape Climate Change Response Strategy: Vision 2050 aims for a climate-resilient province by 2040 and net-zero emissions by 2050, while recognising that vulnerability differs across places and communities (WCG, 2026; WCG, 2014).

At the municipal level, these commitments meet the realities of housing, infrastructure and informal settlements. Cape Town's IDP, Resilience Strategy, Climate Change Strategy and Climate Change Action Plan position climate adaptation and resilience as cross-cutting responsibilities, including responses to flooding, fire, heat and spatial inequality (CoCT, 2019; 2021; 2022). The City's Heat Action Plan further addresses extreme heat (CoCT, 2024). The challenge is translating these commitments into practical housing and settlement-level responses for vulnerable households.

THE GAP BETWEEN CLIMATE POLICY AND SETTLEMENT-LEVEL RESILIENCE

Climate policy does not automatically create climate resilience. A plan can identify flooding as a risk, but resilience depends on whether drainage works. A plan can identify fire risk, but resilience also depends on settlement layout, access, building materials and emergency response. Vulnerability remains where households lack safer land, adequate housing and basic infrastructure. This creates an important gap between policy and everyday reality. Climate change is placing growing pressure on planning systems, while informal settlements continue to face land, housing and infrastructure constraints. The challenge is therefore to bring climate adaptation down to the household level: where homes are located, what they are built with, how water is managed, how structures are protected and how communities participate in planning. This does not mean communities must solve these problems themselves. It means recognising them as partners in understanding and responding to risk (CoCT, 2019; CoCT, 2021; IPCC, 2022).

COMMUNITIES AS AGENTS OF CLIMATE RESILIENCE

Informal settlements are often described through vulnerability to fire, flooding, poor services and insecure tenure. These risks are real, but communities are not passive. Residents constantly adapt by raising floors, redirecting water, repairing roofs, strengthening structures and sharing resources. They develop their own knowledge of where water collects, where fires spread and which materials work. This knowledge is a form of resilience. Recognising it does not shift responsibility from government, but creates an opportunity to build on what communities already know (RSA, 1996; RSA, 2002). This is where KwaLangaLibalele is useful: identifying community-defined resilience and exploring how it can inform safer, more durable housing.

ALTERNATIVE BUILDING TECHNOLOGIES AS A PRACTICAL RESPONSE

Alternative building technologies (ABTs) are different materials, systems or construction methods that can provide other ways of building and improving homes. They are usually introduced through government, organisations, professionals, contractors or community-led projects, and should respond to local needs and conditions. For communities, ABTs can offer options for stronger, safer and more adaptable homes while creating opportunities for local skills and participation. Their use raises an important question: how can these approaches contribute to climate resilience, affordability and better housing outcomes alongside conventional housing systems (WCG, 2014).

WHY COMMUNITY-LED CLIMATE ACTION MATTERS

Community participation matters because it can change how problems and solutions are understood. When residents identify risks, discuss materials and assess what works, interventions can respond more closely to everyday conditions. Climate adaptation then becomes less abstract: it is about the roof, wall, drain, road and safety of the household. The value is not only participation, but the knowledge and agency communities bring to shaping solutions. Climate action can therefore begin at a small scale by listening to a household, understanding its risks and testing approaches that can reduce vulnerability.

FROM CLIMATE RISK TO CLIMATE-RESILIENT HOUSING

Climate change cannot be separated from housing. Across Africa, fire, flooding, extreme rainfall, wind and sea-level rise become more damaging where households face inadequate housing, insecure tenure and limited infrastructure. RSA has developed a policy framework recognising these links, but implementation remains a challenge (DoEA, 2011; RSA, 2021; RSA, 2024). KwaLangaLibalele shows how community knowledge, alternative building technologies and institutional processes can contribute to safer housing and greater climate resilience, while advancing housing security, spatial justice and community agency.



EXISTING WORK AND PRECEDENTS

The KwaLangaLibalele project did not emerge in isolation. Across South Africa, communities, civil society organisations, researchers, government institutions and private actors have experimented with different responses to the housing crisis. These range from legal and policy advocacy to community-led upgrading, self-build housing, alternative building technologies and new approaches to emergency accommodation.

This existing work shows that the challenges faced by KwaLangaLibalele are not new. It also helps identify what has been tested, what has worked, what has not, and where barriers to wider adoption remain. Organisations such as the Socio-Economic Rights Institute (SERI), Isandla Institute and Development Action Group (DAG) demonstrate that housing insecurity is not simply a shortage of houses. It also concerns land, tenure, location, services, livelihoods, community agency and residents' ability to improve their homes. Work on Alternative Building Technologies (ABTs), including sandbag construction, further shows that technical alternatives exist. The challenge is moving these from isolated projects into housing delivery systems (SERI, 2019a; Isandla Institute, 2025a; Isandla Institute and DAG, 2025; Adetooto, Windapo and Pomponi, 2024).

CIVIL SOCIETY ORGANISATIONS: BUILDING EVIDENCE, AGENCY AND ALTERNATIVES

Civil society organisations challenge the assumption that informal settlements simply await formal housing. SERI's research shows that residents already have systems for securing land, housing, services, livelihoods and collective organisation. Research on Ratanang demonstrates how these systems reflect community agency and local knowledge. This suggests that housing interventions should not impose external solutions, but recognise and strengthen how residents already build, maintain and improve their homes (Royston et al., 2019; SERI, 2019a).

SERI: RELOCATING TO ALTERNATIVE ACCOMMODATION



FIGURE 6: RELOCATING TO ALTERNATIVE ACCOMMODATION

SERI's work on relocation highlights how poorly planned relocation can disrupt livelihoods, community relationships and security. Its guidelines call for participatory processes that respect constitutional rights (Clark and Royston, 2017). This is particularly relevant to emergency housing: a disaster may destroy a structure without destroying the social and economic relationships that make a location important. Relocation can therefore create new vulnerabilities by separating households from jobs, schools, family networks and established community structures (Clark and Royston, 2017).

SERI: MARIE LOUISE INFORMAL SETTLEMENT

SERI's work on the Marie Louise informal settlement provides another useful example. The settlement was located in an environmentally hazardous area, including a flood-prone site, and residents faced eviction. Rather than treating the situation only as an eviction matter, the case resulted in the community being recognised as being in an emergency housing situation, with the City ordered to provide basic services and improved shelter. This illustrates an important point for this research: emergency housing is not limited to what happens after a disaster. Hazardous living conditions themselves can require an emergency response (SERI, 2011).



SPCDF
SLOVO PARK COMMUNITY DEVELOPMENT FORUM

SERI
socio-economic rights institute of south africa

PRESS STATEMENT
7 APRIL 2026

10 YEARS AFTER *MELANI*: SLOVO PARK INFORMAL SETTLEMENT STILL WAITING FOR JUSTICE

Sunday, 5 April 2026 marked ten years since the Johannesburg High Court handed down a landmark judgment in *Melani and the Further Residents of Slovo Park Informal Settlement v City of Johannesburg and Others* affirming that the Upgrading of Informal Settlements Programme (UISP) is binding on the City of Johannesburg and ordered it to apply for funding under the UISP to upgrade the Slovo Park informal settlement *in situ*. The UISP is a national housing programme implemented by municipalities to facilitate informal settlement upgrading through the introduction of permanent basic services infrastructure, supporting community empowerment, and ensuring security of tenure.

A decade later, the promise of the *Melani* judgment remains largely unfulfilled. Slovo Park's experience of delayed upgrading is not unique in the informal settlement context, and few informal settlements have a court order compelling upgrading.

Slovo Park, an informal settlement in the south of Johannesburg, was established in 1991 and is home to more than 10,000 people across approximately 3,700 households. Since 1995, residents have been promised formal housing by officials at all levels of government, including then Gauteng Premier Mbhazima Shilowa, former MEC for Housing Nomvula Mokonyane, and former Johannesburg Mayor Amos Masondo. Budgets were allocated, plans were drafted, and environmental impact assessments were undertaken to declare Slovo Park a township—yet none of these efforts resulted in meaningful change.

After two decades of broken promises, the community turned to the courts in 2014. Led by the Slovo Park Community Development Forum (SPCDF) and represented by the Socio-Economic Rights Institute of South Africa (SERI), residents challenged the City's failure to apply for funding as required under the National Housing Code.

During the litigation, the City proposed evicting residents and relocating them to a yet-to-be-constructed housing development known as "Unaville". Finding in favour of the residents, the Court found that the City's decision "to completely ignore" the UISP in favour of its own plan to evict and relocate the community was in breach of section 26(2) of the Constitution and the Housing Act 107 of 1997. The Court emphasised that the UISP applies to all informal settlements and that relocation should be a measure of last resort.

In 2016, the SPCDF initiated the establishment of a multi-stakeholder task team to engage the City and the provincial government on implementation. Through this platform, the community has secured some progress, including *in situ* electrification in 2018 and the installation of high-mast lighting between 2023 and 2026 to improve safety and reduce crime. While these interventions have brought some relief, they represent only a fraction of the comprehensive upgrade envisioned by the UISP.

For decades, residents have continued to live without adequate access to essential services such as water, sanitation, and proper roads. Frustration over the slow pace of progress came to a head in 2023—pushing the community to return to protest action, during which 16-year-old Karabo Chaka was shot and killed by police. Despite these challenges, Slovo Park remains resolute in its pursuit of dignity, justice, and development—especially for its most vulnerable residents, including people living with disabilities, women, the elderly, and the youth.

To mark the 10th anniversary of the *Melani* judgment, the SPCDF and partners are dedicating the month of April to reflect on this milestone and Slovo Park's ongoing struggle. A key initiative is

1

FIGURE 7: JOINT PRESS STATEMENT, 10 YEARS AFTER.

LEAVING A LEGACY: THE BACKYARD MATTERS PROJECT (2019–2025)

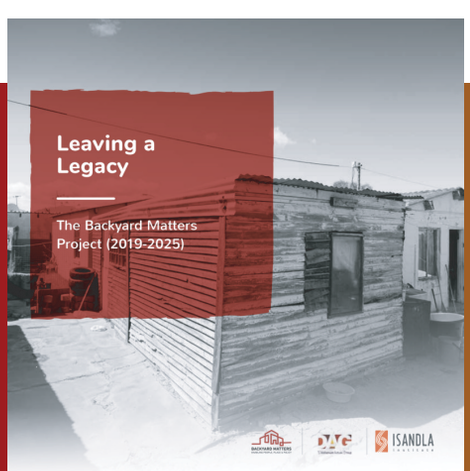


FIGURE 8: BACKYARD MATTERS PROJECT.

The work of Isandla Institute and DAG adds another dimension: the importance of recognising housing that people build themselves. Their Backyard Matters partnership, established in 2019, has focused on strengthening the backyard rental sector and improving the availability of affordable, dignified and safe housing. The project has used enumeration, research, community engagement, dialogue, learning and advocacy to better understand the sector and influence policy and practice. This work is important because backyard housing is often treated as a temporary or secondary form of accommodation. In practice, however, it forms a significant part of South Africa's affordable housing system. Rather than simply trying to eliminate backyard housing, DAG and Isandla have explored how the sector can be better supported through services, tenure security, finance, technical assistance and recognition of the right to build (Isandla Institute and DAG, 2025).

ENABLING THE RIGHT TO BUILD THROUGH HOUSING SUPPORT CENTRES



FIGURE 9: ENABLING THE RIGHT TO BUILD THROUGH HOUSING SUPPORT CENTRES

This thinking is carried further through Isandla's work on the Right to Build and Housing Support Centres. The argument is straightforward: many households are willing and able to build incrementally, but they often lack access to technical advice, finance and assistance to navigate municipal requirements. A Housing Support Centre could therefore help households improve their homes while connecting them to municipal systems and professional support. A 2024 pilot between the City of Cape Town and the Backyard Matters project tested this approach and generated lessons for how the model could be replicated and institutionalised (Isandla Institute, 2025b). This is directly relevant to KwaLangaLibalele as the project similarly asks what becomes possible when residents are not treated only as beneficiaries, but as participants in the construction and improvement of their homes. It also raises a related question: what institutional support is needed if community-led and alternative construction approaches are to move beyond one-off projects?

ISANDLA INSTITUTE AND THE JUST URBAN TRANSITION

Isandla Institute's work on a Just Urban Transition develops this argument by bringing together communities, government, civil society and climate practitioners to consider climate-responsive and socially just informal settlement upgrading. It highlights technical, financial and governance barriers despite existing policy commitments (Isandla Institute, 2024). Its 2025 work further positions informal settlements as sites of investment, innovation and resilience, emphasising community agency and stronger institutions. This shifts the focus from repairing damage towards transforming existing housing systems (Isandla Institute, 2025a).



FIGURE 10: ISANDLA INSTITUTE'S JUST URBAN TRANSITION FOR INFORMAL SETTLEMENT UPGRADING.

SOURCE: ISANDLA INSTITUTE (2024).

Alternative Building Technologies (ABTs) are not new in South Africa. Systems including alternative walling, earth construction, sandbag technologies and prefabricated construction have been tested for decades. Their importance is that they challenge the assumption that conventional brick-and-mortar is the only pathway to safe housing. The question is why existing alternatives remain marginal in mainstream housing delivery (Adetooto, Windapo and Pomponi, 2024). Research identifies barriers including limited awareness, government support, technical information, standardisation, professional expertise and finance, alongside concerns about durability. Social acceptance also matters, as conventional materials are often viewed as superior, while sandbag construction can be associated with low quality or temporary housing (Adetooto and Windapo, 2022; Adetooto, Windapo and Pomponi, 2024). Pilots can test ABTs in practice, but adoption also requires institutional support, technical standards, financing and acceptance.



The use of alternative building technologies as a sustainable affordable housing solution: perspectives from South Africa

Alternative building technologies

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Abstract

Purpose – This study aims to evaluate the perception of the local experts and end users on the drivers, barriers and strategies to the use of alternative building technologies (ABTs), with a focus on sandbag building technologies (SBTs) in the provision of sustainable housing in South Africa towards improving the public's understanding of SBTs.

Design/methodology/approach – This research adopted a qualitative approach that used focus group meetings as the primary data collection method for this study. This study's focus group participants comprised ABT experts and end users of ABT houses in South Africa who were selected using a convenient sampling technique. The data were recorded, transcribed verbatim and analysed using NVivo 11 software.

Findings – This study found that the perceived drivers to using ABTs such as SBT comprise sustainability, affordability, job creation potentials, fire-resistant and earthquake resistance. This study revealed strategies for the SBTs, including awareness, building sandbag prototypes across cities and training.

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Declaration of competing interest: The authors of the manuscript, whose names are listed above, certify that the manuscript titled "The use of alternative building technologies as a sustainable affordable housing solution: perspectives from South Africa" has not been published, nor is it considered elsewhere. However, a part of the study's results was presented at the Associated Schools of Construction (ASC) Conference in the USA.

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FIGURE 11: ALTERNATIVE BUILDING TECHNOLOGIES AS A SUSTAINABLE AFFORDABLE HOUSING SOLUTION.

THE DESIGN INDABA 10 X 10 INITIATIVE



FIGURE 12: DESIGN INDABA 10 × 10 LOW-COST HOUSING PROJECT, FREEDOM PARK, MITCHELLS PLAIN.

The Design Indaba 10 x 10 initiative brought together South African architects and international designers to develop housing that could fit within the government subsidy and meet building standards. Luyanda Mphahlwa of MMA Architects designed ten houses in Freedom Park for families previously living in nearby shacks. The project demonstrated that alternative materials could produce housing that was not only affordable, but also attractive, dignified and compliant with formal housing requirements (Design Indaba, 2008; Isandla Institute, 2024).

UBU AND SANDBAG / ECOBEAM CONSTRUCTION

The Process House in Philippi, introduced earlier in this publication and built by Ubuhle Bakha Ubuhle (UBU), focused not only on building a house, but on developing the construction process with the community. Its value therefore extended beyond the structure itself, generating knowledge about skills, costs, regulations, construction and what is required to repeat the approach (Isandla Institute, 2024).



FIGURE 13: PROCESS HOUSE, PHILIPPI, CAPE TOWN. SOURCE: UBUHLE BAKHA UBUHLE (UBU), N.D.

LEARNING FROM EXISTING PRECEDENTS

The UBU example provides a direct precedent for KwaLangaLibalele, showing that sandbag and EcoBeam construction has been tested in Cape Town and that local knowledge exists. It also demonstrates how partnerships between communities, designers, government, civil society and private actors can enable experimentation. Yet these projects remain exceptional, and successful pilots have not translated into widespread adoption in emergency or subsidised housing. This raises the central question of the study: what happens between a successful pilot and institutional adoption? (Isandla Institute, 2024; Adetooto and Windapo, 2022; Adetooto, Windapo and Pomponi, 2024).





FROM LEFT TO RIGHT: MAMA NOMUTE (BENEFICIARY) WARD COMMITTEE



ESTABLISHING PSC (PROJECT STEERING COMMITTEE)



SITE ASSESSMENT: REVIEW OF THE EXISTING STRUCTURE FOLLOWING CONSTRUCTION

APRIL 2025

STARTING WITH THE COMMUNITY: ESTABLISHING RELATIONSHIPS BEFORE INTERVENTION

The KwaLangaLibalele process began with community engagement, not construction. The project team engaged ward committees and local structures in Langa to introduce the project, explain the household's selection and hear local concerns. This established a principle that continued throughout: the intervention would be developed with the community, not around it. Local knowledge of the beneficiary, infrastructure, flooding and the area shaped decisions in ways that plans and technical drawings could not. These relationships also became important in coordinating communication between the community, Municipality and project team as implementation progressed.

JULY 2025

MEETING THE BENEFICIARY: UNDERSTANDING THE PERSON BEHIND THE PROJECT

Following community engagement, the project team met with Mama Nomute to understand her home, needs and experience directly. Repeated flooding had affected her safety, security and everyday life. Site visits and conversations helped identify how the home was used, what needed to change and what should be retained. The intervention therefore focused not simply on applying an ABT, but on improving the resilience and dignity of an existing home within its spatial, financial and institutional constraints.

JULY 2025

SECURITY AND SAFETY: ENGAGING AROUND THE EXISTING STRUCTURE

Working on an occupied home required careful planning to protect Mama Nomute during construction. Dismantling, storing and reusing materials could affect her immediate safety and security. The team therefore had to manage disruption, materials and temporary living conditions throughout the process. This showed that technical success alone is not enough; construction must also protect the household's security and dignity. Communication and planning were therefore as important as the building work.

MOVING FROM COMMUNITY SUPPORT TO MUNICIPAL ENGAGEMENT

Once community and household relationships were established, the project moved into municipal engagement. The intervention was understood as a retrofit of an existing structure, involving careful dismantling, reuse of materials and the addition of sandbags as a protective layer. However, municipal processes did not always recognise the intervention in the same way. Questions arose around whether permission was required, which department was responsible and what approval was needed. This became an early implementation barrier, showing the gap between a clear community need and unclear institutional processes.

COMMUNICATION WITH THE MUNICIPALITY: SEEKING CLARITY AND PERMISSION

Following engagement with the ward councillor, the team formally engaged municipal officials to clarify approval requirements and ensure the intervention aligned with informal settlement processes. This highlighted an important lesson: communication is part of implementation. Emails, meetings and requests for confirmation helped explain the beneficiary's circumstances, the existing structure and the proposed retrofit, while creating a transparent record and reducing the risk of conflict with municipal requirements.



CO-DESIGN WITH WARD COMMITTEE, UBU AND MAMA



CO-DESIGN WITH WARD COMMITTEE, UBU AND MAMA



INSTITUTIONAL PROCESS



MAJOR SETBACK: BURST PIPE

SEP 2025

THE DESIGN PROCESS: DESIGNING WITH THE COMMUNITY

While municipal engagement continued, the design developed through site visits and conversations with Mama Nomute and the community. The team considered the existing structure, flooding, spatial needs, materials and living conditions. Returning to the site allowed ideas to be discussed, tested and revised. The design therefore evolved through feedback and negotiation rather than being imposed as a fixed technical solution.

INTRODUCING SANDBAGS: FROM UNFAMILIAR MATERIAL TO SHARED KNOWLEDGE

Introducing sandbag construction required explanation and engagement. Because sandbags are often associated with temporary flood protection rather than housing, the team explained the material, its purpose and how it would work with the existing timber frame. This helped build understanding and trust. As community members saw the materials, asked questions and followed the construction process, the technology became shared knowledge rather than an unfamiliar solution introduced from outside.

OCT 2025

THE MAJOR BARRIER: DISMANTLING THE STRUCTURE BEFORE CLEAR APPROVAL

A major barrier emerged when the existing structure was dismantled for reconstruction. Although the intention was to reuse materials and improve the structure, uncertainty remained around how and under what approval it could be rebuilt. The team therefore had to re-engage community representatives, the ward councillor and municipal officials. This created delays and showed how unclear institutional processes can create risks for community-led housing projects.

NAVIGATING ENFORCEMENT AND INSTITUTIONAL UNCERTAINTY

Municipal enforcement became important as uncertainty remained around how the rebuilding would be interpreted and approved. The team had to clarify responsibilities, required documentation and the relevant municipal process to avoid enforcement action against the beneficiary. The challenge was not necessarily unwillingness to assist, but fragmented institutional responsibilities. The project team therefore acted as an intermediary, translating the beneficiary's needs into institutional processes and municipal requirements back to the community. This showed that community-led housing requires institutional navigation alongside technical capacity.

OCT 2025

THE BURST PIPE: A NEW CONSTRAINT AFTER APPROVAL

Just as the project moved beyond approval uncertainty, a burst municipal water pipe and a bus access route created new site constraints. The team had to clarify the infrastructure, land and servitude requirements with relevant municipal departments. This showed that approval does not mean every site constraint has been resolved. The project therefore required continued follow-up and adaptation to avoid creating new risks for the beneficiary or the structure. The delays demonstrated that implementation depends on ongoing institutional coordination, not approval alone.



IMPLEMENTATION STARTS



SANDBAGGING



UMAMA

RETURNING TO THE COMMUNITY: ADJUSTING THE PLAN TOGETHER

The burst pipe and servitude concerns required the team to return to Mama Nomute and the community. Construction could not proceed until the water infrastructure was addressed and the site reviewed. The team explained the delays and next steps to maintain trust and avoid creating another broken promise. Municipal departments were engaged to assess the servitude and infrastructure requirements. The experience reinforced that implementation requires continued communication, coordination and adaptation as new site conditions emerge.

NOV 2025

FROM APPROVAL TO CONSTRUCTION: TURNING THE PROCESS INTO ACTION

Once the institutional and site constraints were addressed, construction could begin. Months of engagement, design and preparation translated into physical work. The process was participatory, involving staff, community members and project partners. Approximately 4,000 EcoBeam sandbags were filled collectively, turning the technology from an idea into a shared, practical activity. The process also created organisational learning for Ndifuna Ukwazi, connecting climate justice, housing and community-led upgrading to action on the ground.

2025

BUILDING THE SANDBAG WALLS: TECHNOLOGY AS COLLECTIVE PRACTICE

The sandbag walls brought together the project's technical and participatory approach. The sandbags worked with the existing timber structure and responded to the site's flooding conditions. As a pilot, the project did not present the technology as a finished solution. Instead, construction generated practical knowledge about materials, labour, sequencing, participation and the institutional conditions needed to implement ABTs. As the walls took shape, climate resilience moved from an abstract idea to a visible and practical intervention.

COMMUNICATION AS INFRASTRUCTURE

Communication functioned almost like infrastructure throughout the project. Progress depended on communication between the community, Mama Nomute, project partners, the councillor and municipal officials. This included building trust, clarifying needs, navigating approvals, managing safety and responding to site constraints. The process was not linear; it involved follow-ups, delays, unanswered questions and changes in direction. Communication was therefore not simply administrative. It was part of the infrastructure of implementation, enabling coordination and allowing the physical intervention to move forward.







THE BARRIERS WERE PART OF THE INTERVENTION

The barriers encountered during KwaLangaLibalele were not separate from the intervention; they were part of what the pilot needed to understand. The project faced relational, regulatory, procedural, spatial and temporal barriers, including finding the right actors, clarifying approvals, navigating municipal responsibilities, identifying the bus path and managing delays. These barriers extended implementation and created uncertainty, but they also generated knowledge. They showed that climate-resilient housing depends not only on affordable technology, but on the institutional conditions in which it is implemented.

WHAT THE PROCESS REVEALED ABOUT COMMUNITY-LED IMPLEMENTATION

KwaLangaLibalele shows that community-led implementation goes beyond participation in construction. It began with identifying the beneficiary, understanding her needs, engaging community structures, shaping the design and maintaining relationships through uncertainty. The process brought technical and local knowledge together. The project team contributed knowledge of ABTs, climate resilience and housing systems, while residents brought knowledge of the site, flooding and everyday needs. The process also showed that trust is built through consistency. Returning after delays, explaining challenges and continuing to engage helped sustain the relationship with Mama Nomute and the community.

FROM A SINGLE HOUSE TO A PROOF OF CONCEPT

Although KwaLangaLibalele centred on one household, it tested more than the construction of a house. It explored sandbag construction, participatory design, community education and coordination between residents, civil society and municipal institutions. The value of the pilot therefore lies not only in the structure, but in the process and lessons generated through implementation.

THE HEART OF THE PILOT: RELATIONSHIPS, NEGOTIATION AND ADAPTATION

KwaLangaLibalele was ultimately a relationship-building project expressed through construction. Its progress depended on relationships between Mama Nomute, the community, project partners and municipal actors. Delays and uncertainty required continued negotiation and adaptation. The pilot therefore tested not only whether sandbags could build a safer house, but what it takes to introduce an ABT within a real community, institutional and climate context.

WHAT THE PROCESS MEANS FOR FUTURE IMPLEMENTATION

ENGAGE COMMUNITIES EARLY.

Understand local relationships, structures and household circumstances before technical planning begins.

KEEP THE BENEFICIARY CENTRAL.

Participation should continue throughout implementation as circumstances change.

ENGAGE MUNICIPALITIES EARLY.

Identify the relevant departments, responsibilities and approval requirements before work begins.

INVESTIGATE THE WIDER SITE.

Check access routes, servitudes, infrastructure and other municipal constraints before dismantling or rebuilding.

PLAN FOR COMMUNICATION.

Build community engagement, municipal coordination, approvals, follow-ups and decision points into the project timeline.

FROM RELATIONSHIP-BUILDING TO IMPLEMENTATION:

KwaLangaLibalele emerged from Ndifuna Ukwazi's attempt to understand where its existing work on security of tenure connects with climate change. The project did not begin with the decision to build a house. It began with research into climate change, informal settlements, human settlements policy and the institutions responsible for responding to climate-related risks. As the research developed, NU identified an opportunity to move from understanding the issue to learning through practice. Funding made it possible to test this through a small-scale housing intervention. Through NU's existing community networks, Mama Nomute was identified as a household experiencing repeated flooding and poor housing conditions. UBU was then brought into the process as a technical partner with experience in alternative building technologies and sandbag/EcoBeam construction. The project therefore developed through several overlapping relationships: NU and the community, Mama Nomute and the project team, community structures and the Municipality, and NU and UBU. Each relationship shaped what could be done and how it could be done.

The process that followed was iterative. It moved from community engagement and site assessment to material demonstrations, co-design, municipal communication and eventually construction. Along the way, unclear institutional processes, permission requirements, site constraints, infrastructure and enforcement concerns created delays and required the team to repeatedly return to the community and municipal structures. KwaLangaLibalele therefore provides a record not only of constructing an alternative building, but of what it takes to move an idea from research into practice. The process shows that implementing an Alternative Building Technology depends on more than the technology itself. It requires relationships, community participation, technical knowledge, communication, institutional navigation and the ability to adapt as new constraints emerge.



FROM PROCESS TO PRACTICE

KwaLangaLibalele is not simply a story about sandbags, but about how a housing intervention is negotiated into existence. It began with community engagement and moved through beneficiary discussions, site visits, co-design, education around an unfamiliar material, and engagement with municipal and enforcement structures. Each challenge including dismantling the existing structure, the bus path and other site constraints required further communication, investigation and adaptation. Through continued engagement, the project eventually moved into construction. The process shows that implementation is rarely linear. The project moved forward, paused, revisited earlier questions and adapted. This was not wasted time; it was part of making the intervention possible. The completed house is therefore the visible result of an invisible process of negotiation, where each design decision, material choice, adjustment and delay reflects the relationships and institutional conditions that shaped the project.

THE IMPLEMENTATION JOURNEY AS A LESSON IN CLIMATE JUSTICE

KwaLangaLibalele shows that climate-resilient housing is also about housing justice, spatial justice and institutional responsiveness. The beneficiary needed a safer home in response to risks she was already experiencing. The project therefore had to combine community knowledge, technical innovation and institutional navigation. The pilot shows that an ABT is only part of the solution. Implementation also depends on participation, clear communication, municipal coordination, site assessment and the ability to adapt when conditions change. Its value is therefore not only the house built, but the knowledge generated about how it can be built. KwaLangaLibalele demonstrates a practical implementation logic: start with people, understand the place, build relationships, design together, communicate continuously, navigate institutions, adapt and then build.



DID YOU KNOW?

CLIMATE CHANGE, MEDIATED BY POOR HOUSING CONDITIONS, AFFECTS PEOPLE'S HEALTH.

Housing is not only a question of spatial justice, but of health justice, and health inequalities are likely going to get worse as Cape Town faces more intense rainfall events and more frequent heatwaves.

In neighbourhoods such as Langa, where most people live in poorly serviced flats, former hostels, and zinc-shacks, climate stressors are felt in people's homes and bodies. For those whose houses flood every winter, made worse by broken drains and uncollected rubbish, the rains can mean water-borne diseases, chest infections and skin rashes. People also describe how water ponding and damp homes worsen their symptoms of non-communicable diseases like arthritis and asthma. Hypertension and mental health issues, such as anxiety and depression, can spike during the rainy season because of the stress of floods as well as the added risk of electrical fires.

In an interview with a resident of Joe Slovo informal settlement in Langa, Nozi, whose shack leaks when it rains, described how her son's health is affected by the weather: "Because he's asthmatic and it's really very cold here,
I was so stressed. Always getting sick, asthma, always going to the hospital to get oxygen. My mother said he must come to her in the Eastern Cape, because at least there it's better, wintertime. Here it's very, very bad, I tell you.
I had to send him." The standing water made it harder to cope with his asthma, and Nozi's son was displaced long-term from his home in Langa.

Another resident describes the cyclical displacement she is forced into each winter: "Arthritis affects you every day; when it gets worse I have to go stay with my child in Driftsands, because I can't stay in a house that is cold for long. My bones stiffen, and I get cramps, then I have to stay in a dry house that is not wet and cold in winter".
In other areas of the city, in Taiwan, in Site-C, Khayelitsha for example, flooding is dealt with by opening community halls or churches as emergency shelter. While these are important temporary interventions, some residents are wary of the health risks of being displaced to crowded communal shelters and experiencing it as a site for spreading water- and air-borne infections.

It is clear to residents of informal settlements how the impact of climate hazards on health increases displacement and how displacement resulting from climate hazards, even embedded in the official emergency response, increases health risk.

Beyond the health impacts of episodic climate events such as flooding, there is increasing research around the impact of rising temperatures, particularly in informal settlements, on people's bodies. Many cities around the world are developing heat action plans, with Cape Town the first city in South Africa to have such a plan. However, the City's guidance is not geared toward people living in informal settlements, where there are minimal cool, shady spaces, and where staying indoors is not an option as zinc structures retain heat. People describe this heat in relation to high blood pressure, asthma, diabetes, rashes, swelling, dizziness, vomiting, headaches, fatigue and difficulty sleeping, for example: "It's the sun that causes my blood pressure to shoot up and make it worse." or, "When the day is going to be hot… I feel it within my chest."

The question of heat is relevant as we start to imagine emergency housing solutions that are designed to reduce people's long-term vulnerability to climate change and tackle the cycle of seasonal displacement. It is especially relevant this year, 2026, as we enter the El Niño period and experts are warning of a particularly dry and hot summer. Any emergency housing options that are truly geared toward climate resilience should be sensitive to how housing interacts with other climatic factors like extreme heat.

All quotes and anecdotes described above were gathered through the if Cities Could Speak research project https://ifcitiescouldspeak.com/about/, which entailed two years of fieldwork, in-depth interviews and community mapping in Langa and Taiwan in Site-C Khayelitsha. All personal quotes and details have been anonymised.

KWALANGALIBALELE:
FROM RELATIONSHIP TO COMPLETED HOUSE

1. LISTEN & UNDERSTAND ⟶ Engage community structures and understand Mama Nomute's needs and flooding experience.

2. BUILD RELATIONSHIPS ⟶ Establish trust with the beneficiary, community, councillor, technical partners and municipal officials.

3. ASSESS & DESIGN ⟶ Visit the site, assess the existing structure, identify constraints and develop the design together.

4. NAVIGATE APPROVALS ⟶ Engage municipal departments, clarify permissions, enforcement requirements, infrastructure and site constraints.

5. ADAPT & PREPARE ⟶ Respond to the bus path, water infrastructure, servitude and other unexpected conditions.

6. BUILD TOGETHER ⟶ Prepare the site, fill sandbags, construct the foundation and walls, connect the timber frame and complete the roof, windows and doors.

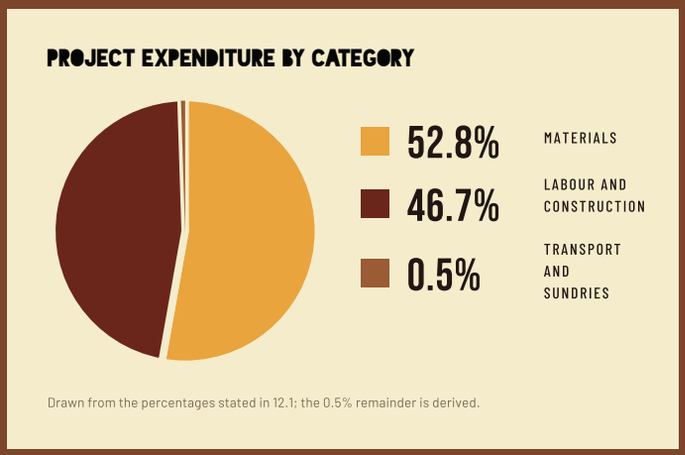
7. FINISH & LEARN ⟶ Address snags, complete the house, hand over to Mama Nomute and document lessons for future implementation.

FINANCIAL COMPARISON AND COST LEARNING

The financial picture is therefore relatively clear: approximately 53% of expenditure went towards materials, while approximately 47% went towards labour and construction. This ratio is significant because the pilot was not simply testing a new material. It was testing a different way of constructing and implementing housing.

11.1 FINANCIAL REFLECTIONS: WHAT DOES IT TAKE TO SCALE THE APPROACH?

Transport and sundries made up the remainder of expenditure. This shows that ABT costs extend beyond materials: labour, site conditions, access, transport and working within an existing settlement all shape the resources required to deliver the intervention.



Labour costs are important for replication. The pilot involved a four-person technical team and a workshop with more than 20 participants, while some organisational and community contributions were not captured financially. Costs may reduce as teams gain experience, but scaling will require supervision, quality control, procurement, storage, transport and technical oversight. Sand is accessible, and the approach can use local labour and materials while upgrading existing structures. However, sandbag construction requires space for filling, storage and movement, which may be difficult in dense settlements. Technical requirements also vary by site. The key lesson is that costs depend not only on materials, but on access, space, existing structures, infrastructure and delays.

WHAT WOULD SCALING LOOK LIKE?

The question is not simply whether another house can be built, but whether the approach becomes more feasible when repeated. At scale, costs could reduce through bulk purchasing, local supply chains, trained teams and standardised designs. Community participation could also build local skills for construction and maintenance. Scaling, however, requires institutional support. The Municipality would need clarity on where the technology is appropriate, applicable standards, technical approval, procurement and how ABTs can fit within existing emergency housing programmes.

THE FINANCIAL QUESTION IS THEREFORE ALSO AN INSTITUTIONAL QUESTION.

COMPARING UPFRONT COST WITH LONG-TERM RESPONSE

Emergency shelter prioritises speed and immediate protection, often using lower-cost materials such as zinc sheeting, poles and nails. KwaLangaLibalele required more time, labour and technical coordination and should not be presented as a cheaper replacement. Its potential value lies in whether greater upfront investment can reduce repeated repairs or replacement where households face recurring flooding, fire or other climate risks. The relevant comparison is therefore not the cost of one structure, but the long-term cost of repeated emergency responses. This requires further testing across different sites and households; the pilot provides a basis for asking the question, not a final answer.

FROM PILOT COST TO MUNICIPAL FEASIBILITY

For municipalities, the challenge would be determining whether this approach could move beyond an individual demonstration and become part of a broader climate-resilient housing response.

- A scaled programme would require clarity around:
- the cost of materials at larger volumes;
- access to suitable sand and sandbags;
- transport and storage;
- availability of trained labour;
- technical supervision and quality control;
- appropriate site conditions;
- municipal approval and compliance;
- the possibility of retaining and upgrading existing structures;
- and the long-term maintenance of completed units.

Financial feasibility also depends on who controls resources, makes decisions, performs the work and benefits from investment. Communities should not only receive housing expenditure; they can help shape how funds are used, homes are improved and local construction capacity is developed.

WHAT KWALANGALIBALELE SUGGESTS

KwaLangaLibalele does not provide enough evidence to conclude that sandbag construction is universally cheaper, faster or more appropriate than existing emergency housing responses. What it provides is a real-world example from which these questions can be explored. The pilot suggests that the approach is possible, but feasibility depends on context. It may be particularly relevant where existing structures can be upgraded, sufficient space is available, materials can be accessed and transported, and community and technical support can be sustained. It may be less suitable where sites are constrained, access is difficult or technical requirements cannot be safely accommodated.

The financial lesson is therefore not simply “sandbags cost R.” It is that climate-resilient housing costs are shaped by the relationship between material, labour, space, logistics, institutional systems and time. Future pilots should test whether these relationships change across multiple households. Could houses be built simultaneously? Could materials be purchased collectively? Could residents be trained as construction teams? Could existing structures be upgraded rather than replaced? Could costs reduce as technical knowledge and procurement systems improve? Could a more durable intervention reduce repeated expenditure on temporary emergency responses?

These are the questions KwaLangaLibalele leaves open. Its financial record provides a baseline for testing whether greater upfront investment can, over time, support more sustainable and climate-responsive emergency and incremental housing. In this sense, spending on KwaLangaLibalele represents more than the price of a completed house. It is an investment in testing whether a different relationship between housing, climate resilience, community agency, materials and public expenditure is possible.

LANGA LESSONS LEARNT: PROJECT OVERALL

KwaLangaLibalele showed that climate-resilient housing is about both technology and process. Relationships, trust and community knowledge were as important as technical design. Working in an informal settlement required listening, understanding the existing conditions and adapting as new challenges emerged. The project also showed the value of building on what already exists. Upgrading an existing home and reusing materials recognised incremental improvement rather than replacing the structure entirely.

Sandbags and EcoBeam created opportunities for more durable construction, knowledge-sharing and skills development. However, the pilot also highlighted practical constraints around labour, materials, storage, space, access, construction time and technical requirements. These would need to be addressed before scaling. Implementation was also not linear. Municipal processes, infrastructure constraints, communication and changing site conditions affected the timeline. Flexibility, coordination and sufficient time were therefore essential. KwaLangaLibalele is not a model to simply copy elsewhere. It is a practical test and learning process showing what is possible, what remains difficult and what further support is required.

The central lesson is that climate-resilient housing depends not only on whether a technology works, but on how communities, practitioners and government work together to make safer, more dignified and responsive housing possible.

COMMUNITY REFLECTIONS



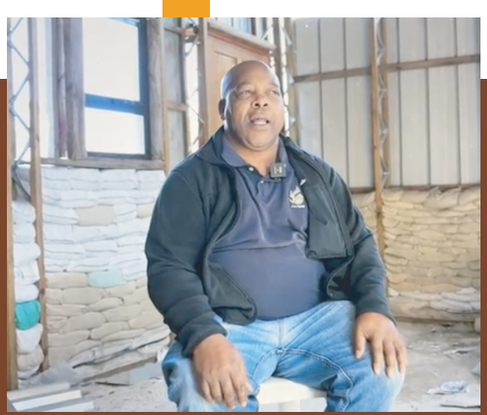
MAMA NOMUTE – BENEFICIARY

"We are very happy with the house. But organisations like yours must also allow communities to lead. When people are guided through everything, they can feel that they have less to lose. When communities are given space to make decisions, they develop a greater sense of responsibility for what is being built and for what happens afterwards."

For Mama Nomute, the value of the project extended beyond the completed house. Her reflection highlights the difference between participation and leadership: communities should not only be included in a process, but given space to make decisions and take responsibility for what follows.

"There were many delays during the project funding, stolen materials, stoppages and other challenges. But when these problems were shared openly, the community could sit with them and become part of finding solutions."

The challenges became an opportunity for the community to be part of solving problems rather than simply being informed about them. Open communication created space for people to contribute their knowledge, take responsibility and remain involved in the project.



SONWABO HOGA – WARD COMMUNITY MEMBER



NOBULALI MAPHILA – COMMUNITY MEMBER

"Training communities to build resilient houses is not about enabling informality. It is about giving people an opportunity to respond to climate-related challenges in a tangible and practical way."

Nobulali's reflection emphasises that community capacity-building is not about accepting informality as permanent. It is about giving people practical knowledge to adapt to climate-related risks while broader questions of housing, infrastructure and tenure remain unresolved.

Together, these reflections show that community participation should go beyond consultation. It means creating space for people to make decisions, contribute knowledge and take responsibility. In the context of climate change, communities are already responding to risk; the challenge is for institutions, practitioners and organisations to support this agency without taking it over.

THE WAY FORWARD

KwaLangaLibalele is not presented as a solution to the housing or climate crisis. Its value lies in what can be learned from responding to the realities of people living in vulnerable settlements. The project shows that climate resilience is inseparable from housing, land, infrastructure, tenure and dignity. For communities facing flooding, fire and inadequate services, climate change is already part of everyday life.

The pilot provides lessons for different actors:

FOR COMMUNITIES, it can strengthen knowledge of climate risks and support existing organising around housing, services and tenure.

FOR GOVERNMENT, it highlights the need to address climate risk through housing and settlement planning, rather than treating disasters as isolated emergencies.

FOR CONTRACTORS, builders and implementers, it demonstrates the importance of testing ABTs in real conditions, developing practical skills, understanding costs and improving quality and safety so that successful approaches can move beyond individual pilots.

FOR ACADEMIA AND CIVIL SOCIETY, it provides grounded evidence to inform research, challenge existing systems and strengthen approaches to climate justice.

The next step is not simply to build more houses like this one. It is to document the experience, learn from what worked and what did not, and use that evidence to improve policy, practice and implementation.

The change is incremental: from one household, to community knowledge, to better implementation, and ultimately to institutional change.

KWALANGALIBALELE IS THEREFORE BOTH A HOUSE AND A QUESTION:

What would housing and climate action look like if the people most affected were at the centre of how solutions are developed, tested and implemented?

This is the conversation the project seeks to advance.

CALL TO ACTION

FROM REACTIVE RESPONSE TO PREVENTING DISPLACEMENT

Climate change is already a housing crisis. Floods, fires, extreme heat and infrastructure failures can destroy homes while also disrupting livelihoods, belongings, social networks and security of tenure. The response must therefore move beyond reacting after displacement has occurred towards preventing avoidable displacement.

Government should identify settlements and households facing the greatest risks and invest in drainage, infrastructure maintenance, early warning systems, safer construction, retrofitting and incremental upgrading. People should not have to lose their homes before institutions recognise that they are living in conditions of risk.

PUT COMMUNITIES AT THE CENTRE

Communities often understand local risks better than formal institutions and can become first responders when emergencies occur. Residents should be involved in mapping risks, identifying vulnerable households, developing preparedness plans and shaping interventions.

Community knowledge should be treated as evidence, not simply consultation.

TREAT CLIMATE DISPLACEMENT AS A HOUSING AND TENURE ISSUE

Emergency shelter alone is not enough when people are displaced by climate-related disasters. Where possible, people need pathways back to safe homes; where this is not possible, they need access to secure and dignified alternatives that protect livelihoods, schools, social networks and community connections.

Security of tenure must therefore be understood as part of climate resilience. This also requires recognising that security does not only come through a title deed. Informal settlement residents, backyard tenants, renters and other forms of occupation require protection from arbitrary eviction and displacement.

SUPPORT INCREMENTAL AND COMMUNITY-LED UPGRADING

Climate risk should not automatically result in demolition, relocation or temporary shelter. Where possible, existing homes and settlements should be upgraded and adapted while protecting people's connection to place.

KwaLangaLibalele demonstrates the value of working with what already exists, responding to local conditions and involving residents throughout the process. Resilience should also build local capacity, skills, employment and the ability of communities to maintain and improve their homes.

MAKE INSTITUTIONS WORK BEFORE CRISIS

KwaLangaLibalele also exposed how infrastructure failures, servitudes, approvals and fragmented responsibilities can delay urgent interventions. Municipal departments need clearer coordination, communication and implementation pathways so that communities and civil society are not left to navigate fragmented systems alone. Climate resilience requires institutions that can coordinate and act before a crisis becomes a disaster.

TURN PILOTS INTO INSTITUTIONAL LEARNING

KwaLangaLibalele should not remain an isolated pilot. Its value is in generating practical evidence about what works, what does not, what needs to change and how communities, government, builders and civil society can work differently.

This learning should inform policy, budgets, standards, training and future human settlements programmes.

The call is therefore simple: prevent displacement where possible, strengthen communities, protect tenure, upgrade rather than displace, and turn practical pilots into institutional change.

OUR CALL

NDIFUNA UKWAZI CALLS FOR A SHIFT:

FROM REACTION TO PREVENTION.
FROM DISPLACEMENT TO SECURITY OF TENURE.
FROM COMMUNITIES AS BENEFICIARIES TO COMMUNITIES AS PARTNERS.
FROM TEMPORARY RELIEF TO LONG-TERM RESILIENCE TOWARDS SUSTAINABILITY.
FROM INSTITUTIONAL SILOS TO COORDINATED IMPLEMENTATION.
FROM ISOLATED PILOTS TO INSTITUTIONAL LEARNING.
FROM STANDARDISED SOLUTIONS TO CONTEXT-RESPONSIVE APPROACHES.

The climate crisis requires us to rethink how we approach human settlements. People should not have to lose their homes before their housing vulnerability becomes an institutional priority.

KwaLangaLibalele is one small example through experiment of what becomes possible when communities, civil society, technical practitioners and government work through problems together. The task now is to take these lessons further: to prevent displacement, strengthen tenure security, support community-led resilience and ensure that institutions act before a crisis becomes a disaster.

RECOMMENDATIONS

1. **CREATE CLEAR PATHWAYS TO SECURITY OF TENURE:** Link emergency responses to recognition of occupation, in-situ upgrading, basic services and appropriate forms of tenure where settlements are suitable for long-term occupation.
2. **PROTECT RESIDENTS FROM REPEATED DISPLACEMENT:** Where relocation is not necessary, prioritise upgrading in place. Where relocation is unavoidable, provide a clear and secure alternative.
3. **LINK EMERGENCY HOUSING TO LONGER-TERM HOUSING:** Ask not only how a household is supported after a disaster, but what happens next from emergency response towards upgrading, improved housing and greater tenure security.
4. **SUPPORT COMMUNITY AGENCY:** Involve residents in settlement mapping, risk identification, upgrading priorities and decisions about housing and tenure.
5. **TEST AND SCALE ABTS RESPONSIBLY:** Continue testing technologies such as sandbag and EcoBeam construction across different settlement conditions before considering wider municipal adoption.
6. **SHIFT FROM REPEATED REPLACEMENT TO LONGER-TERM RESILIENCE:** Where communities face recurring floods, fires or other climate risks, public investment should consider whether stronger, adaptable and potentially reusable structures can provide greater long-term value than repeated emergency replacement.

CONCLUSION

KwaLangaLibalele began with a house, but the questions it raises are much larger.
In informal settlements, climate change is already experienced through flooding, fire, inadequate infrastructure and insecure tenure. Climate resilience therefore cannot be separated from housing, dignity, services, land and agency.

The project brought community knowledge, research, ABT practice, civil society and government into one process. Its value lies not in proving that one technology is the answer, but in testing alternatives, learning through implementation and putting communities at the centre of the response.

The house is the physical outcome. The deeper outcome is the knowledge generated through the process and the question it leaves behind:

Who defines the problem, whose knowledge counts, and who gets to shape the response?



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