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An Architectural Response to Informality: A proposed mixed-use community hub in Komani Informal Settlement, Eastern Cape

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DECLARATION:

I, Simphiwe Ntandazo Kwaza, proclaim that this thesis is my work guided under Dr Viloshin Govender's supervision.

I also declare that:

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SIMPHIWE NTANDAZO KWAZA



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DEDICATION

**To my late father, to whom I dedicate these studies to him. I know in spirit that he has been with me through this journey and always wants me to finish what I start, whispering in my ears, "I know you are not a quitter; you fight till the end and finish what you have started."
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I hope that someday, a response to your daily cultures and struggles will go beyond the university library archives and contribute to viable and sustainable solutions, but until then, may your work continue being noticed and never give up or stop fighting for the rights to form part of the CBD.

ABSTRACT

Global urbanisation is accelerating as most people move from rural villages, farms, and the countryside to urban metropolises. This is the way that things are done in South Africa. Previously, colonialism and apartheid left behind a legacy of injustices and inequalities, and a sizable portion of the South African population is still disenfranchised or impoverished today. Many citizens reside in abandoned buildings on the outskirts of the major business centre, areas of persistent poverty, and extremely dangerous settings.

This study is being conducted in Komani, an Eastern Cape town that is close to the Stormberg mountains. About 25% of its population lives in informal settlements. Officials have been forced to alter their plans for informal settlements and work toward integrating them into the fabric of South African cities due to the fact that these communities have turned into insurgents and are fighting for their "right to be part of the central business district area" and a better quality of life.

In this situation, it is vital that architecture reconsiders how it may address the problems that informal settlement groups experience in order to reimagine the social imperatives of modernist architecture in these rebellious places. This study investigates how place theory, informality, culture, and empowerment of informal settlement groups might influence architecture to provide more adaptable and successful interventions that deal with the problems these communities face.

Understanding the conditions of urban informality, the way of life and daily struggles of the occupants of informal settlements, and strategies for resolving the issues these communities face through a combination of formal and informal processes are made possible by a variety of literary works, theories, precedents, and case studies. Theories like empowerment, informality, culture and place-making may provide light on what it is like to live in an informal community daily.

The objective of this study's architectural approach will be the conceptualisation of a planned mixed-use community hub in the Eastern Cape's Komani Informal Settlement. The goal of this thesis is to improve the community's quality of life by addressing its daily demands and problems.

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1 FIRST CHAPTER:

1.1 INTRODUCTION

1.1.1 Background

Huchzermeyer, Karam, and Maina (2014) claim that unofficially constructed housing in an urban or peri-urban area gives rise to informal settlements, which can have a few or thousands of homes. In the grand scheme of things, they are defined by “deficient infrastructure” or “lack of efficient infrastructure and unsuitable living conditions, unregulated and unhealthy populations, dense living conditions, and inadequate housing, limited or no access to basic medical and educational facilities, and ineffective municipal administration (Huchzermeyer, 2011)

Approximately 1 billion people reside in informal settlements, primarily in urban areas close to the central business area in middle-income countries. In South Africa, there is over 2,700 informal settlements households, or over 5 million people, reside in informal settlements in 2021 (Partnership, 2021) . Given the fluidity in these areas and insecure tenure services, this number is likely to be significantly higher (Boanada-Fuchs et al., 2024).

The word informality has become increasingly relevant in the past century, acquiring different names, characteristics, and interpretations. The complexity of this concept spans multiple spheres, Moreover, it is employed to articulate and theorise not only the spatial dimensions of the city but also its cultural, economic, social, and political organisation.

Informality is often associated with steps and events outside formal processes, planned and regulated zones (Lutzoni, 2016). An extensive range of accommodation situations may be included, such as unrestricted land occupation processes, the lack of property titles, self-building of homes, unauthorised habitation in situations of rapid urbanisation, transient uses of space, self-organisation forms, and the growth of urban areas at the periphery of cities (Lutzoni, 2016).

The emergence of informality has evolved into a notable aspect of urban growth and the “production” of the city (Löw, 2013). This concept gained significance in the mid-nineteenth century, when the initial city expansion plans were formulated and several normative frameworks governing urban development and certain practices previously regarded as “edge” practices, were successful (Lutzoni, 2016).

One of South Africa's most serious difficulties today is the vast number of people residing in the cities' footprints in central business districts (CBDs). Consequently, a scarcity of inexpensive and suitable housing has led to informal settlements (Marutlulle, 2017). Despite constitutionally mandated land reform initiatives, South Africa's post-apartheid government has been unable to resolve the legacy of spatial planning.

City resilience is gauged by the ability of individuals, communities, institutions, businesses, and systems to endure, adapt, and flourish in the face of persistent stress and sudden shocks. In essence (Labaka et al., 2019) "city resilience —pertains to a city's ability to function in a manner that guarantees the survival and prosperity of its residents and workers, particularly those who are impoverished and vulnerable, irrespective of the stresses or shocks they may encounter."

The elevated levels of poverty, rising daily living expenses, and unemployment have rendered well-situated formal housing unattainable for a significant portion of South Africans. Consequently, most urban poor and low-income households continue to live in dense urban peripheral settlements created through apartheid spatial planning (Dugard, 2015). This study aimed to respond to the need for communities in informal settlements to have communal spaces that they can use to meet their various demands, including trade and entertainment. This was performed using a bottom-up approach. This research thus sought to engage with the multifaceted dynamics in the footprint of Komani CBD's context to investigate how the surroundings can be developed in an architectural and urban response suited to the area in forming a holistic community hub.

The built environment bears a social responsibility to acknowledge and address cultural diversity. Architecture has the potential to bring together various societal groups and strengthen cultural bonds. South Africa has a rich history of cultural diversity. To be able to move forward as a progressive and upcoming city, it is necessary to rescript these cultural differences in the present day. This approach will enable cities to establish themselves on robust foundations characterised by diverse and culturally rich societies, imbuing urban spaces and the environment with a sense of meaning and place.

1.1.2 Motivation and Justification of the Study

Dube (2015) discusses how the presence of informal settlements in South Africa has deep historical roots, primarily tied to the phenomenon of rural-urban migration, a process intricately connected with the enduring legacy of apartheid and land dispossession. As a result, the emergence of insurgent citizenship within these informal settlement communities is often interpreted as a reaction to the socio-spatial inequalities prevalent in South Africa. Individuals migrate out of necessity, hoping for improved living conditions and the prospect of a better life.

Architecture serves as an integral aspect woven into the fabric of our culture and society, offering a reflection of our self-perception and the lens through which we view the world. While rooted in the physical realm, architecture transcends its tangible manifestations to encapsulate not only cultural and societal influences but also the intricacies of human lifestyles and diverse conceptualisations of life. Architecture therefore has the potential to establish a connection between formal and informal elements, particularly within the context of structures produced in informal settlements. It inherently embodies a profound understanding of human scale, culture, identity, and the essence of a place.

Annalisa Spencer (2010: ??) introduces the concept of the "creative user," characterising this user as one who actively engages in the creation of architecture. The active user brings local wisdom into the contemporary realm, avoiding confinement within a formal, "modern" order that seeks to erase local characteristics (Spencer, 2010). Active users within informal settlements contribute to the development of a fluid, dynamic, mobile, and temporal architecture. They engage in the recycling of resources, showcasing how users conceptualise their homes and their connection to

pathways and public spaces (Hernández, Kellett & Allen, 2010). The proposed architecture in this study uses a bottom-up approach, considering communities' needs and wants to empower them and support their resilience.

1.2 DEFINITION OF THE PROBLEM, AIMS AND OBJECTIVES

1.2.1 Definition of the Problem

With more people migrating from rural to urban areas for better economic prospects, the number of informal settlements outside the urban footprint is rapidly increasing. Workers who relocate from existing areas (former apartheid locations) to informal settlements are closer to work and urban resources. While urban housing policies and programmes in post-apartheid South Africa advocate for sustainable human settlements, the government has encountered challenges in adopting and effectively implementing a settlement sustainability approach. This struggle is particularly pronounced in addressing the enduring legacies of apartheid, specifically the significant socio-spatial segregation and socio-economic divides that persist in South African towns and cities, often along historical racial lines.

In Komani, South Africa, and various other regions globally, impoverished urban residents endure conditions of severe poverty. This predicament is often tied to constrained access to formal employment, precarious housing tenure, and inadequate access to sanitation and water. These interconnected factors contribute to the proliferation of informal structures. Beyond the prevalence of urban slums and similar conditions worldwide, including in Komani, there is a noticeable deterioration in urban livelihoods and living conditions in many instances. This research therefore investigates the appropriate social housing typology that can effectively address the specific needs of communities.

1.2.2 Aims

By developing a model architecture that responds to the needs and challenges of the communities and provides a thorough explanation of the phenomenon of informal settlements in the footprints of CBDs, it is possible to understand the informal community's customs and daily routines.

1.2.3 Objectives

This study aimed to achieve the following objectives:

- To explore and unpack what urban informality is.
- To investigate the culture of informality in the study area.
- To explore how community centres respond to community needs.
- To explore how architecture can create empowerment spaces.

- To explore how culture and identity are reflected in a built environment.

1.3 SETTING OUT THE SCOPE

1.3.1 Delimitation of Research Problem

This preliminary investigation centred on the following:

Providing a theoretical understanding and reason for how the informality of the Rhawutini informal settlement emerged and what can be done to improve living conditions by conducting physical interviews with the community of the Rhawutini informal settlement and local municipality. Data was collected using observational trials and surveys. The limitations of this study include the vast number of resources at the disposal of the researcher, as advanced research methods are required to obtain meaningful data. Interviews were limited because of the possibility of high crime in the area.

1.3.2 Definition of Terms

Architecture: In its essence, this pertains to the design of constructed structures. The objective of this dissertation is to explore how the architectural creations emerging from informal settlement communities can provide valuable insights for architects. The aim is to leverage this knowledge in the creation of more responsive and contextually relevant architecture for these communities.

Conditions of existence: These are the societal aspects encompassing both material and cultural living conditions

Creative users: These are individuals who actively shape their built environment, particularly emphasised among residents of informal settlements.

Culture: Refers to a person's ideas, customs, and social behaviour. It also refers to the development of a communal sense among groups through shared situations, experiences, and influence.

Flexscape: Rem Koolhaas (1996) coined the term which refers to the whole flexibility of space in casual settings, changing as needed.

Heterotopia – Describes a utopian model of urban environments characterised by diversity and heterogeneity.

Identity: This study delves into the intricate composition of individuals within larger communities, particularly examining how individuals in informal settlements contribute to community formation.

Informal settlement: The undesired elements of the urban fabric that don't benefit the surrounding area or its inhabitants (Trancik, 1986). The remaining areas of the urban fabric that rebellious citizens claim as their own, are the subject of this study.

Informal urbanites: Are individuals residing in informal settlements within urban areas.

Informality: Encompasses activities occurring outside regulatory control, particularly those aspects of the built environment beyond official oversight.

Insurgency: In urbanism, this denotes revolts or protests, with a focus on insurgent citizenship and marginalised individuals claiming a role in shaping urban spaces.

Kinetic city: Characterises the dynamic nature of informal settlements, perpetuated by changing spatial needs.

Levels of consolidation: Represent the varying completion stages of dwellings within informal settlements, resulting in a heterogeneous aesthetic.

Lost space: The undesirable parts of the urban fabric that make no positive contribution to its surroundings or users (Trancik, 1986). This study refers to those leftover spaces in the urban fabric that insurgent citizens claim as their own.

Marginalised: These are individuals who are excluded from the normative society, residing on its edges.

Modes of production: Refer to the societal approach to place-making and built form creation.

Resilience: The capacity of a system to bounce back after stress. The ability of communities living in informal settlements to adapt to difficult circumstances and create systems to lessen those difficulties is the subject of this study.

Transitional societies: Are those who, as demonstrated by informal urbanites adjusting to the urban environment, are in the process of changing from one mode of production to another.

1.3.3 Stating the Assumptions

The argument goes that by providing access to metropolitan job possibilities, informal settlements are essential in helping rural households escape poverty. These communities act as reasonably priced entry points to urban economies, giving migrants the chance to pick up useful knowledge, abilities, and professional contacts. However, if these prospects are not realised, people who have moved from rural areas can turn to crime in order to survive in the urban setting. By adopting a built-form approach, architects can generate architectural solutions that are attuned to the needs of informal settlement communities. The premise is that the amalgamation of formal and informal elements in design can yield architecture that enhances the resilience of these communities in the face of site-specific challenges. This approach has the potential to elevate the quality of life within informal settlements and support the residents in advancing towards their aspirations and goals.

1.3.4 Key Questions

Every day, communities living in informal settlements deal with a wide range of social and physical difficulties. Physically, these difficulties show up as unstable living situations brought on by a lack of expertise in designing architecture which considers local climate, natural catastrophes, context, site-specific factors, and efficient building service management. On the social front, residents grapple with the inherent trauma of living under such conditions, leading to

compromised psychological well-being, heightened levels of depression, and a range of other interconnected social issues.

1.3.5 Primary Question

How may architecture be used as a tool in mixed-use informal communities to promote beneficial social, physical, and a diverse mix of cultures?

1.3.6 Research Questions

- How can urban informality be defined?
- What is the predominant culture of the informal settlement within the study area?
- How can architecture work towards improving the sustainability and resilience of Rhawutini Informal Settlement communities?
- How can architecture be a facilitator in creating an empowered space within informal settlements?

1.4 HYPOTHESIS

Positive effects in landscape, architecture, and the built environment can result from a community's impact on design. This influence is attained by having a thorough awareness of the socio-spatial dynamics that now exist, as well as the cultural quirks, economic empowerment, insurgent tactics, and building methods used in informal settlement groups. Architects may build a more responsive design that increases the community's resilience to site-specific difficulties by using these principles. This strategy could raise people's general quality of life and act as a catalyst to assist them achieve their goals and dreams.

1.5 THEORIES AND CONCEPT

To lay the foundation for this study, we must define the concepts and theories used in this study. The research adopts Culture, Empowerment, and Placemaking as the focal lenses through which the research is viewed. The three theories cross various fields, including sociology, psychology, architecture, and urban design, to obtain an informed perspective.

1.5.1 Concept of Culture

Culture plays a pivotal role in preserving the identity of various groups within the shared biological species of humans. Serving as a control mechanism, culture carries information that guides the creation of both behaviour and artifacts. Its fundamental function lies in acting as a structure or framework that imparts meaning to specific aspects of human existence, as emphasised by Rapoport (1969). As noted by Jones (2014), in the Pacific Island region, there is a recognition that,

despite the growing urbanisation and migration to towns and cities, settlers maintain their rural mindset, lifestyle, and behaviours even within urban environments. This phenomenon has been termed as 'village in the city' or 'rural village in the city,' as articulated by the Asian Development Bank (Østby, 2016) in certain assessments.

According to Jones (2014), settlers bring with them robust traditional ideologies and customary practices rooted in kin-based ordered societies as they transition to towns and cities, particularly in settlements. These ingrained cultural aspects are enacted and adapted in settings that exhibit a 'village-like' character (Jones, 2014). The central role of this theory in the study lies in establishing a foundation for comprehending the social and physical challenges prevalent in informal settlements. By doing so, the theory becomes instrumental in empowering the researcher to address these challenges effectively through architectural interventions. It provides a framework for understanding the context and informs the development of responsive architectural solutions tailored to the specific needs of informal settlement communities.

As an example, informal settlements hold a crucial significance in Bogotá and, more broadly, in many Latin American cities. Beyond their sheer size, these settlements play a remarkable role in fostering vibrant social and cultural expressions. Barrios, as observed by Hernandez and Lopez (2011), are teeming with life and activities. Streets and parks serve as spaces where people engage in play, conversations, transactions at local stores ("tiendas"), and the continual transformation of spaces to facilitate these interactions. This underscores the pivotal role that informal settlements can play in the dynamic fabric of urban life and community engagement within cities.

1.5.2 Theory of Empowerment

According to Wallerstein (1997), empowerment is defined as a social action process that fosters cooperation between individuals, groups, and communities in order to improve social justice, political effectiveness, individual and group control, and community quality. The ability of the poor and oppressed groups to actively pursue their needs and fulfil their ambitions rests on their civic and collective power to reform (Wallerstein, 1992). In the context of this research, the empowerment theory is characterised as the civic force that exerts pressure to augment opportunities and enhance the community's well-being through local collaborations. This involves safeguarding and enhancing the local environment to foster community promotion and improvement.

Thus, the residents' activities focused on empowering their neighbourhood play a crucial role in the improved distribution of resources amongst all community members. This will, in turn, ensure the improved sustainability of the informal community (Bahmanteymouri and Mohammadzadeh, 2019). Informal settlements embody everyday practices of sociality and economic production that are not easily retained in a transformation to formal housing. In this context, there is a particular dependence on the street and laneway network, particularly the capacity for domestic production to spill into public spaces with high levels of intensity and efficiency (Dovey, 2013). Formalization often standardizes private space in tiny apartments that are separated from street networks, producing access spaces that are less flexible and productive (Dovey, 2013). Informal settlement upgrading through architecture is one of the few approaches that work. It seeks to assist the urban poor through social and economic empowerment; however, it also demonstrates that the bulk of empowering spaces and structures for the poor will always be constructed by people experiencing poverty. Hence, such communities must be empowered to develop these spaces efficiently (Wekesa, Steyn & Otieno, 2011).

1.5.3 Place Theory

The place-making theory began as a top-down strategy incorporating professional architects, urban and physical planners, and other professionals. Nevertheless, it emphasises community involvement (Sofield, 2017: 57). According to Courage et al. (2021), the place-making theory signifies a paradigm shift in urban design, planning, and policy that is now more human-centric and incorporates the community. As part of an organic process, it places the community at the centre of determining how a place looks and functions. (Friedmann, 2007) on place-making by describing it as the process of appropriating space to build a reflection of self.

These three theories – culture, empowerment, and place-making - are central to this study. Culture aims to respond to the collective and individual experiences of the inhabitants and, thus, defines the community's identity and highlights the community's socio-cultural identity. Empowerment aims to fulfil their needs, while place-making theory emphasises creating a society centred around the community's needs.

1.6 RESEARCH METHODOLOGY

1.6.1 Introduction

This section outlines the methodology and approach which was applied in this dissertation.

1.6.2 Research Philosophy and Strategy

This dissertation was based on the mixed-method approach and thus quantitative and qualitative questions were incorporated in the questionnaire. Mixed methods research has been widely used in research for various reasons; Moreover, integrating qualitative and quantitative approaches is an exciting issue and continues to be debated (Östlund, Kidd, Wengström & Rowa-Dewar, 2011). Both the qualitative and quantitative research methods offer the strength of flexibility during interviews. Unlike surveys with rigidly structured questions, interviews allow for dynamic, real-time guidance and redirection by the researcher. This flexibility enables the researcher to adapt the research framework and direction swiftly as new information emerges during the interview process. The ability to adjust and refine the enquiry based on ongoing insights enhances the depth and adaptability of the research approach.

The primary data before this study was composed and processed using in-person and digital online platforms – WhatsApp, telephone, SMS, and email channels. The research undertaken for this dissertation is aimed at developing a mixed-use community hub for the Rhawutini informal settlement dwellers in Komani. Once the study was synthesised, the researcher engaged in a comparative analysis of the secondary data alongside the primary data. This analytical process is suggested by (Nowell et al., 2017).

1.6.3 Secondary Data Collection

This form of data comprises secondary literature in the form of:

Books: Works by different authors related to the research study.

Journal Articles: Publications authored by multiple contributors.

Academic Papers and Reports: Scholarly papers and reports relevant to the research.

Published Articles, Books, Journals: Various sources of academic literature available online.

In this dissertation, the exploration of literature delves into aspects of informal settlement life, its communities, and the informal built environment. The study specifically engages with the Concept of Culture, Theory of Empowerment, and Place Theory. Moreover, this data includes precedent studies. These studies are crucial for a critical analysis of how architectural interventions, when placed in a similar context and with comparable issues, have addressed challenges. This analysis aims to uncover both the shortcomings and successes of previous interventions, providing valuable insights for the current research.

1.6.4 Primary Data Collection

Primary data collection and observational analysis enables the first-hand interpretation of experiences and perceptions contributing to the research data. These methods are expected to reveal the context-specific needs of those living within the Rhawutini community in Komani. Three (3) participants for the formal interviews were identified: a municipality representative, a member of the community non-profit organisation (NPO), a community member, and an expert in the architecture field related to informal settlements. These would be open-ended, semi-structured interviews.

All participants gave permission and were informed of their entitlement to withdraw from the interview process at any time. The researcher followed the necessary protocols to obtain permission from the interviewees and their gatekeepers.

1.6.5 Focused Interviews

This research explicitly targets three (3) participants to be interviewed and for completion of the questionnaires.

A representative from the Chris Hani District Municipality, located in the Eastern Cape, was interviewed to gain insights into municipal attitudes and policies regarding informal settlements. This included an exploration of the existing plans in place to improve the living conditions of residents in informal settlements within the Komani region.

The NGO Shack/Slum Dwellers International (SDI) is an international network of grassroots organisations at the national level organised into "federations" that fight for the rights and interests of urban poor people, homeless people, and settlers in more than thirty developing nations in Asia, Africa, and Latin America. Urban policies that put the welfare of the economically

underprivileged first are strongly supported by SDI. Globally acknowledged, SDI has become a reputable voice in the fields of urban development and poverty alleviation; thus, one of the local representatives was interviewed.

In addition, Rhawutini Informal Settlements Community Members and a Community Liaison Officer were also interviewed. This interview provided first-hand information regarding this community's needs and requirements and how a way forward can be tabled.

Finally, an interview was conducted with an architecture expert in informal settlements to gain more insight into the phenomenon of developing mixed-used community centres.

1.6.6 Research Materials

The research materials selected for gathering information are highly pertinent to the study and encompassed the following:

Secondary Sources or Materials: This category includes published literature, reports, documents, conference proceedings, and theses. These materials offer valuable insights and analyses from existing knowledge and research.

Interviews: Conducting interviews provides an opportunity to collect first-hand statistics and perspectives from relevant participants. This qualitative approach enables a deeper understanding of the nuances and experiences related to informal settlement life.

Surveys: Utilising surveys contributes to obtaining a comprehensive understanding of the day-to-day life of informal dwellers. This method allows for the systematic collection of data and perspectives from a broader population, providing a more comprehensive view of the subject under investigation.

1.6.7 Research Analysis

According to Noble and Smith (2015), doing research using mixed methodologies strengthens the rigor and integrity of the study and increases the validity of the findings. This study aimed to develop and design a mixed-use community centre for the community of Rhawutini Informal Settlement located in Komani in the Eastern Cape. The researcher wanted to find insights that would enrich the study and the resulting community centre plan by studying the broader context of the study's location. The data gathering and analysis processes were apparent, decisive, and consistent to ensure the trustworthiness of the study's conclusions.

This dissertation's exploration of literature where it focused on various aspects of informal settlement life, encompassing communities and the casual built environment. The study delves into three key theoretical frameworks: culture, place theory, and empowerment theories.

Furthermore, this data collection extended to prior studies. These studies played a critical role in the dissertation by allowing for a thorough and critical analysis of architectural interventions. By examining how interventions in comparable contexts addressed similar issues, the aim was to uncover both the shortcomings and successes of these interventions. This approach enriches the research by providing valuable insights from past experiences in addressing challenges within informal settlements.

Building upon the research findings, the recommendations are intended to formulate a comprehensive design brief. This design brief will serve as a guiding document for the development of a Multi-Purpose Community Hub in Rhawutini Komani, located in the Eastern Cape, South Africa. The design brief, informed by the research insights, outlines the key requirements, objectives, and considerations essential for the successful planning and implementation of the Community Hub. This strategic document plays a pivotal role in steering the architectural and developmental aspects of the Multi-Purpose Community Hub, ensuring that it aligns with the needs and aspirations of the local community.



Figure 2: Exploring informal nodes.
(Source: Author) 2023

2 SECOND CHAPTER:

2.1 ROLE OF CULTURE IN INFORMAL SETTLEMENTS

2.1.1 Introduction - What is Culture?

Oxford Dictionary (2023) defines culture as “an umbrella term which encloses the social behaviour and norms experienced in human civilization, as well as the understanding, beliefs, arts, laws, customs, potential and habits of the individuals in these groups.” Culture is a notoriously strenuous term to define.

The definition of culture provided by Oatey (2008:16) is as follows: "Culture is a floccose set of basic presumptions and values, orientations to life, culture, beliefs, policies, procedures, behavioural conventions that are shared by a convention of people, and that impact (however they do not regulate) each member's conduct and his/her explanation of the 'meaning' of other people's behaviour." In essence, Oatey's definition emphasises that culture encompasses a fuzzy collection of shared assumptions, values, beliefs, and behavioural norms that influence individuals' actions and interpretations of the behaviour of others within a given community. One can argue that the definition is a way of setting out life rules for each culture without enforcing them on the individual. This chapter will research and analyse some of the authors' definitions of culture.

2.1.2 Conceptualising Culture of informal Settlements

The rapid growth of the economy and the widespread impact of neo-liberalism have greatly influenced the way cities have developed around the world. A large corpus of work in political economics examines the effects of these processes on housing rights and urban development in industrialised countries as well as emerging markets such as India and other Asian and Latin American countries. However, there exists a noticeable gap in scholarly research regarding the effects of these global forces on cities in Sub-Saharan Africa (SSA), as noted by Afenah (2009).

The literature frequently employs terms such as informal settlements, favelas, squatter settlements, unplanned towns, and shantytowns interchangeably. However, the definition of informal settlements remains a subject of considerable academic debate. Informal settlements can be understood as areas constructed outside formal land-use schemes and lacking planning permission. These settlements typically consist of makeshift houses that do not adhere to standard building regulations, as outlined by Jabareen (2014). The use of various terms reflects the diverse and complex nature of these human settlements, highlighting the challenges in arriving at a universally accepted definition.

Additionally, areas identified as informal settlements exhibit inadequate access to safe water and sanitation facilities, an inconsistent supply of electricity, and a lack of proper roads for emergency access. Furthermore, these areas often grapple with issues of overcrowded populations and insecure tenures of stay. The inhabitants of informal settlements, particularly immigrants, face significant economic challenges that severely hinder their capacity to

adequately prepare for potential natural hazards, as highlighted by Abunyawah et al. (2018). These conditions underscore the vulnerability of residents in informal settlements and the multifaceted challenges they confront.

A significant proportion of immigrants often fall into the category of low-income earners and face unemployment, making it challenging for them to afford rental accommodation in proper residential areas. Due to their economic constraints, these individuals are compelled to rent apartments in informal locations where residential opportunities are more affordable. Additionally, Scoppetta (2014) points out that the limited financial resources of these low-income individuals hinder their capacity to invest in structural mitigation measures aimed at minimising the impacts of hazards. This economic context underscores the challenges faced by immigrants in informal settlements, both in terms of securing suitable housing and implementing measures to mitigate the risks associated with natural hazards.

The growth of both industry and population in informal settlements increases the need for natural resources, especially land, for industrial and residential development. This increase in building activity frequently leads to the removal of the native vegetation in these regions, increasing the risk of different natural hazards for the settlers. Additionally, the increase in urban population triggers changes in land-use patterns. Informal settlements, often deemed risky in terms of disaster hazards, were initially left as vacant areas in the urban environment. However, with significant growth, these areas are increasingly utilised, contributing to alterations in land-use configurations within the urban landscape.

The distinction in characteristics of such areas explains why informal settlements are often linked to poor zoning and planning, insufficient infrastructure, unfavourable environmental conditions, and insecure tenure. The constant threat of eviction by city authorities, coupled with low-income levels, reinforces the behaviour of informal settlers in constructing low-quality housing. Residents in these settlements perceive spending substantial amounts on building houses as irrational, given the looming threat of demolition during eviction, as discussed by Jabareen (2014). This precarious situation further exacerbates the challenges faced by informal settlement dwellers, influencing their housing decisions, and perpetuating the cycle of poor living conditions.

2.1.3 Urban Informality

The concept of informality should not be conflated with poverty; instead, it is recognised as a resource for managing poverty, as articulated by Dovey (2013). The conventional understanding of urban informality often contrasts it with the formal, regulated, and planned aspects of a city, characterising it primarily in terms of deficits rather than as a nuanced reality. However, Kovacic, Musango, Buyana, Ambole, Smit, Mwau, Ogot, Lwasa and Brent (2021) propose a re-evaluation, positioning urban informality as an active and integral way of being in the city.

According to Roy (2004, 2005) and Roy and AlSayyad (2004), urban informality is defined as spatial categorisations and organisational forms linked with the urban poor, often in the absence of capitalist development and state planning. As rapid urbanisation takes place and formal economies struggle to adapt, socio-economic conditions become unfavourable and "poor-unfriendly." These challenges, along with their various manifestations, collectively contribute to an escalating and enduring crisis known as the urban crisis (Kamete, 2013:26). This perspective emphasises the complex interplay of spatial, economic, and social factors that characterise urban informality and its association with the challenges faced by the urban poor. Figure 3 below depicts some reasons why citizens choose urban informal settlements.

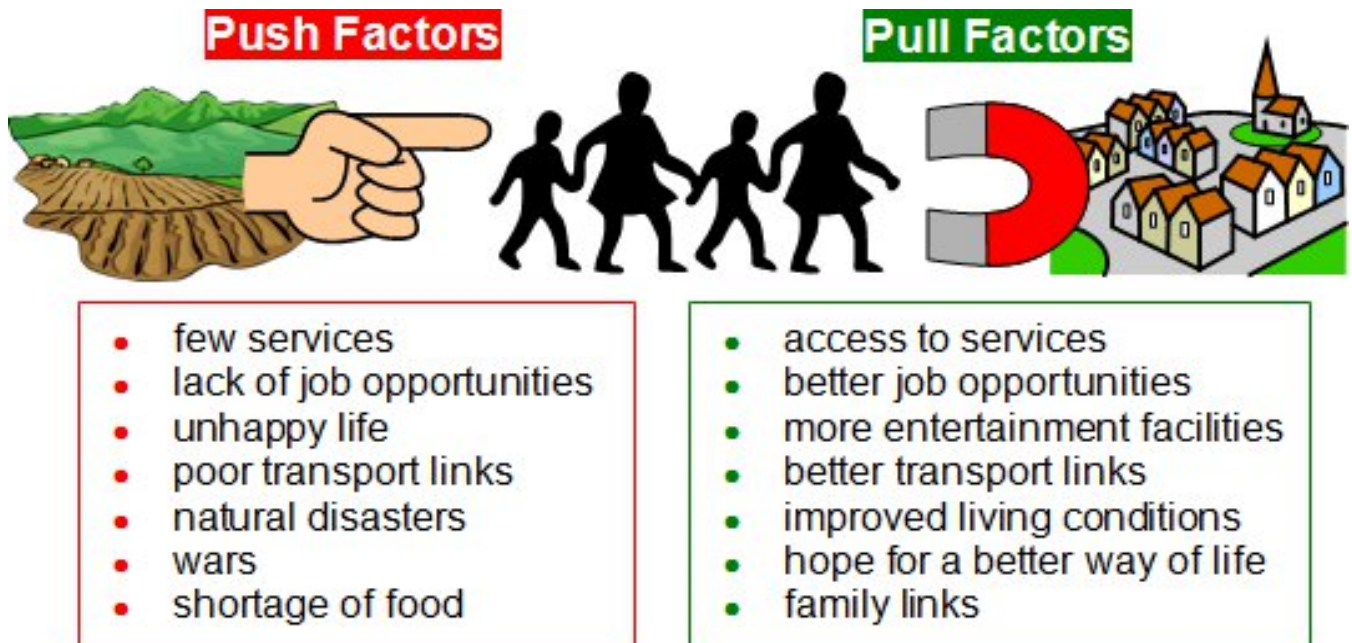


Figure 3: The push and pull variables that promote rural-urban migration
 Source: <https://quizlet.com/448421691/migration-keywords-flash-cards/>. 05 February 2023

2.1.4 Exploring the Typology of Culture in Informal Settlements

The phenomenon of informal settlements has witnessed a recent escalation in numerous developing countries, including Brazil, India, South Africa, and Egypt. Robert Park (1980) played a pivotal role in introducing the term "marginality," particularly at the individual psychological level, describing the marginal man as a product of a "hybrid culture."

According to Park (1980), the marginal man finds himself caught between two cultures: the traditional one from which he cannot detach, and the new culture into which he struggles to integrate due to racial prejudice. This characterisation sheds light on the challenges faced by individuals in informal settlements, emphasising the complex interplay between cultural dynamics and the broader social context.

The individual on the margins, as described by Park (1980:34) tends to cultivate "a dual personality" and holds a "double consciousness." Edward Tylor's (2004: ??) characterisation of culture is as "the intricate entirety encompassing comprehension, belief, art, morals, law, tradition, and all other skills and habits acquired by individuals as members of a society." When examining the culture of specific groups or organisations, it is beneficial to distinguish three fundamental levels at which culture becomes apparent:

- a) Perceptible relics,
- b) Principles, and
- c) Fundamental speculations.

Upon entering an organisation, individuals observe and interact with its artifacts. This category encompasses various aspects, including the physical layout of the space, dress code, social interactions, the ambiance's sensory aspects such as smell and feel, the emotional intensity, and

other observable phenomena. Additionally, it extends to more enduring manifestations like business records, merchandise, philosophy statements, and annual reports :111).

We can characterise "what" behaviour patterns as those which are visible among the members of a group as well as "how" they create their environment. Nevertheless, we frequently find it challenging to comprehend the fundamental reasoning behind "why" a group behaves in a particular way. To comprehend why communities, exhibit certain behaviours, the exploration often delves into the underlying values, constituting the second level (Figure 4). Given that values are not always directly observable, it becomes necessary to infer them by engaging in interviews with key members of the organisation or scrutinising the content of artifacts, such as documents and charters.

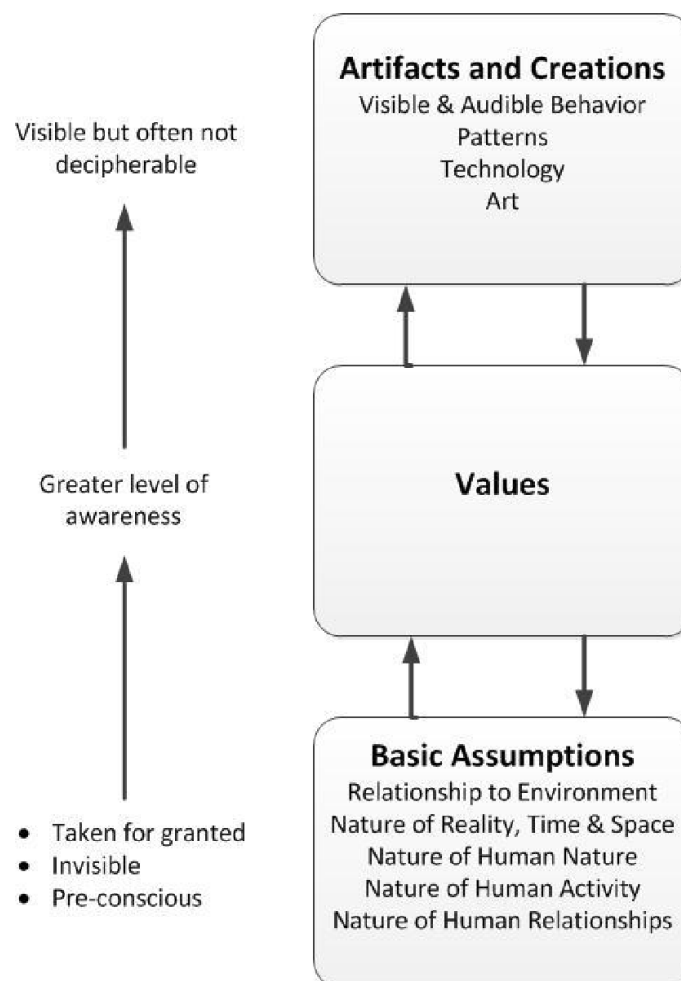


Figure 4: Cultural levels and their relationships
Source: (Adapted from Schein (1984, 4). 05 February 2023)

Culture is defined as patterns of life activities, religions, beliefs, and human values shared within the community, which inherit an identifiable human and social behaviour within a group or society. That said, culture is more about human practice and beliefs. Culture is, therefore, learned and not devised. As a result, the social environment rather than genetics determines it. It is essential to distinguish between human nature and an individual's personality (refer to Figure 2.3) (Letsie, 2005). Moreover, social scientists disagree on where to draw the lines between personality and culture and between human nature and culture (Spencer & Oatey, 2012).

This mental programming level encompasses human capacities for emotions like fear, anger, love, joy, and sadness, as well as instincts for play, exercise, and the ability to perceive and discuss the world with others. However, the influence of culture becomes evident in how individuals express and communicate these emotions, delights, anxieties, observations, and so on. Despite the shared characteristics with animals, human nature is not entirely exclusive to humans, as certain traits overlap. (Spencer-Oatey, 2012). At this level of mental programming, individuals possess the capacity for a range of human emotions like fear, anger, love, joy, and sadness. Additionally, there is an inherent inclination for activities such as play and exercise, along with the ability to perceive the surrounding world and engage in discussions with others. However, culture shapes how people respond to these emotions and communicate their delight, anxiety, observations, etc. Due to shared traits between certain aspects of human nature and those found in animals, the concept of human nature is not as exclusively "human" as the term might imply (Spencer-Oatey, 2012).

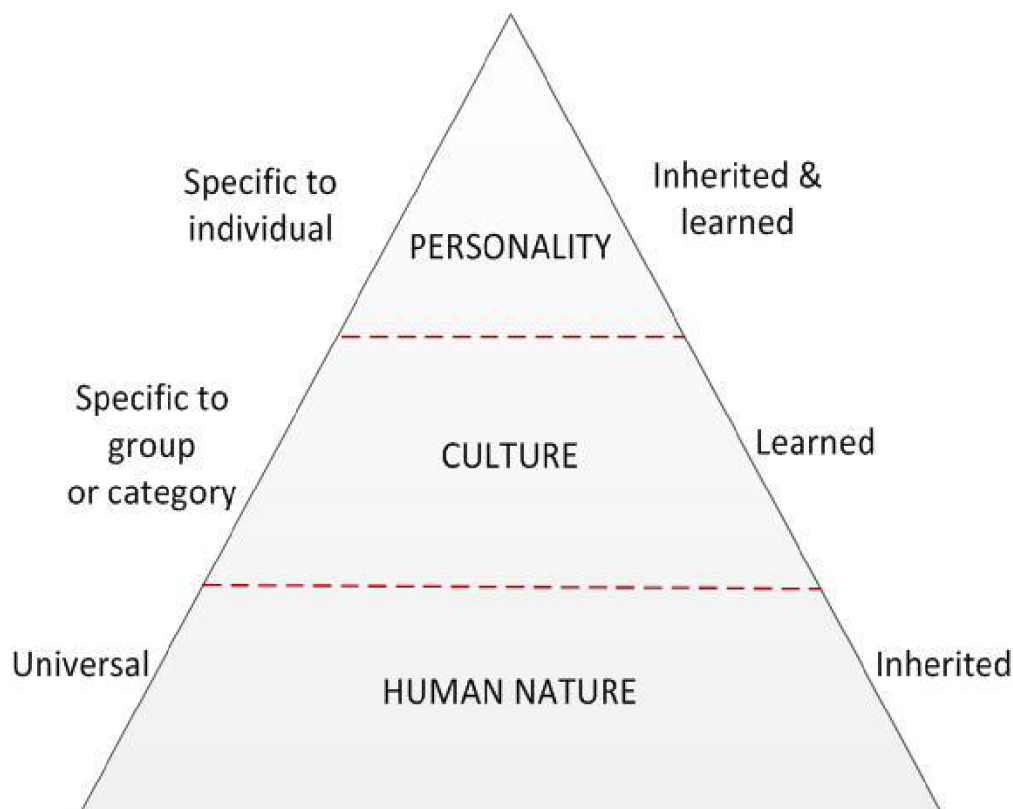


Figure 5: The three distinct stages in the brain programming of humans

Source: Hofstede (1994: 6), 05 February 2023

Behaviour and the interpretations of behaviour are influenced by culture, as highlighted by Hofstede (1991:8). Hofstede (1991:8) further highlights that while some facets of culture are observable in the physical world, their significance is hidden: "The way insiders interpret these practices is precisely and exclusively where their cultural meaning lies." For example, in the USA, UK, and Canada, a gesture known as the "ring gesture," where the thumb and forefinger are touched, is commonly interpreted as a sign of agreement, approval, or acceptance. However, in several Mediterranean countries, the same gesture is viewed as offensive or derogatory. Likewise, diverse social groups may interpret clothing in distinct ways concerning suitability, display, wealth, and other considerations. Similarly, housing designs can be interpreted differently. The idea that house design can now be considered within the realm of fashion underscores the broad applicability of the concept of criticality and underscores the significance of sociocultural factors. This implies a need for a comprehensive comprehension of house forms and the decisions surrounding these (Baydar, 2004).

Numerous instances of such examples exist. Contemporary architectural discourse often relies on a straightforward, ahistorical, and preconceived connection between architecture and culture. This prompts various questions to arise: What significance does architecture's intense focus on cultural identity hold within the discipline? How are culture and architecture interconnected? And, fundamentally, what defines culture and architecture in this context? These questions articulate a critical examination of architecture, highlighting its deep-rooted historical foundations, and challenges the notion of culture as a constitution shaped by historical contexts. This perspective calls for a nuanced understanding of the often-unquestioned link between architecture and culture. Moreover, it advocates for a deliberate effort to dismantle uncritical architectural generalisations that stem from simplistic cultural and geographical identifications. By doing so, it prompts a re-evaluation of architectural narratives, emphasising the need for a more nuanced and culturally sensitive approach to design and analysis within the architectural discipline.

This research focus is not aimed at offering a broadly inclusive definition of architecture that can encompass an endless array of cultural contexts. Instead, it investigates how and under whose influence the term "architecture" is utilised. It delves into the origins of the question "What is architecture?" and explores whether cultural diversity is inherently tied to this query or if concepts of universality and cultural difference have a historical connection to architecture (Baydar, 2004). The following examples illustrate this in a social context, which can be extrapolated into an architectural one:

Let us say you are speaking with someone whose culture differs from yours. You notice that this person does not look at you when you speak, nor does she make eye contact with you when you speak. Her eyes dart away from you the few times they do. When yours finally locks, she looks away. Based on your cultural upbringing, you might conclude that she does not feel particularly pleased with your exchange. You might even reject any further attempts at interaction because you feel offended. You might not feel intimate or trusting with her. She might, however, come from a society where staring straight ahead is frowned upon or even considered a sign of slight or conceit; She might avoid eye contact out of respect and courtesy for you rather than bad feelings.

As you socialise, you pick up culture from the people you interact with. How adults interact with and speak to newborns is a great way to observe how culture is transmitted symbolically among individuals. Two babies born simultaneously in different countries may learn to react to social and physical cues differently. For instance, certain infants develop the ability to smile at strangers, while others might only smile under specific conditions. In numerous other cultures, parents typically do not enquire about their children's preferences; instead, they instruct them on what to do. In contrast, a prevalent practice in the United States involves asking children, even from a very young age, about their preferences and desires. Culture can also be viewed as subject to gradual change. Every anthropological description of a society's culture is a retrospective analysis. If the ethnographers were to revisit the cultural study after several years, they would encounter a changed scenario, as cultures are not entirely unchanging from one year to the next.

2.1.5 Constructing Ordinary Places in Informal Urban Areas

The contemporary era is witnessing an unprecedented wave of urbanisation, and experts universally recognised the initiation of a new urban age in 2008. This period marked an historic milestone as half of the global population, totalling 3.3 billion people, became residents of urban areas (Lombard, 2014). In broad terms, a place is defined as a space that holds emotional significance for individuals, often referred to as a 'meaningful location' (Lombard, 2014). Recent perspectives from human geographers, such as Holloway and Hubbard (2001: 7), introduce the notion that "as people construct places, places construct people," underscoring the reciprocal relationship between individuals and their environments. The concept of "place," seen as a socio-spatial construct, encompasses elements such as location, locale, and a profound sense of place. The term 'location' addresses the spatial aspect of a place, commonly discussed in everyday conversations and reflective of the "where" of a particular location (Holloway and Hubbard, 2001: 7). This multifaceted understanding emphasises the dynamic interplay between people and the spaces they inhabit, fostering a more intricate comprehension of the evolving landscape in this era of rapid urbanisation. However, this is not permanently fixed, as areas like markets and public transportation may be movable or fleeting.

When functioning as intended, everyday urban spaces seamlessly extend the communal fabric. These spaces transform into public arenas that cater to both local residents and transient passersby alike. This transformation occurs when these spaces are effectively directed to fulfil their designated public roles. As a result, they evolve into vibrant locations where individuals gather, participate in social and commercial transactions, celebrate various occasions, and foster relationships and trust with their neighbours. In this context, institutions such as libraries, art centres, and community centres play a pivotal role, serving as the metaphorical "front porches" of their communities (McTighe and Haywood, 2018). These spaces act as facilitators for social interaction, providing platforms for community members to come together, share experiences, and contribute to the overall social cohesion of the neighbourhood. Thus, transforming a commonplace into a vibrant communal space can foster a profound sense of community and connectivity among residents. Conversely, the absence of such spaces may lead individuals to feel isolated and alone. A city places importance on exceptional public or civic spaces because they contribute to a unique atmosphere and identity, engage with and nurture the surrounding community, and unite the public.

2.1.6 The Definition and Classification of Space

Anthropologists and geographers, particularly those engaged in human history research, delve into the concept of space. Defining space proves challenging due to the diverse perspectives within the field. According to Jane Rendell, Barbara Penner, and Lain Borden (2000:101), the viewpoint of Marxist geographers, exemplified by figures like David Harvey and Edward Soja, underscores the notion that "space is not only a condition of social production, but it is also socially produced." This perspective implies a dual relationship, acknowledging that space both influences and is shaped by the processes of social production. The understanding goes beyond perceiving space as a passive backdrop, emphasising its active role in shaping and being shaped by social and economic dynamics.

Thus, according to anthropological perspectives, space does not emerge autonomously but is intricately interwoven as an integral and evolving component of daily life. It is intimately entangled in social and personal rituals and activities, considering all elements of the

environment surrounding a building. In contrast, architects, who wield significant influence in shaping urban space, hold a divergent viewpoint. They contend that space is a result of collaborative efforts involving the users of buildings, along with their designers and builders (Zhuang, 2008). This perspective underscores the dynamic interplay between human agency and the physical environment in the creation and utilisation of space within the urban landscape. This concept accentuates the pivotal role of space as a foundational element in architectural design, spanning three dimensions (Ching, 2007). Space is conceived through varied forms, encompassing both horizontal and vertical dimensions. For instance, as exemplified in Figure 6 below (Figure 2 in diagram), the area above the ground takes shape through a horizontal plane positioned overhead (Zhuang, 2008). Concurrently, Figure 6 (figure 3 in diagram) illustrates the arrangement of space in front of a singular vertical plane. This perspective underscores the multidimensional nature of space within architectural discourse, emphasising its dynamic and interactive qualities as influenced by both horizontal and vertical design elements.

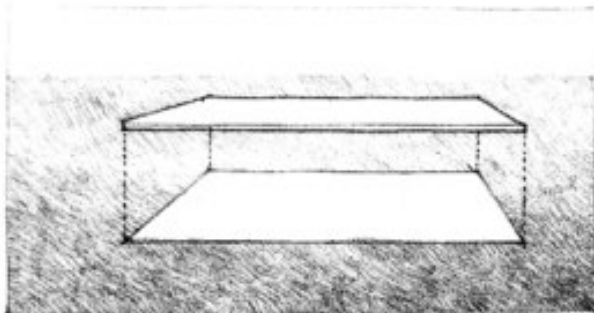


Figure 2

Source: Ching, 2007

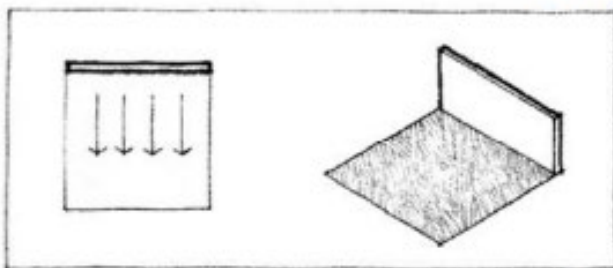
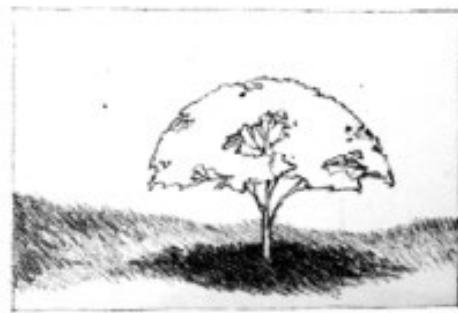


Figure 3

Source: Ching, 2007

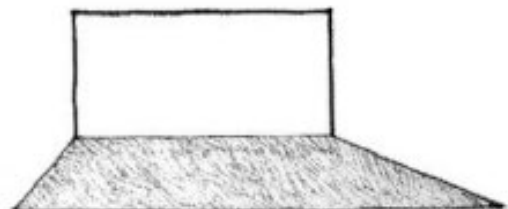


Figure 6: Describing how space is organised

Source: (<https://www.diva-portal.org/smash/get/diva2:829360/FULLTEXT01.pdf>). 05 February 2023

Space finds expression through a myriad of forms, and a profound connection exists between these diverse spatial configurations and their respective functions. To illustrate, consider the Theatre in Seinäjoki, Finland. The entirety of the space is compartmentalised into three discernible categories: the section dedicated to offices, the zone housing the theatre hall, and the area designated for lobbies. Each of these three segments assumes its distinctive form (see Figure 7 (Zhuang, 2008)). This example underscores the nuanced relationship between form and function within spatial design, emphasising how specific areas within a larger architectural context are purposefully shaped to serve distinct functions.

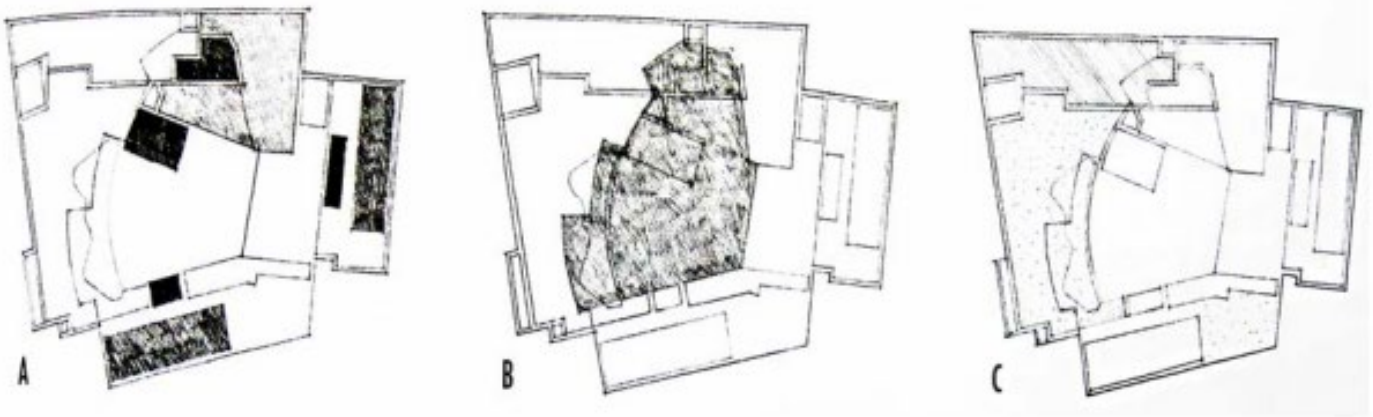


Figure 4

Source: Ching, 2007

Figure 7: Illustrating spaces and their functions

Source: (<https://www.diva-portal.org/smash/get/diva2:829360/FULLTEXT01.pdf>). 05 February 2023

Ching's book (2007) also discusses the presence of human beings within space. He highlights that space continuously surrounds us, allowing for movement, visual perception of forms, hearing sounds, sensing the breeze, and experiencing the fragrances of a blooming flower garden within the volume of space. It is a tangible material akin to stone and wood, yet inherently formless, resembling vapour. The visual attributes, dimensions, scale, and light quality of space are contingent on our perception of spatial boundaries defined by elements of form. Architecture takes shape as space is captured, enclosed, shaped, and organised by mass elements (cited in Zhuang, 2008).

Simply put, people's activities play a crucial role in defining a specific space. A space of high quality tends to be more appealing to individuals compared to one of low quality because people prefer engaging in activities like sitting, stopping, eating, or playing in comfortable environments that support multiple functions. A diversity of activities also infuses vitality and a range of experiences into a space. In the framework of this thesis, the conceptualisation of space revolves around it being a domain for individuals to engage in a myriad of activities. The comprehension of space entails envisioning a territory divided into diverse forms, each serving distinct functions. Moreover, the architecture embedded within this space is seen as the tangible representation of the intricate interplay between material elements and cultural influences (Zhuang, 2008). This perspective encapsulates the dynamic nature of space, not merely as a physical backdrop but as a dynamic environment shaped by human activities, cultural contexts, and architectural interventions. It recognises the multifaceted relationship between the materiality of space and the cultural meanings it embodies. The sections below depict different uses of space.

2.1.6.1 Minhang Riverfront Regeneration / SPARK Architects

As observed in the below figures, the Minhang Riverfront is an ambitious tale of urban renewal. Existing developments have been upgraded around an open space architecture known as SPARK's urban park, which connects a vibrant mix of commercial, technological, and institutional uses.



Figure 8: An open park space illustrating a connection between the river, park, and buildings

Source: <https://www.archdaily.com/970831/minhang-riverfront-regeneration-spark-architects/6177f92df91c815c3300008e-minhang-riverfront-regeneration-spark-architects-photo>. 05 February 2023

The residential, educational, and commercial communities are seamlessly linked through the integration of three pedestrian bridges and an extensive network of green ribbons comprising bicycle paths, jogging trails, and walking paths along the riverfront. The landscape design incorporates four distinct zones strategically layered to enhance views and provide inaugural access to the riverfront (Architects, 2022).



Figure 9: Illustrating a bridge linking the residential, education, and business communities

Source: <https://www.archdaily.com/970831/minhang-riverfront-regeneration-spark-architects/6177f92df91c815c3300008e-minhang-riverfront-regeneration-spark-architects-photo>. 05 February 2023

The linear zones adopt an abstracted riparian form, containing creative hubs of activity such as event plazas, lawns, and cafés (Architects, 2022).



Figure 10: Illustrating lawns, cafés, a sports park, and event plaza

Source: <https://www.archdaily.com/970831/minhang-riverfront-regeneration-spark-architects/6177f92df91c815c3300008e-minhang-riverfront-regeneration-spark-architects-photo>. 05 February 2023

2.1.7 Formalizing Architecture in Informal Settlements

Around one billion people presently inhabit 'informal' settlements or 'slums,' a statistic sourced from the UN, albeit one that is challenging to verify. Nonetheless, this statistic underscores the prevalent urban form that has accommodated the substantial urbanisation witnessed over the past fifty years. The primary focus of urban development has been directed toward these areas. Dovey (2013) prompts the question: What role has architecture played in this context?

These settlements are labelled as "informal" due to their non-compliance with official state regulations concerning land tenure, urban planning, design, and construction. Unofficial settlers deviate from these rules primarily because they have limited alternatives. While the term "informal" is somewhat interchangeable with expressions like "slum" and "squatter," it is also employed to sidestep some of the negative connotations associated with those terms. In tandem with climate change, informal settlements stand out as one of the most substantial urban challenges confronting the planet (Dovey, 2013).

Architects play crucial roles in addressing the challenges posed by urban informality, navigating a complex landscape where the boundaries of conventional architectural practice are often tested. In addressing informal settlements, architects can adopt various approaches. Some engage in transgressive architecture, pushing the boundaries of traditional practice to create

innovative and contextually responsive solutions. This might involve unconventional designs that adapt to the unique needs and constraints of informal settlements while considering social, economic, and environmental factors. On the other hand, there may be discussions within the architectural community regarding whether these structures should be viewed merely as 'buildings' that need to be replaced with more conventional architectural forms. This perspective may emphasise the need for formalisation and adherence to established architectural norms. However, this approach can sometimes overlook the complex socio-economic factors that drive the existence and persistence of informal settlements.

Thus, the unconventional nature of informal construction challenges established definitions of architecture, prompting a re-evaluation of what is considered architectural practice. This calls for modes of architectural practice that break away from normalised boundaries, encouraging architects to engage in inclusive, participatory, and socially responsive approaches that address the unique challenges posed by urban informality. The goal is to develop solutions that not only provide shelter but also contribute to the well-being and resilience of communities within informal settlements.

These violations manifest in different ways: adopting research-based participatory methods in diverse teams, creating flexible and adaptable structures, shaping formal results, promoting a truly 'critical' architecture, and advocating for a radical formalisation of architecture as socio-environmental art. Figure 11 below illustrates an informal settlement in Mumbai, India. In Dharavi, Mumbai, India, in the 1990s, replacement homes/ apartments that are isolated from street networks frequently replace informal settlements, depriving newly created semi-public spaces of their intended efficiency, productivity, and sociality.



Figure 11: Dharavi, Mumbai, India,

Source: <https://medium.com/@yuvaonline/the-dharavi-redevelopment-project-3b2e1e7115f5>. 05 February 2023

Informal settlements encapsulate social and economic practices that may not seamlessly transition into formal housing arrangements. A distinctive feature of these settlements is their heavy reliance on the street and laneway network, especially in terms of facilitating domestic production that extends into public space with notable intensity and efficiency. The formalisation process often involves standardising private spaces into small apartments, which, in turn, become detached from the interconnected street networks. This standardisation results in access spaces that lack flexibility and productivity compared to the dynamic nature of informal arrangements. In certain scenarios, public housing becomes crucial, particularly when slums cannot be feasibly rehabilitated to meet liveable standards or when the existing location poses challenges in terms of safety and sustainability. However, it is important to note that any model wherein individuals experiencing poverty are reduced to mere welfare recipients, is not considered sustainable. Sustainable solutions should strive to empower communities, promoting autonomy and self-sufficiency rather than perpetuating dependency. Figure 12 illustrates how in Dharavi, Mumbai, India, Informal settlements' productivity and social life are closely related. This shows the ability of public areas to accommodate both home and commercial activities.



Figure 12: Dharavi, Mumbai, India Informal settlements where productivity and social life are closely related. Source: <https://owlcation.com/social-sciences/Dharavi-Mumbai-The-Pros-and-Cons-of-Slum-Living>. 05 February 2023

Public spaces created by informal settlement processes may appear uneven and incomplete. However, there is no doubt that an informal settlement makes as much sense as a formal city. Ribeiro (2020) emphasises the interdependence of access networks and movement patterns in informal settlements. In the above informal settlements, the type of informal settlements is mostly peripheral or interstitial regarding the city's topography, morphology, and transportation system. Figure 2.12 below depicts the interfaces and how the public spaces relate to each other.

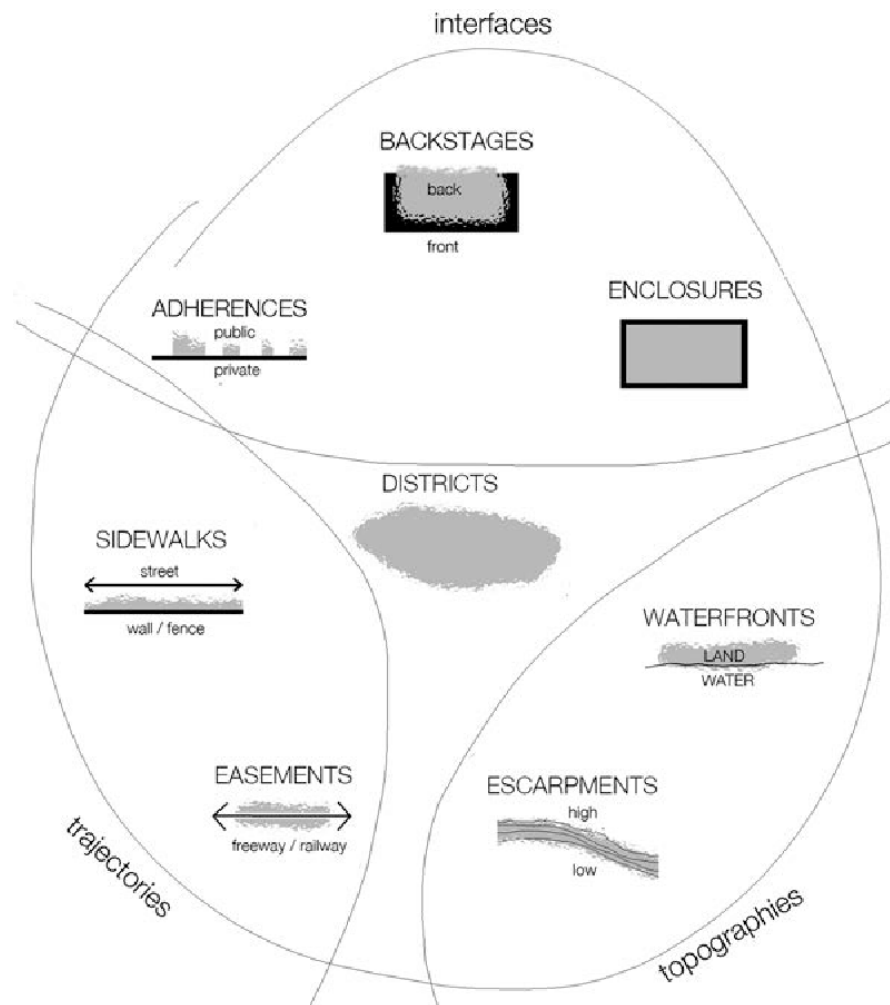


Figure 13: Connection of public spaces

Source: <https://www.semanticscholar.org/paper/Forms-of-Informality%3A-Morphology-and-Visibility-of-Dovey-King/2fbdca0f0646ee6b96aa70ad3631ddabe21e499a/figure/9>. 05 February 2023

Recent literature extensively explores the typologies, morphologies, and incremental adaptations present in informal settlements. Several studies have proposed diverse typologies, considering factors like proximity to job concentrations, growth processes, and the intricate relationships between casual and formal morphologies. Furthermore, other typologies within informal settlements have emerged to investigate aspects such as spatial visibility and the interfaces between public and private spaces (Kamalipour, 2023). These investigations contribute to a nuanced understanding of the varied spatial configurations and the intricate dynamics at play within informal urban environments.

Public space plays a crucial role as a contestation arena, but its significance has not received enough attention, especially when considering the global South. In the context of informal settlements, public space is typically ephemeral and constantly undergoing processes of adaptation through appropriation. Figure 14 below depicts how different public spaces have been configured within the community.



Insertion of public facilities in different parts of the area



Insertion of a cable metro system that is integrated with the metro system of the city



Insertion of apartment blocks along a linear open space surrounded by the painted houses



Provision of public open space in proximity to the cable metro stations

Figure 14: Different types of spaces in informal settlements and how they can be configured within the community

Source: <https://www.archdaily.com/957524/public-spaces-and-the-challenges-of-covid-19-un-habitats-small-scale-urban-responses-in-vietnam-bangladesh-and-india> (2022). 05 February 2023

In informal settlements, a large portion of the way places and public spaces are shaped can be regarded as "unfinished," as this allows for flexibility in responding to the residents' requirements and preferences individually and collectively. Incomplete forms or objects are regarded as critical attributes of what Sennett [61] terms "the open city" (cited in Kamalipour, 2023). In the context of urban transformation, the community, identity of place, and symbolic capital of

informal settlements undergo changes as specific images are created, dismantled, and reconstructed (Kamalipour, 2023). This underscores the dynamic nature of informal settlements within the urban fabric, where ongoing transformations reshape both the physical and symbolic dimensions of these communities. A great example of culture and identity is the vibrant favelas in Brazil. The favelas began as a quiet undercurrent of necessity. With limited resource access, creativity flourished as residents sought sustainable solutions to everyday challenges. Thus, they became a fertile ground for the production of culture. Rio's aesthetic has been defined by dances and music such as the samba, capoeira, and choro. Forró, breakdancing, hip-hop, and funk all reflect the experiences of those living in favelas. The fusion of life and art turns commonplace hope into culture (see Figure 15 below).



Figure 15: The different types of colourful facades identify the different kinds of cultures
 Source: (https://franks-travelbox.com/en/suedamerika/brasilien/favelas-in-rio-de-janeiro-brasilien/#google_vignette)
 .05 February 2023

For this reason and many others, favelas are territories of experimentation with simplicities and challenges. We are unable to identify monumental cultural facilities from a distance. Favelas and large buildings do not characterize the city's landscape. However, as we get closer to them, many innovations and customs that provide significance to human existence become more well-known (Source, 2022). Figure 16 below depicts areas where children can play.



Figure 16: Narrow streets and children playing

Source: https://franks-travelbox.com/en/suedamerika/brasilien/favelas-in-rio-de-janeiro-brasilien/#google_vignette.

05 February 2023

2.1.8 Conclusion

This chapter has provided a concise overview of culture in informal settlements. It posits that challenging living conditions in urban areas serve as a primary catalyst for the formation of communities. Consequently, residents in informal settlements are prompted to reside in communities built around their social ties, often involving existing family structures. This facilitates the formation of social networks with greater ease.

Through these social connections, individuals establish networks that provide access to employment opportunities and support. This interconnectedness not only enhances the community's cohesiveness but also facilitates active engagement in public participation systems.

The familiarity among community members allows for efficient role assignments based on individual skills and knowledge. This collaborative approach fosters the community's ability to find practical solutions to the daily challenges they encounter. The robust social fabric thus plays a vital role in creating a supportive environment where individuals can thrive both socially and economically.



Figure 17: Children using an old cut tree log as a playing tool.
(Source: Author)2023

3 THIRD CHAPTER:

3.1 RELATIONSHIP BETWEEN NEUTRAL SPACES AND STRUCTURAL FORMS IN INFORMAL AREAS

3.1.1 Introduction

The preceding two chapters have laid the groundwork for comprehending the culture and social networks of informal settlement communities, their empowerment, and insurgent practices, exploring how these factors influence placemaking and built form. This chapter will shift its focus to the nature of the built form conceived by informal settlement communities. It will scrutinise the informal architecture emerging in such environments, employing demographics and socio-economic factors as a lens of analysis.

The initial section will explore the interplay among architecture, demographics, and socioeconomics and how these factors shape the built environment. The next segment aims to provide an in-depth examination of the actual challenges faced by architecture in establishing sustainable living conditions. Finally, it will endeavour to elucidate the expression of informal settlement architecture and discern its significance.

3.1.2 The Relationship between Architecture and Socioeconomics and how they Influence the Built Environment.

Informal settlements worldwide exhibit a prominent common characteristic – high density. The substantial population of informal settlement residents coupled with limited available land makes land in these settlements a valuable commodity. Moreover, the absence of formal legislative planning controls or strict parameters from authorities leads occupants to establish densely packed urban fabrics that challenge many conventional norms related to the relationships between public and private spaces.

The allocation of private space was significantly greater in informal settlements, accounting for 54 percent and 63 percent, in contrast to 29 percent and 26 percent in housing projects. In informal settlements, where land is a precious resource, there is minimal leftover or "wasted" public space as the available space is efficiently distributed to maximise the "private" area. The preference for residential land use also contributes to the scarcity of squares and plazas in these areas (Tames, E, 2004).

A prevalent spatial pattern identified in the two images below is the presence of a semiprivate buffer zone between the street and the house entry. However, the definition of this zone varies among builders, contingent on the specific spatial constraints of the lot. Opalach (1997) contends that in informal settlements in Sao Paulo, varying degrees of privacy are observed, and the street facade is not entirely solid. Instead, it often takes the form of a porous screen that safeguards semi-private space.

This buffer zone, acting as a transitional space between the dwelling and the street, exhibits varying levels of privacy. However, this gradation in privacy is not consistent across the entire settlement. Depending on factors such as the level of consolidation of the residence and the economic status of the occupants, the buffer zone might manifest as a small porch or even just a half door (Opalach, 1997). In Figure 18 below, the shaded areas in the diagram represent the semiprivate buffer zones between the street and the dwelling. The spaces serve as foyers, often for laundry and parking.

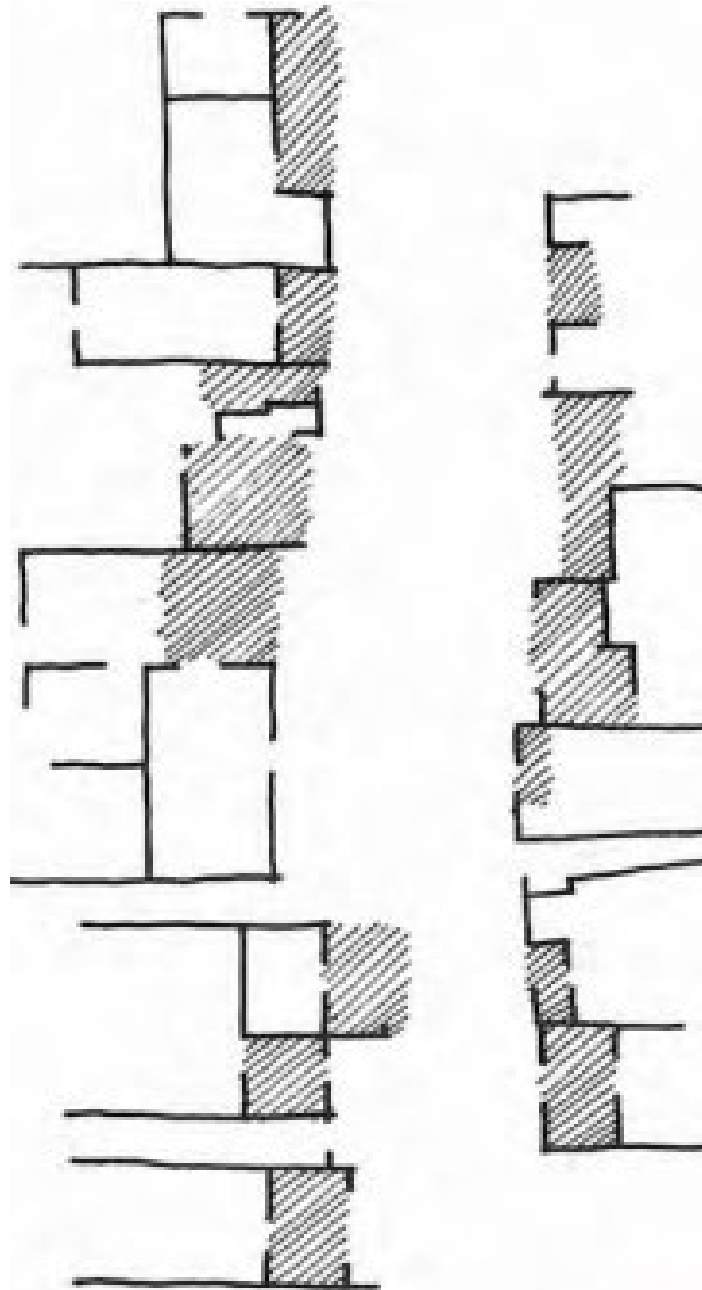


Figure 18: The shaded areas in the diagram represent the semiprivate buffer zones between the street and the dwelling. The spaces serve as foyers, often for laundry and parking.

Source [Opalach \(1997\)](#). 12 March 2023

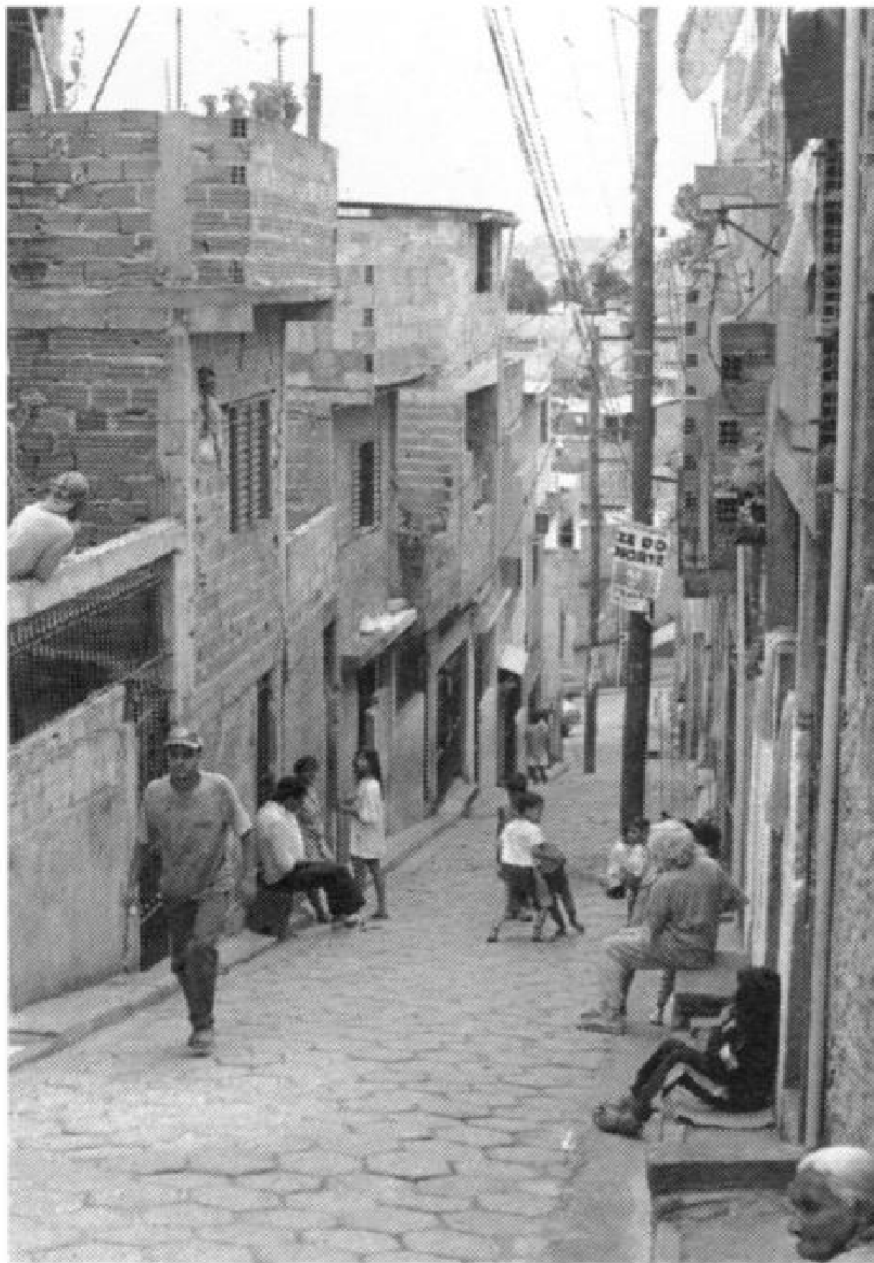


Figure 19: Illustrates the narrow streets and dwellings that open up into the streets, this creates a stronger community bond

(Source: [Opalach \(1997\)](#), 12 March 2023)

3.1.3 Architecture towards Developing Sustainable Living Conditions

In the rapidly advancing world of today, the depletion of earthly resources and the ensuing chaos in life are imminent unless there is a steadfast commitment to sustainability. The powerful momentum of economic development, particularly in countries like India and China, which account for two-thirds of the world's population, has the potential to significantly impact this already exploited planet. Preserving traditional knowledge becomes crucial in managing human aspirations, fostering interdependence, and ensuring sustainability. The current built form of Indian cities is intricate, shapeless, and disorderly. It no longer presents a cohesive response and atmosphere in tune with its environmental context. The situation is approaching a crisis point, and there is a notable absence of a sustainable ecological relationship with the built environment in new settlements. Presently, there is a heightened awareness among people of a loss of totality,

wholeness, and harmony. Figure 20 below depicts the relationship between the environment and sustainable living.



Figure 20: Sustainable living and how to preserve the earth and its organs

(Source: <https://www.outlookindia.com/travel/eco-villages-in-india-you-must-visit-news-222059>).¹² March 2023

The term 'sustainability' has become pervasive in contemporary scientific discourse, particularly in the environmental sciences. Historically, until the late 1970s, the term was sporadically employed, mainly in discussions about the prudent utilisation of forest resources. Its association with the forestry sector was particularly prominent. Moreover, 'sustainability' has conventionally been linked with concepts like 'long-term' and 'durable,' illuminating the interplay between nature and human communities, as well as the relationship between nature and culture.

3.1.4 Conclusion

This chapter sought to delve into the intersection of sustainability, and the built form in informal settlements, and their impact on formal architecture. As Tyburski (2008) emphasised, sustainable development involves a social learning process, emphasising the ability to harness nature and social resources. This entails the capacity to adapt and explore alternative approaches while considering the potential risks to the continuity of nature and society, or nature and culture, for human benefit.

The initial segment established the relationship connection between the neutral space's structural forms. In order to design architecture that addresses of neutral space. To address the issues faced challenges confronted by insurgent groups movements, architects must take need to adopt a bottom-up approach. in conceiving architecture. It should embody the language and knowledge systems intrinsic to informal settlements, reflecting the perspectives of the people

within these communities. Represent the viewpoints of the individuals living in these communities and incorporate the terminology and knowledge systems unique to informal settlements.



Figure 21. Exploring informal. The mother prepares chicken legs to sell at the nearby taxi rank while the child is wondering about. (Source: Author) 2023

4 FOURTH CHAPTER:

4.1 INFORMAL SUSTAINABLE DEVELOPMENT IN URBAN AREAS

4.1.1 Introduction

Population growth and urbanisation are pivotal considerations within the Sustainable Development Goals (SDGs), with a specific emphasis on SDG 11, highlighting the imperative to enhance urban sustainability and promote sustainable urbanisation processes. As of mid-2017, the global population reached an estimated 7.6 billion people and is projected to surge to 9.8 billion by 2050, with Africa contributing more than 50% to this growth (ESCAP, 2017a).

The escalating rates of urbanisation underscore the pressing need for new urban residents to have access to essential resources such as food, energy, and water. Equally crucial are services like sanitation, health, education, mobility, and information. The provision of basic infrastructures, including housing, transport systems, and power plants, becomes paramount to meet these resource and service demands. The existing inadequacies in fulfilling these requirements raise significant concerns about the feasibility of meeting the growing future demand. Addressing these challenges is integral to achieving sustainable and resilient urban development in the face of rapid population growth and urbanisation trends.

4.1.2 Empowerment and Trading in Informal settlements

An informal settlement is a conspicuous manifestation of urban poverty, typically arising within or in close proximity to cities through self-organised processes. This type of settlement is characterised by the absence of formal urban planning and building permits, often stemming from the accumulation of low income and the experience of lower levels of both quantity and quality of life. Commonly referred to as informal or marginalised settlements, these areas exhibit diverse physical characteristics that vary across cities, influenced significantly by the income levels of their inhabitants. Usually found in areas characterised by low environmental quality, such as railway setbacks, dump sites, or marshlands, informal settlements often lack security of tenure. This absence of formal land ownership or tenure security contributes to the vulnerability of residents. Additionally, these settlements are marked by an inadequacy in the number of dwelling units and a deficiency in basic infrastructure, further compounding the challenges faced by their inhabitants. The multifaceted nature of informal settlements reflects the complex interplay of economic, social, and environmental factors that shape their existence.

The empowerment approach has gained prominence in addressing development issues, particularly as traditional socio-economic changes, often associated with societal development, have failed to deliver adequate benefits to impoverished and marginalised groups. This approach offers a critical perspective on existing development methodologies and seeks to reform them. Within the empowerment approach, the transformation of marginalised and economically disadvantaged groups is contingent upon their collective and civic power to advocate for their desires and fulfil their needs (Safarabadi, Moayedfar & Varesi, 2015).

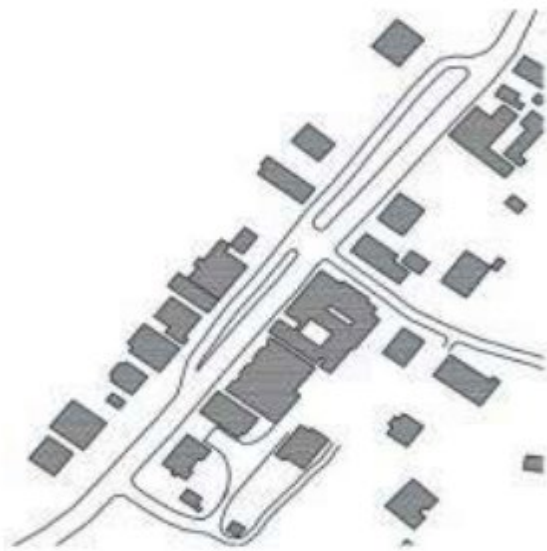
In a research paper, (Richards et al., 2007) investigated the quality of life among residents of informal settlements in three distinct urban centres in South Africa; namely Buffalo City, Durban, and Alexandria-Johannesburg. The study revealed a significant challenge posed by unemployment, with rates ranging from 58% to 72% among the residents (Wekesa, Steyn & Otieno, 2011).

The proliferation of informal settlements, particularly prevalent in developing countries, is attributed to various factors. One primary driver is poverty, which restricts access to conventional building technologies for a substantial portion of the urban poor population. This situation is further exacerbated by the failure of governments and large corporations to establish the necessary economic foundations that could support and sustain the general population (Wekesa et al., 2011). This study sheds light on the intricate challenges faced by residents of informal settlements, emphasising the crucial role of socio-economic factors in shaping the living conditions within these communities.

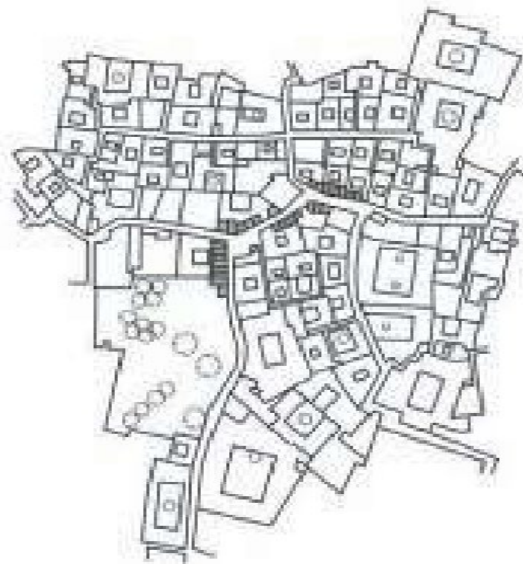
Cultural creative development contributes to the establishment of post-productivist urban-rural communities, facilitating a smoother transition for Chengbiancun in China. In response to extensive urbanisation and social transformations, numerous nations leverage cultural creativity as a catalyst for urban regeneration. Decision-makers, influenced by culture-led initiatives, have recognised the potent influence of cultural creativity in revitalising urban areas (Lang, Chen & Li, 2016).

The African market street stands as one of the most fiercely contested spaces within the built environment. It serves as a bustling, congested area shared by traders, pedestrians, and vehicles, particularly minibuses, highlighting a reality in regions where the formal job sector falls short. While hawkers at major transport hubs can generate a respectable income, individuals grappling with poverty in informal settlements often turn to small-scale, informal trading as a crucial and sometimes desperate means of survival (Steyn, 2008).

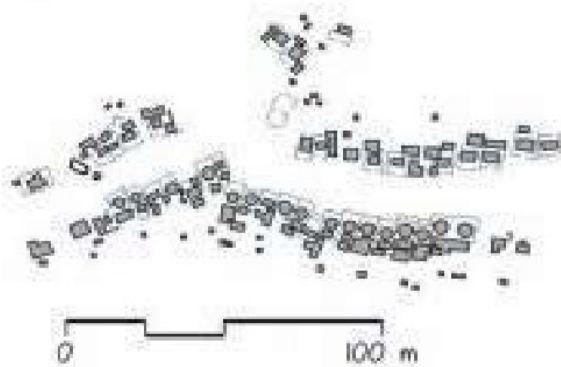
It is important to note that the market street is not exclusive to Africa. Its origins trace back to the first cities in the Middle East, where the 'suq' or bazaar street has endured for over 8,000 years. With the expansion of Muslim conquests, this typology proliferated, leaving its mark on the historic cores of Islamic cities in North Africa, such as Marrakesh, Fez, Tangier, Algiers, and Tunis (see Figure 22).



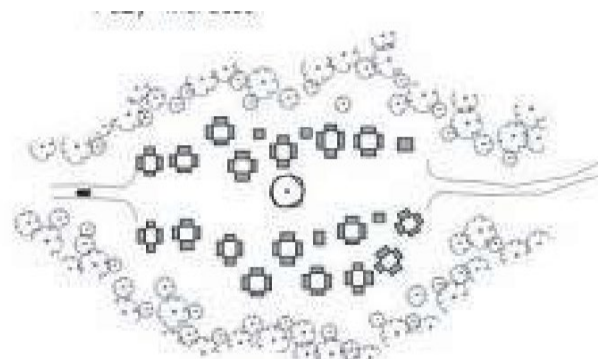
Pilgrim's Rest, South Africa



Fez, Morocco



Ndebele Village, South Africa



Asante Village, Ghana

Figure 22: African pre-industrial market streets.

(Source: [https://repository.up.ac.za/bitstream/handle/2263/10170/Steyn_Market\(2008\).pdf?sequence=1](https://repository.up.ac.za/bitstream/handle/2263/10170/Steyn_Market(2008).pdf?sequence=1)). 09 April 2023

Limited research exists on similar activities in shantytowns, perhaps because they are officially labelled as 'temporary.' In the Gauteng province of South Africa, a pivotal region for sub-Saharan economic activity, the Gauteng Department of Housing aims to eliminate all informal settlements by constructing 200,000 medium-density, low-cost houses. However, this policy is inherently flawed; informal settlements will persist as the preferred option for many and the only option for others (Dewar, 2007; Steyn, 2008). The crux of the matter is that poverty, not housing, stands as Africa's foremost social problem. This highlights the complexity and persistence of informal settlements as a response to broader socio-economic challenges rather than merely a housing issue.

Yatmo (2008) divides unofficial vendors into two categories: those who are stationary and conduct business from fixed locations on public roads, using easily assembled and disassembled non-permanent structures like a mat or a tent, or permanent structures like a kiosk. Some street vendors move about selling goods or providing services while carrying them, constantly changing locations. Itinerant vendors most frequently use pushcarts, though they can also use other equipment like trolleys. Most studies concur that the right to trading space presents the biggest obstacle for informal traders regarding their places of business. Most street vendors' land is unowned, or local government bodies do not give them land allocations.

This research seeks to understand the factors influencing street vendors' decisions on their trading locations. According to Mitullah (2003), many traders prefer areas with high foot traffic and

strategically position themselves along main roads, streets, near shopping centres, or at corners where they are visible to pedestrians and motorists. In some cases, with permission, they intentionally set up near supermarket and mall entrances to capitalise on the significant customer flow.

4.1.3 Conclusion

This study aims to explore the dynamics of informal settlements, focusing on a particular squatter site in Rawutini, Komani, Eastern Cape, South Africa to understand the production processes and livelihood strategies. While the findings from this single case study may indicate broader trends, they cannot be considered fully representative. The goal is to identify significant challenges and propose conceptual solutions by examining precedents. Although the study is limited to a specific case, it is anticipated that the speculative solutions proposed could conceptually benefit a wide range of informal settlements.

Katherine Ewing undertook a compelling master's thesis in architecture in 2000, conducting a comparative study of market streets in Harare, Isfahan, and Jaipur. Anindita Gosh's comprehensive thesis from 1994, titled "The use of domestic space for income generation in a low-income housing settlement" in Calcutta, India, offers valuable insights into the dynamics of domestic spaces in low-income settlements. Additionally, Davidson and Payne (2000) provide lessons from Egypt in their guide to preparing, upgrading and building new development projects for low-income groups, offering potential benefits for South African communities. These research works contribute valuable perspectives to the understanding of urban and housing challenges in diverse contexts, providing insights that can inform approaches to similar issues in other regions.

Richard Dobson's book stands as an exemplary resource. A stroll through Warwick offers a distinctive experience, not just for its vibrant colours and overwhelming sights and sounds, but also for the innovative ways in which the diverse community of street traders has been accommodated (Dobson, Skinner & Nicholson, 2009). This work serves as a valuable contribution to understanding inclusive urban planning and the integration of street traders into the urban fabric, shedding light on practical approaches that consider the needs and contributions of informal economies within the urban context. Figure 23 below depicts one view of a market in Warwick.



Figure 23: Women preparing food at the Bovine Head Market and General Food Court

Source: (Dobson et al. https://www.wiego.org/sites/default/files/publications/files/Working_in_Warwick_Ch_1.pdf) (2009).
09 April 2023

Observing cows' heads defrosting in the sun might deter some people from visiting this market, where the heads are boiled and prepared as a Zulu delicacy. However, despite these unconventional practices, it is highly recommended to visit the market, as it stands out as one of the locations in Warwick where traditional customs persist within a modern urban setting. The juxtaposition of traditional practices and a contemporary urban environment provides a unique and culturally rich experience for those willing to explore and understand the diverse aspects of the local community.



Figure 24: Men sitting and enjoying meat cooked by women

Source: (Dobson et al. https://www.wiego.org/sites/default/files/publications/files/Working_in_Warwick_Ch_1.pdf) (2009).
09 April 2023

In the traditional context, the preparation and consumption of meat from a cow's head were reserved for men. However, at present, the majority of cooks at this market, around 30 individuals, are women. Interestingly, while both men and women are customers, only men have the option to sit at the long trestle tables provided, while women typically opt for takeout (Dobson et al., 2009). This symbolises the tradition in the rural villages, where the men eat alone in the kraal, and women eat in the rondavels or huts. Moreover, within the food court area, there exists a vibrant and sometimes noisy section where traders offer a diverse range of goods and perishables. These include items like cigarettes and snacks for pedestrians during rush hours, as well as hand lotions, music, pottery, small hardware items, and even rat poison. The availability of items and their quantities fluctuate based on the time of day and the preferences of potential customers. In the early hours, traders cater for those heading to work, providing options like cigarettes or packets of chips for a quick stop.

As the day progresses, the food court undergoes a transformation. Stalls are strategically arranged to appeal to customers seeking specific items like hardware, music, and other durable goods. The focus shifts once more to attract individuals who are looking for items to purchase for the evening meal or immediate household needs. Figure 4.5 below is another view of the variety on offer at the Warwick market.



Figure 25: Mixed trade takes place every morning, and items sold vary from day to day
Source: (Dobson et al. https://www.wiego.org/sites/default/files/publications/files/Working_in_Warwick_Ch_1.pdf) (2009).
09 April 2023

The porters are a bunch of young males. They primarily serve clients, street vendors, and wholesalers; navigating the throng, they move items throughout the city and between the various storage facilities, assisting with heavy purchases.



Figure 26: Porters transport all types of goods to customers around the city
 Source: (Dobson et al. https://www.wiego.org/sites/default/files/publications/files/Working_in_Warwick_Ch_1.pdf) (2009).
 09 April 2023

Vendors are open for business from 04:00 till around 21:00. When things calm down in the noon lull, these vendors frequently sit outside the Early Morning Market and speak, smoke, or just relax. While barrow operators handle significantly greater loads, shopping trolley operators handle lighter, less bulky items. These two separate categories of porters offer different services.



Figure 27: Trolley operator transporting goods for customers
 Source: (Dobson et al. https://www.wiego.org/sites/default/files/publications/files/Working_in_Warwick_Ch_1.pdf) (2009).
 09 April 2023

Warwick is split in two, with a music bridge bridging the east and west sections. All genres of traditional Zulu music known as Maskhandi can be experienced here. The stark difference between the rest of Warwick and Brook Street Market is striking. Anyone coming from the Muthi Market, after crossing the curved purple pedestrian bridge, they will probably stop and stare at the large, vibrant shopping centre below—a concourse that practically seems like a wide street stretching several hundred meters under a tall roof, as depicted in Figure 4.7 below.



Figure 28: Market area where all types of trading occur

Source: (Dobson et al. https://www.wiego.org/sites/default/files/publications/files/Working_in_Warwick_Ch_1.pdf) (2009).
09 April 2023

The market is a vibrant hub of activity, starkly contrasting with the tranquillity of the cemetery along its eastern edge. It offers diverse types of trading spaces, featuring kiosks for more advanced small businesses and a food court. Tailor-made storage facilities are positioned along one stretch of the walkway.



Figure 29: Exploring informal. A garage access for both vehicle and house residences
(Source: Author) 2023

5 FIFTH CHAPTER:

5.1 ARCHITECTURAL RESPONSE TO INFORMALITY: KEY PRECEDENT STUDIES

5.1.1 Introduction

The following chapter reviews fundamental precedent studies in dealing with informal settlements. The structures listed below address various challenges and opportunities during the design process and aid in understanding the dynamics required to support the development of the community under study in the suggested intervention. Considering the concepts and theories discussed in earlier chapters, a critical analysis of the prior research is conducted. In order to build the community centre that is being recommended as an intervention for the Rhawutini Informal Settlement, it is necessary to conclude the analysis of the many precedent studies.

5.2 UPLIFTING ARCHITECTURE TO TRANSFORM THE COMMUNITY: KAMWOKYA COMMUNITY CENTRE – UGANDA

Figure 5.2 below depicts a public Community Centre located in Kampala, Uganda. The architect was Kéré Architecture and was designed in 2022. The total area is 1600 square metres.



Figure 30: Aerial view illustrating sports field and buildings.
Source: Architectural Digest (2023). 12 April 2023

5.2.1 Urban Analysis



Figure 31: A twisted iron grid roadway plan with informal infilled density contrasts with spaces in Kampala, Uganda

Source: Google Maps (2023). 12 April 2023

The Kamwokya Community Centre is located in a crowded, small section of Kampala. The region looks unplanned from a distance, with a large number of low-rise buildings grouped closely together, practically stifling and hiding the roadways that cross through it. Glancing into it, these little streets, with their imperfectly portrayed organic arrangement that precisely fits everyday activities, bring dynamic encounters into the area. Private homes make up the majority of the surroundings near the intervention location. However, the township's once "public green spaces" are now home to a few public and civic buildings, including schools, post offices, police stations, churches, and retail establishments.

Formally built solid brick buildings and a variety of brick constructions with corrugated iron modifications are among the several types of dwellings. Not only that, but there are many impromptu homes on open space all across the municipality. These informal dwellings have a transitory aspect similar to that of informal settlements. Figure 5.4 below depicts another view of the Kamwokya Centre.



Figure 32: Township fabric intervention seen from a topographical perspective
Source: Designboom (2022). 12 April 2023

5.2.2 Background

The multi-centre Kamwokya Community Centre is in one of Kampala's poorest neighbourhoods and offers sports, leisure, and artistic programmes to the local community. The project aims to preserve and improve the site's public and accessible nature, while gently elevating the area rather than imposing on it. The centre offers a suitable setting for the events and activities there, including music and dance classes, community events, workshops, sports practices, and games.

5.2.3 Justification of Precedent

Kéré Architecture followed humanitarian design principles while wrapping up its most recent project in a densely populated region of Kampala, Uganda. The Kamwokya Community Centre is an example of the interaction between the built environment and the city. Granularity is a phrase that is often used in discussions about the different levels of a city, but it is also commonly used in fields like astronomy, physics, linguistics, photography, and information technology. The physical environment has a greater influence on a city's economy than is often understood, despite the fact that economics and cities are positively correlated.

The Kamwokya environment is a lot like what is currently found in Komani's informal communities, the location of this study. Communities in both situations have restricted access to basic facilities. The situation is worse in informal settlements where households do not have access to electricity,

water, or sanitary facilities. Rather than being imposed by an apartheid administration in Komani, the conditions are mostly determined by economic considerations. However, the objective of the architectural intervention in both cases is to create a forum for community involvement, incorporating government agencies, civil society organisations, and NGOs in the suggested intervention described in this dissertation. Community involvement is an essential component of both programmes, which seek to mobilise resources from the community to enhance the participants' quality of life.

5.2.4 Project Intentions

Kamwokya's main functions were as an educational facility and communal centre for the impoverished township residents. This structure was intended to serve as a centre of community participation and provide vital support, as there were not many places for community events and exchanges. Transferring skills was one of the intervention's main goals. The goal of introducing skills development programmes to the community was to raise people out of poverty by providing them with the knowledge and skills necessary to find well-paying jobs. The facility was also intended to be a vital component of the neighbourhood, providing a designated area for people to congregate, participate in leisure activities, and converse about significant neighbourhood issues.

5.2.5 Programme and Planning

The project has improved the community by providing the residents of the neighbourhood with access to necessary facilities like a multipurpose building, community hall, gathering area, and multi-sports field where sports competitions and training are held. It also includes raised play space, restrooms, changing rooms, water tower, and a rainwater harvesting area (Maju, 2022). The facilities include:

- A gym
- Internet café
- Multi-purpose rooms for classes and workshops
- Music studio
- Office
- Community hall
- Gathering space
- Multi-sports field
- Raised play space
- Changing room
- Toilets
- Water tower
- rainwater harvesting area.

5.2.6 Planning and Design Rationale

Utilising the humanitarian design principles in a Ugandan neighbourhood of Kampala, the interaction between the built environment and the city is embodied in the Kamwokya Community Centre. The community centre designed by Kéré Architecture, is situated in the last

and most important buildable space within the nearby environment. It softly elevates rather than imposes on the surrounding structures, building on their attractiveness and familiarity. The sections are raised by steel structures, which are covered by butterfly roofs. Though the roof profile offers the building a unique form and personality within its surroundings, the materials selected are inspired by the surrounding terrain. Designing a building that the community could relate to the region's culture, history, and essence was a crucial component of the planning and design rationale; these themes are visually evident in the Kamwokya Community Centre.

5.2.7 Spatial Planning

Figure 5.5 below depicts the Kamwokya Community Centre site plan, showing how it fitted into the available space, while Figure 5.6 depicts the east elevation and butterfly roof. Figure 5.7 shows the west elevation plan, while Figure 5.8 depicts the various platforms in the Centre.

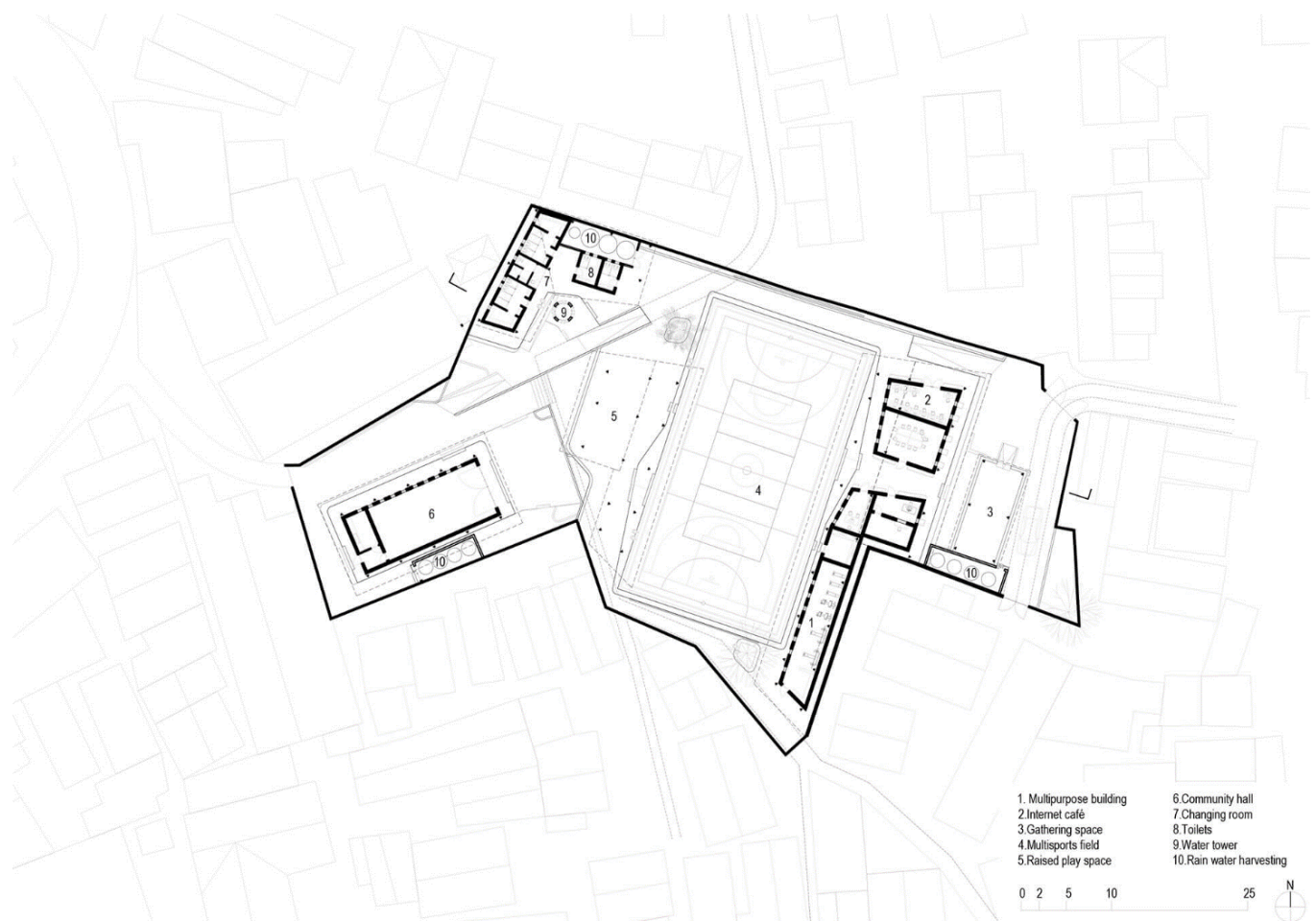


Figure 33: Site plan depicting how it conforms to the arrangement of spaces and surroundings
Source: Stir World (2022). 12 April 2023

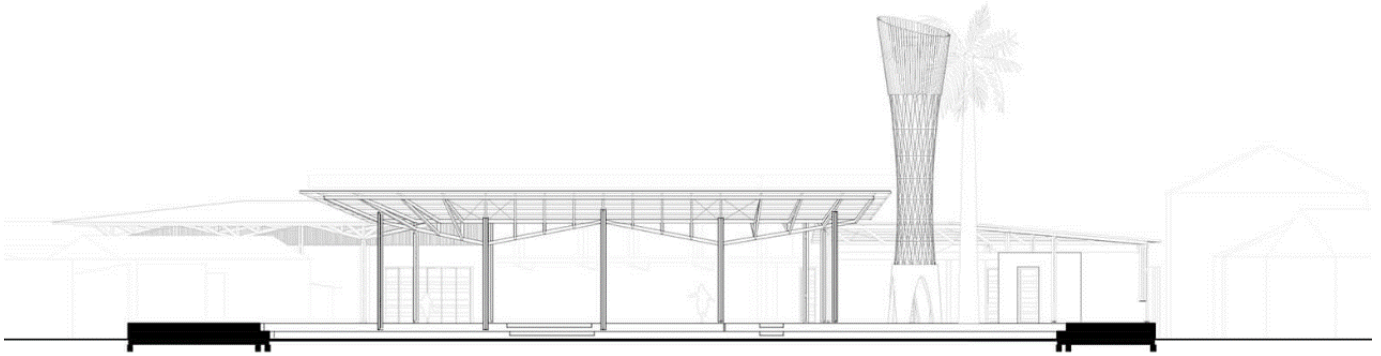


Figure 34: East elevation showing the relation to the butterfly roof
Source: Stir World (2022). 12 April 2023

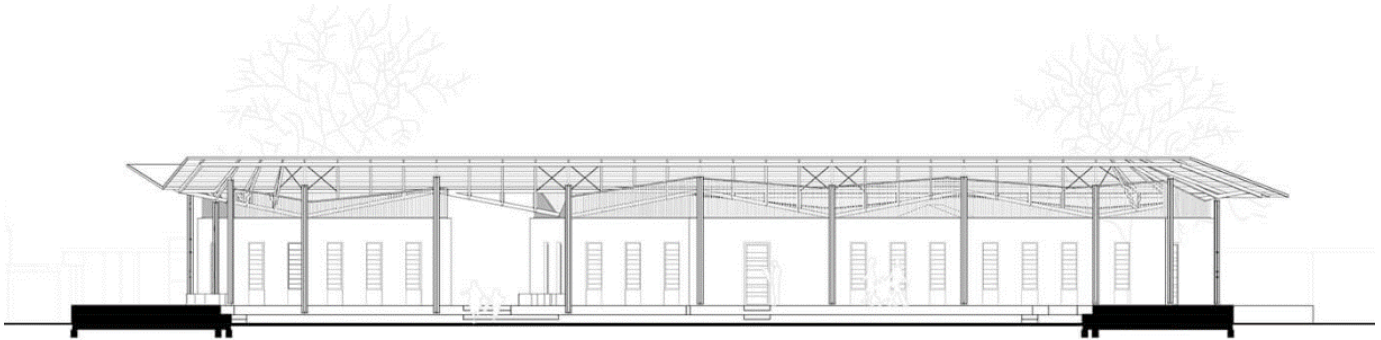


Figure 35: West elevation illustrating buildings on butterfly roofs
(Source: Stir World (2022). 12 April 2023



Figure 36: A view of the site indicating the different platform levels, water tower, butterfly roof, and buildings
Source: Design boom (2022). 12 April 2023

The Kéré Architecture design team elevated the entire "Kamwokya Community Centre" onto a platform by. This plan enabled the installation of an effective drainage system to shield it from frequent flooding during periods of high precipitation. Subtle level variations separate different areas of this platform so that different activities can happen simultaneously without interfering with each other. Steps shaped like tribunes surround the main sports field, and shaded and drained, where people can congregate or watch games.

Kéré Architecture has constructed two naturally ventilated buildings with specific interior programming for the Kamwokya Community Centre, positioned at the summit of an elevated platform. These areas comprise a music studio, an office, a small gym, an internet café, multipurpose rooms for workshops and classes, along with a nearby sanitary block. The site stands out in its urban context due to the two distinctive butterfly roofs that envelop the spaces. These roofs are elevated by steel structures, not only providing a unique architectural identity but also facilitating optimal airflow within the buildings, contributing to natural ventilation and environmental sustainability.

5.2.7 Tectonics and Materiality

The tectonic expression and materiality of the building are based on the familiarity and character of the neighbouring structures. The steel roofing sheets resemble the ancient, rusted sheets on the surrounding buildings, and the exposed brick unifies the raw character of the surrounding regions. The water tank, on the other hand, stands out and becomes the project's visual hallmark despite being meant to be a structural contrast in scale and style.

According to Kéré (2022), "architecture is a wake-up call," and the Kamwokya Community Centre shows itself as an integral part of its surroundings rather than a standalone structure. In the process, it invites people to participate in the building's progress and promotes the architecture's good impact on the community. The centre features steel constructions, wooden doors, louvered windows, exposed brick walls, and grey flooring like other buildings. Figure 5.9 below depicts the louvered windows.



Figure 37: View illustrating the different materials used on-site
 Source: Arch Daily (2022). 12 April 2023

5.2.8 Summary

The Kamwokya Community Centre was conceived as a structure that aims to deliver essential social services and provide skills training to an economically disadvantaged community. The architectural design serves as a platform for fostering community unity and it provides a blueprint for equipping the Rawutini informal residents in Komani– the case study for this research - with the means to overcome the historical injustices imposed on them by the apartheid regime in Komani (forma known as Queenstown). The Kamwokya building would not only respond to the Rawutini community's insurgency and resistance against unjust authority but would actively support and reinforce these efforts from a grassroots level.

The most important aspect of the Kamwokya design was that it was a bottom-up approach by the architect, and it fitted seamlessly into the surrounding context. Involving the community also gave them empowerment and ownership of the building. The variations in platform levels indicate how different activities can take place simultaneously, and this relates to the daily lifestyle adaptability of space in informal settlements that cater to several daily varied activities at once. Such a design would fit the requirements of the Rawutini, Komani community as well. The next example, discussed below is from a South African community in Alexandra, Johannesburg.

5.3 A STITCHED ARCHITECTURE INTO THE INFORMAL URBAN FABRIC: ALEXANDRA INTERPRETATION CENTRE – JOHANNESBURG

5.3.1 Project Details

This Community Centre is located in Alexandra, Johannesburg. The architect was Peter Rich Architects, and the project was designed in 2003. The total square meterage is unknown. Figure 5.10 below depicts the Interpretation Centre in Alexandra, Johannesburg, which is situated across the street in the backdrop, and is part of the haphazard and unofficial urban fabric of Alexandra Township, perfectly integrated into its surroundings.



Figure 38: The Interpretation Center, which is situated across the street in the backdrop, is part of the haphazard and unofficial urban fabric of Alexandra Township, perfectly integrated into its surroundings. Source: Arch Daily (2010). 16 April 2023

5.3.2 Urban Analysis

The Township of Alexandra is located to the northwest of the Johannesburg Central Business District (CBD). Its boundaries are defined by low-cost housing developments to the north, east, and south, while the western side abuts a light industrial zone. Acting as a buffer, the M1 highway and the industrial area serve to separate the township from the affluent Sandton area. The geographical configuration in Figure 5.11 below illustrates the spatial context of Alexandra, with its positioning in relation to residential and industrial zones, as well as its separation from more affluent neighbouring areas. The map below shows the informal infilled density of its gridiron street system in contrast to areas where the city has intervened to add infrastructure, social housing, and hostels.



Figure 39: A map of Alexandra shows the informal infilled density of its gridiron street system in contrast to areas where the city has intervened to add infrastructure, social housing, and hostels. Source: Google Earth (2023). 16 April 2023

The map of Alexandra illustrates a street grid pattern which, portrays a nuanced urban landscape, combining both formal and informal elements. The contrast in the street pattern and municipal initiatives is evident in the visual representation of Alexandra's complex urban fabric. (Google Earth, 2023). The street grid in the township adheres to a regular gridiron plan. However, the informal nature of the area has resulted in the gradual and organic expansion of dwellings around formal houses, utilising every available piece of land. Streets in Alexandra are generally narrow, offering limited space for two cars, and sidewalks have been repurposed for informal businesses, makeshift shops, or extensions to formal houses. This adaptive use of space reflects the dynamic and evolving character of the township. The dense informal infill within the gridiron street pattern is sporadically interrupted by areas where the municipality has intervened to establish schools, social housing, large hostels, and civic infrastructure. The Interpretation Centre, as portrayed in Figure 5.12 below, is positioned at the intersection of Hofmeyr Street and 7th Avenue, close to a spot with a small shack believed to be Nelson Mandela's initial residence in Johannesburg. This juxtaposition of informal and municipally intervened spaces adds layers to the urban landscape of Alexandra, reflecting both organic growth and planned development.



Figure 40: Embroidered into the unofficial urban fabric near the intersection of 7th Avenue and Hofmeyr Street is the Alexandra Interpretation Centre

Source: Google Earth (2023)

5.3.3 Background

The Alexandra Interpretation Centre, as mentioned above, is situated in Alexandra Township, positioned northeast of Johannesburg and to the east of the affluent Sandton area. The township's origins can be traced back to circa 1912 when a prosperous farmer initiated the subdivision of the land, selling plots to black families seeking employment and opportunities in the growing mining industry by migrating from rural areas to Johannesburg. However, the implementation of the Land Act of 1913 stripped black individuals of their land ownership rights. Over the years, coupled with a substantial influx of rural-urban migrants, this circumstance led to the informal development of the township, characterised by makeshift dwellings constructed from temporary and readily available materials. Throughout the apartheid era which characterised the political landscape of South Africa for most of the 20th Century, Alexandra Township posed a challenge to the government due to its proximity to white areas. The apartheid regime made several attempts to demolish the township and relocate its residents, but these efforts were consistently unsuccessful. Instead, Alexandra emerged as a symbol of resistance against apartheid, with its residents defiantly opposing forced removals. The township gained renown for various acts of resistance, such as bus boycotts in the 1940s and 1950s and protests against the substandard education mandated by the Bantu Education Act. Alexandra became the residence for numerous struggle icons, with Nelson Mandela being the most prominent among them.

More recently, at the heart of the Integrated Centre project was a commitment to community empowerment. Residents were to undergo training that would enable them not only to actively participate in but also to lead the burgeoning tourism industry. This collaborative effort aimed to work in synergy with professionals, leveraging the unique heritage and history of Alexandra to attract visitors. The project sought to create a sustainable tourism ecosystem that would not only contribute to the economic upliftment of the community but also showcase the rich cultural

tapestry and environmental assets of Alexandra. A key aspect of the renewal project was the emphasis on supporting and nurturing small enterprises within the settlement. By doing so, the initiative aimed to catalyse economic growth from within, fostering self-sufficiency and resilience. Furthermore, the project aspired to serve as a platform to highlight and celebrate the artistic expressions, cultural diversity, and natural environment of Alexandra. In essence, the Alexandra Renewal Project represented a holistic and collaborative effort to bring about positive change to the township, addressing socio-economic challenges while leveraging its unique identity to create opportunities for sustainable development and tourism.

The active involvement of the community in preserving Alexandra's heritage was characterised by a collective effort, with elders assuming the role of custodians responsible for safeguarding the township's rich culture and history. To capture the essence of this cultural tapestry, a meticulous mapping exercise was conducted, heavily reliant on first-hand oral histories shared within the township. Through this comprehensive mapping process, specific areas of pronounced cultural significance were identified, weaving together a narrative that encapsulated the collective memory of Alexandra's residents. In a bid to translate this invaluable cultural wealth into tangible and lasting forms, the services of Peter Rich architects were enlisted. Tasked with the responsibility to bring these narratives to life, the architects designed an infrastructure that not only showcased but also actively preserved Alexandra's unique heritage and cultural identity. This collaborative endeavour sought to honour the living history of the township and ensure its transmission to future generations.

5.3.4 Justification of Precedent

Situated within Gauteng's Alexandra Township, the architectural design of the infrastructure draws inspiration from the organic yard and street structures prevalent in the area. The spatial layout is thoughtfully crafted to resonate with both civic and domestic scales, establishing a harmonious relationship with its immediate surroundings and becoming a distinctive landmark. The selection of materials is conscientiously curated, and the meticulous design of spaces and scales contributes to the integration of the structure within the community fabric. This approach not only honours the local context but also ensures that the infrastructure becomes a meaningful and recognisable element in the township. The Interpretation Centre, fundamentally conceived as a museum chronicling the anti-apartheid struggle in Alexandra Township, extended its purpose beyond being a mere historical repository. It evolved into a dynamic foundation for community empowerment, providing a platform for the cultivation and celebration of the township's culture, identity, and heritage. The centre has not only preserved the historical narrative but also actively engaged with the community, fostering a sense of pride and ownership in their cultural heritage.

Mirroring the goals of the Interpretation Centre, the Rawutini Resilience Hub planned for Komani strives to integrate social infrastructure into informal settlements. It serves as a nexus for fostering collaboration among the community, municipality, and NGOs to implement sustained interventions that demand continuous input from the residents. The design and urban regeneration strategy employed for the Interpretation Centre underscored a bottom-up approach, prioritising and valuing the community's knowledge. The synthesis of formal and informal elements remains pivotal in architectural interventions to ensure their effectiveness in addressing the unique context of informal settlements.

5.3.5 Project Intentions

The construction of the building was conceived as a pivotal component within an overarching urban renewal initiative for Alexandra, initiated by the government in 2000. The primary objectives of this renewal project revolved around cultivating community cohesion and mitigating poverty by reimagining Alexandra as a heritage and tourism hub. The strategy aimed to harness the historical legacy of Alexandra through its residents, empowering them to actively contribute to the narrative of the township and actively engage with the tourism sector. As a result, the design of the Interpretation Centre was strategically crafted to function as a platform for showcasing this rich heritage and concurrently offering training opportunities for residents to actively participate in the burgeoning tourism industry. Typically, such a building programme would lead to the creation of a museum. However, considering the specific context, the structure needed to fulfil a dual purpose by showcasing Alexandra's history and addressing its pressing issues. The building had to integrate and offer infrastructure for ongoing commercial activities and essential public amenities. Additionally, it needed to function as a platform for the residents of Alexandra to tap into new opportunities within the tourism industry while preserving their local culture.

5.3.6 Programme and Planning

The first-floor design encompasses an exhibition space dedicated to narrating the rich history of the place, a jazz archive celebrating the vibrant musical legacy originating here, a library, and training facilities equipped with computers. On the ground floor, the functions extend to include shops, restaurants, and an entertainment area, creating a dynamic and multifunctional space for both educational and recreational purposes. The Centre includes the following:

- Exhibition spaces
- Training rooms
- Community spaces
- Offices
- Restaurants
- Retail
- Internet Café
- Archive area

Figure 41 below depicts how the Centre was integrated into the surrounding area.

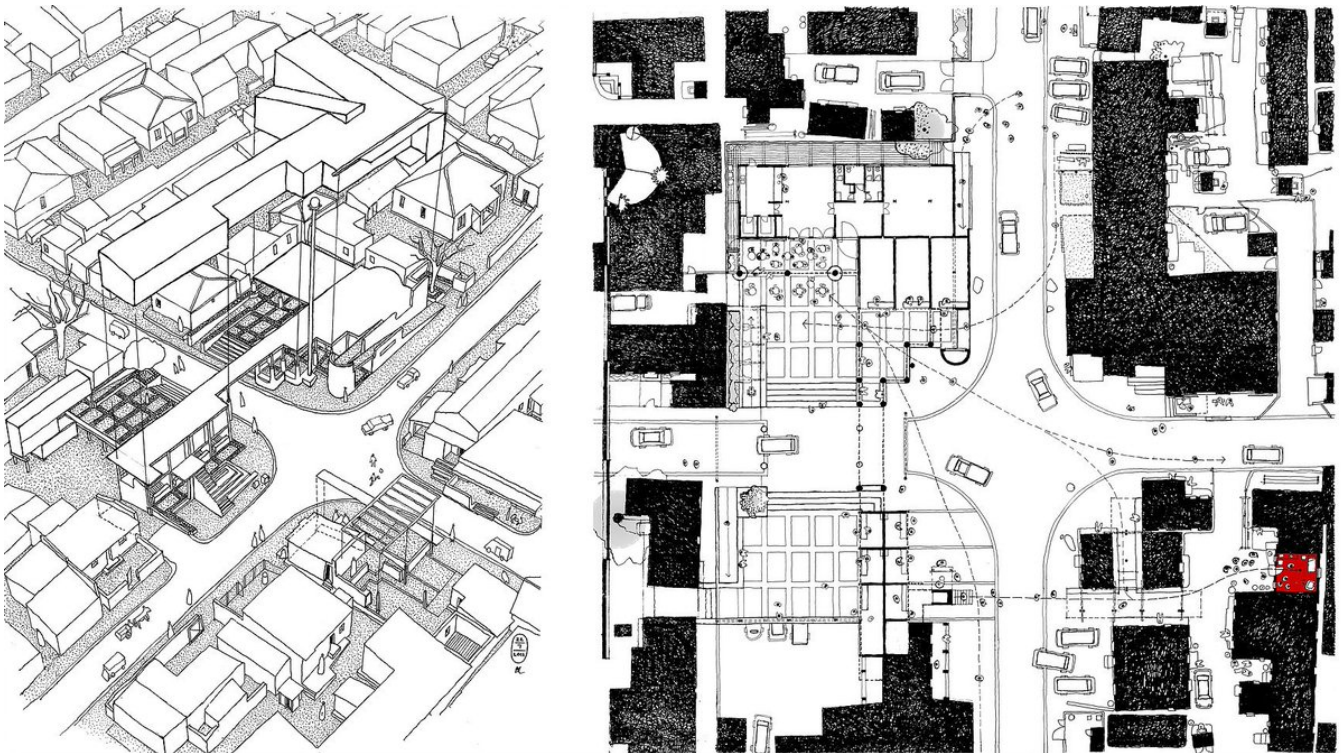


Figure 41: Drawings by the architects show how the structure was integrated into the unofficial urban framework

Source: Peter Rich Architects (2018). 16 April 2023

5.3.7 Planning and Design Rationale

Active community participation and a clear recognition and respect for the surroundings were the main factors that informed the building's architectural reasoning. The physical structure of Alexandra effectively showcases the conversation that the design created between handcrafted, rural material finishes and urban, recycled, produced waste materials. Every aspect of spatial planning and design, as shown below, demonstrates this connection.

5.3.8 Spatial Planning

The building is located on two separate lots, one on either side of the street bridge that crosses 7th Avenue. In order to effectively incorporate the building into the urban fabric, the architects' approach to building integration required a smooth fit within the surroundings. As such, the ground level as a whole has been set aside as public space. Figure 5.14 below depicts this scenario.

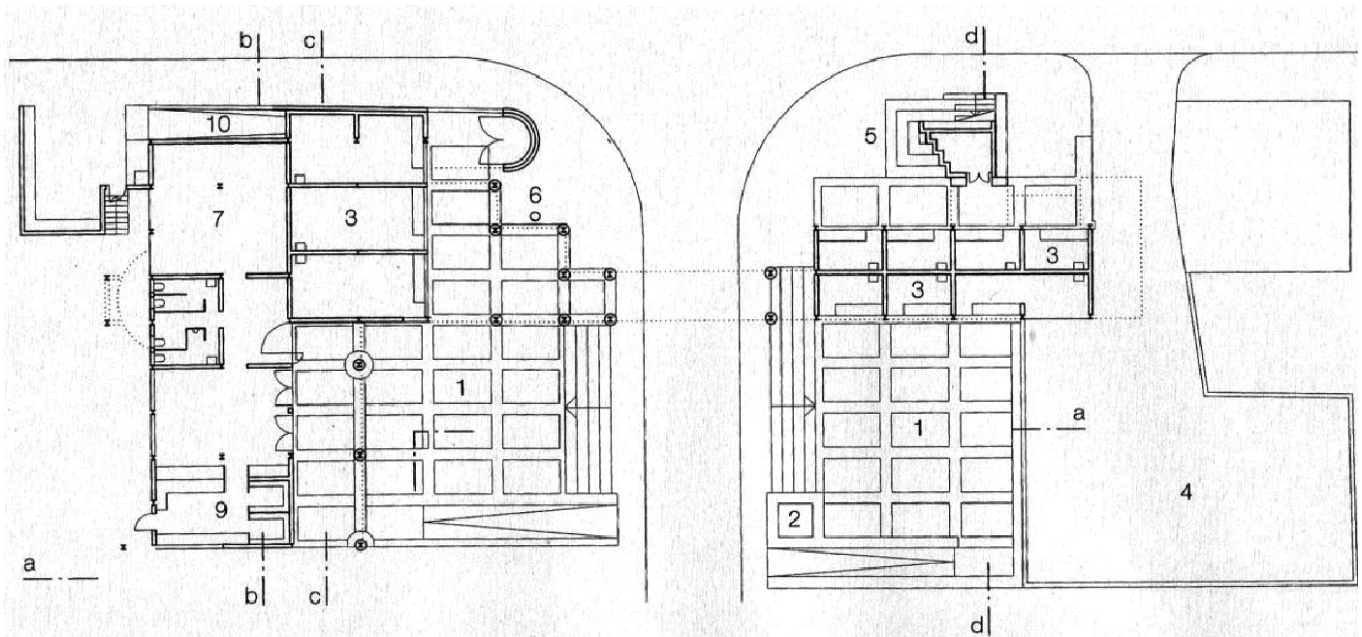


Figure 42: Ground floor plan focuses primarily on public spaces and commercial activities
 Source: Peter Rich Architects (2018). 16 April 2023

The predominant portion of the ground floor is designed as an expansive open public space, characterised by stepped seating areas that provide views of the street, fostering community engagement and activities. This inclusive space seamlessly integrates shops, restaurants, and training rooms, augmenting its accessibility, and serving as a hub for public interaction and participation. Conversely, the upper level is dedicated to exhibition spaces, complemented by community rooms and offices. The central exhibition space adopts a linear configuration, acting as a bridge over the street to seamlessly connect both sections of the building on either side of the road. Prioritising accessibility, the entire ground floor is open to the public, and the design emphasises universal inclusivity by incorporating ramps to facilitate easy access from the street to both the ground and first floors. Figure 5.15 below depicts the plan for the first floor.



Figure 43: The 1st-floor plan with most of the building facilities
 Source: Peter Rich Architects (2018). 16 April 2023

The first-floor access is exclusively external, offering a ramp on the western end of the building and stairs on the eastern side. The stairs are thoughtfully designed to double as a seating area,

providing an elevated vantage point for observing community activities and performances on the street. However, access to the stairs is controlled, reflecting the need for regulated entry for the building's facilitators.

5.3.9 Down-up Approach

Together with the locals, the architects set out on a thorough mapping project to document the township's cultural past and legacy. Creating and recording an oral history of Alexandra was the aim. The community's concept for the building was understood by the architects through direct engagement made possible by this participatory method. The architects created a design that was more aware of and sensitive to the needs and goals of the community by using this participatory method, as shown in Figure 44.



Figure 44: Large sections of locally created brick infill were incorporated into the building's northern façade by the local community

Source: Baan (2010). 16 April 2023

Specific elements of the construction process actively involved community members through poverty relief initiatives, backed by government support and orchestrated by the architects. A notable instance is the paving of public spaces on the ground floor. Community members who had previously taken part in cultural mapping of the precinct, were actively encouraged and engaged in crafting collage panels within the paving. These panels were created using marble offcuts obtained from the local stone mason's yard, fostering a collaborative effort that integrated the community's input into the built environment. This engagement strategy allowed the community to imprint their identity onto the building, fostering a sense of ownership. Additionally, unemployed local community members contributed to the brick infill of the structure. They produced bricks using hydraform presses, utilising soil sourced locally.

5.3.10 Tectonics and Materiality

The construction of the building employed a steel frame filled with a variety of materials, a method chosen for its efficiency in the context of narrow roads and limited space. The incorporation of prefabricated components expedited the construction process, significantly reducing disruptions to the local context while ensuring the swift completion of the project. The architectural expression in Alexandra is characterised as "jazz architecture," a term coined to reflect the township's vibrant jazz heritage. The façade of the primary exhibition space, spanning across the street, showcases an eclectic mix of materials, including corrugated metal and coloured polycarbonate sheeting arranged in a "patchwork" composition. This design philosophy, reminiscent of jazz music, embraces a diverse array of elements, skilfully woven together to produce a harmonious and visually compelling whole (Source, 2010). The steel frame of the main exhibition space is filled with contrasting brickwork, polycarbonate sheeting, and other forms of corrugated metal, as depicted in Figure 45.



Figure 45: The steel frame construction of the main exhibition space is filled with contrasting brickwork, polycarbonate sheeting, and other forms of corrugated metal.

Source: Baan (2010). 16 April 2023

Despite a predominant use of brick infill, the building incorporates elements such as shading devices, balconies, and overhangs that contribute to a lightweight and technical appearance. This design approach aligns with the informal vocabulary of the context, creating a nuanced architectural expression that balances formality and informality. Figure 46 shows how the structure blends in with its surroundings.



Figure 46: The building's use of brickwork that mimics nearby structures helps it blend in with its surroundings

Source: Peter Rich Architects (2018). 16 April 2023

5.3.11 Summary

The Alexandra Interpretation Centre represents a departure from traditional museum typology, prioritising community engagement and storytelling over a mere display of artifacts. By seamlessly integrating with the informal environment and celebrating the local identity, the centre becomes a part of the existing urban fabric. Beyond its role as an exhibition space, it serves as social infrastructure, offering a platform for community upliftment in an underprivileged area. The architecture reflects a thoughtful response to the community's needs and aspirations, redefining the purpose and form of a cultural institution within its specific context. The design principles of the Alexandra Interpretation Centre are deeply rooted in community involvement and a profound understanding of the informal context. In contrast to other interventions which may disrupt the urban fabric, this centre seamlessly integrates itself into the existing context. Its ground floor, fully accessible to the public, emphasises open spaces and accommodates the ongoing informal trade. This approach reflects a commitment to preserving and enhancing the local environment while providing a meaningful space for community engagement. The layout of the building fosters a thriving centre of neighbourhood activity beneath it in addition to its connection to the street. The aesthetics of the facades evoke a feeling of familiarity by reflecting the common lexicon of the area. Furthermore, the building becomes a symbol of a common identity and legacy because of the community's active participation in the building process, which strengthens their sense of ownership.

5.4 TORRE DAVID – VERTICAL MULTI-MIXED URBAN INFORMALITY: MULTI-PURPOSE COMMUNITY HOUSING CARACAS, VENEZUELA

5.4.1 Project Details

This community structure is found in Caracas, Venezuela. The architects were Enrique Gomez Architects and the timeframe started in 2007 and continues until today. The typology was Multi-Purpose Community Housing, with a square meterage of 30 000m².

5.4.2 Justification of Precedent

Figure 47 below depicts the Torre David in Caracas.



Figure 47: Torre David towers.
Source: Arch Daily (2012). 21 April 2023

Renowned international observers, including Anderson (2013), Vocativ (2013), and McGuirk (2014), lauded Torre David as an innovative socio-architectural experiment. The remarkable and radical evolution of the building, shifting from a renowned architectural landmark to a vertical self-built housing community, garnered appreciation for its unexpected and transformative nature (Source, yyyy??). To comprehend Torre David, it is essential to view it as an architectural and urban challenge that confronts the two predominant and opposing spatial typologies in Caracas—namely, the rancho and the Torre (representing the modern high-rise and self-built shack). This transformation occurs within a city shaped and divided by informal settlements and modern aspirations. The context of Torre David mirrors the envisioned mixed-use community centre, offering valuable insights into how insurgent citizens forge communities, identities, and social connections. Torre David serves as a compelling illustration of the informal dynamics of urban life, modern urban insurgency, and the collaborative essence of communities. Moreover, it fosters a culture of insurgent citizenship and empowerment, enabling users to craft identities that resonate with their experiences (Irazábal-Zurita et al., 2020).

5.4.3 Urban Analysis



Figure 48: Torre David's urban context.

(Source: Afasiarchzine (2012). 21 April 2023)

Figure 48 above places Torre David into its urban context. Slums and informal settlements are a defining feature of Caracas' urban environment. These areas have grown as a result of politicians' long-standing disregard for the city's housing needs. According to estimates from UNESCO (2023) these informal communities or barrios are home to a sizeable fraction of the population—roughly 30% of the overall population and 50% of those living in metropolitan areas ([UNESCO, 2023](#)).

Figure 49 below maps the urban areas surrounding Torre David, with the town on one side of Torre David and the barrios make up the heavily populated metropolis of Caracas, on the other.

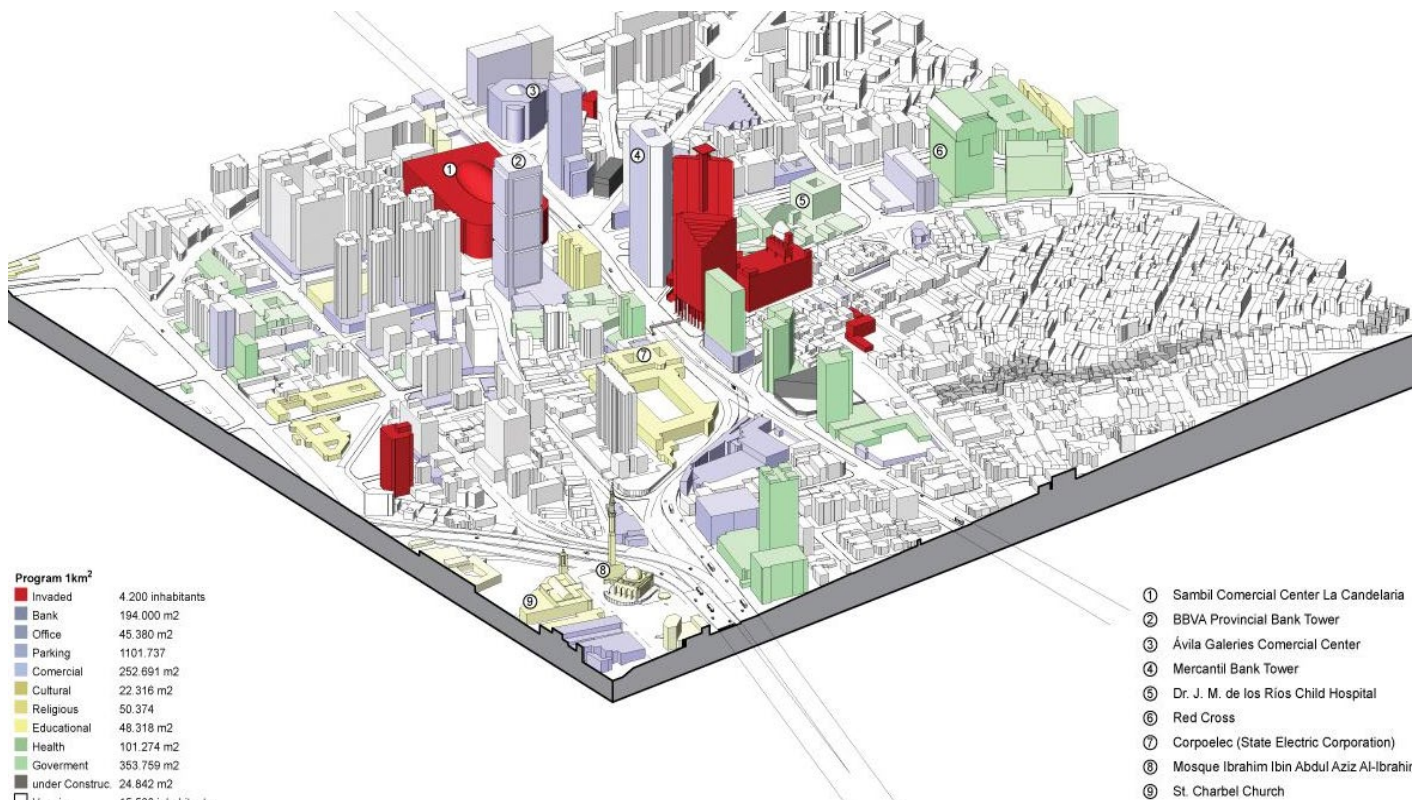


Figure 49: Torre David and its surroundings the town on one side of Torre David and the barrios on the other make up the heavily populated metropolis of Caracas.

Source: Afasiarchzine (2012). 21 April 2023

Torre David is strategically located at the intersection of Avenida Urdaneta and Calle Real de Sarria, situated diagonally across from the BBVA Banco Provincial Tower and adjacent to the Mercantile Tower. This district is often referred to as the "Wall Street" of Caracas, serving as a hub for financial and political power within the city. Currently, Torre David is surrounded by an urban environment marked by abandonment, hopelessness, and unauthorised immigration (Figure 50). Torre David's proximity to the city is one of the things that makes it appealing to its inhabitants. It is near other transportation hubs and the CA Metro. Educational institutions, places of worship, healthcare centres, and cultural establishments encircle it. Figure 5.22 below gives more context to the surroundings of Torre David.

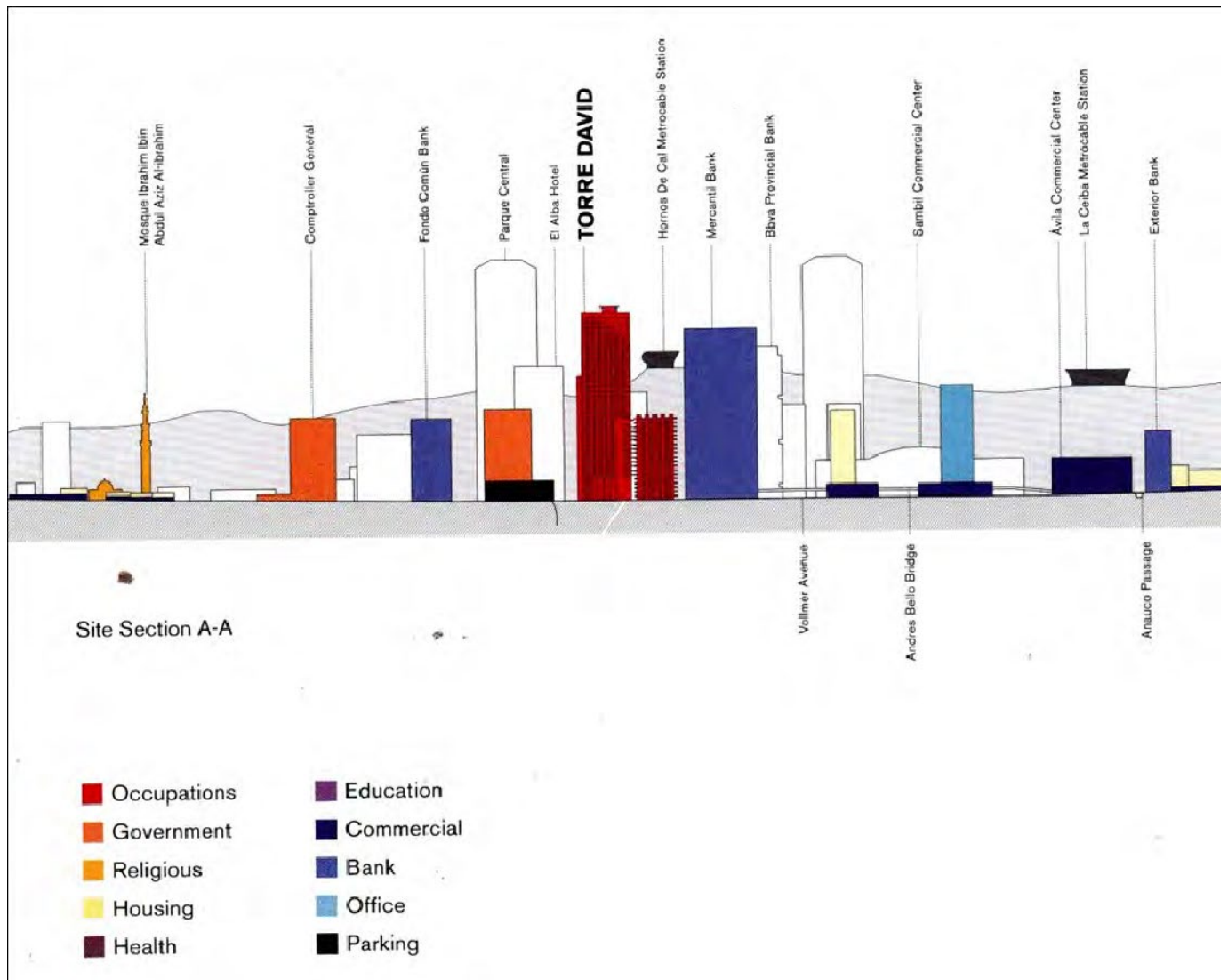


Figure 50: Torre David and surrounding context
 Source: Brillembourg and Klumpner (2013: 86). 21 April 2023

5.4.4 Project Intentions

Currently, it serves as the makeshift residence for over 750 families who live in an unauthorised and precarious arrangement that some have dubbed a "vertical slum" (Source, yyyy:PP) The research and design teams at Urban-Think Tank and ETH Zürich, led by Alfredo Brillembourg and Hubert Klumpner, studied this former ruin's social and physical layout for a year. The occupation of the tower by residents, along with the organisation of informal infrastructure to meet daily needs, reflects the adaptability and resilience of communities in challenging urban environments. In the absence of formal infrastructure, residents often find innovative ways to create a sense of community and provide essential services within their living spaces. This includes establishing businesses like restaurants, hair salons, gyms, and grocery shops, showcasing the resourcefulness of individuals in adapting to their circumstances. The development of a unique identity and culture within the vertical slum demonstrates how people can shape their environments, even in informal settlements, to foster a sense of belonging and community. These initiatives also highlight the importance of understanding and respecting the agency of residents in informal urban settings. This is demonstrated by the designs of family units and the use of diverse materials. The people living in Torre David strongly need to recreate the "sense of place" that gives them a sense of belonging. Figure 51 below shows citizens enjoying a restaurant facility in Torre David.



Figure 51: A restaurant within Torre David

Source: Afasiarchzine (2012). 21 April 2023

5.4.5 Programme and Planning

The residents of Torre David manage the community as a whole, having established an organisation tasked with overseeing daily operations, ensuring safety, and setting up social structures (Brillembourg and Klumpner, 2013: 70). This guarantees that residents of Torre David cannot be just anybody. Up until there is a spot available, no more applications are accepted. The group which manages Torre David has a set of rules, and you will be asked to leave if you are discovered to be breaking them by partying excessively, leaving trash behind, showing disrespect for other residents, or using domestic violence. This guarantees authority over the inhabitants. For water, electricity, cleaning of the common areas, and security, each family must pay \$15 to the cooperative (Figure 52).



Figure 52: Bulletin board listing the maintenance personnel and payment details, along with the rules and regulations for the 23rd level
 Source: Afasiarchzine (2012), 21 April 2023

5.4.6 Planning and Design Rationale

Torre David is not static; it continuously adapts to suit users' requirements. It does not adhere to social housing regulations or the accepted practices for high-rise building design. Even though families continue to strive to build homes and establish their permanent presence in areas in the city, the Torre David is also unsuitable for living conditions because of various factors. The building's exterior has also been considered to incorporate the neighbourhood into the city's social and economic structure. Locals can use solar energy and wind turbines to help with the current electricity crisis. The tower's upper stories house wind turbines that could aid in producing electricity for the structure. Figure 53 below illustrates proposed uses of mixed colours on the façade to regenerate and bring life to the building.



Figure 53: Proposed uses of mixed colors on the façade to regenerate and bring life to the building.
Source: Afasiarchzine (2012). 21 April 2023

One strategy for incorporating the neighbourhood into the social and economic fabric of the city has also been examined: beautifying the building's exterior (Figure 5.24). The fact that the residents of Torre David are seeking design rationales for both private and public spaces is one of the crucial elements. The inhabitants have recognised the significance of communal areas and social engagement. The planning of the interiors falls entirely upon the residents themselves. They seldom find themselves in situations where moving in comfortably, is possible, requiring considerable effort to transform the space into a habitable environment. Torre David presents a novel idea in architecture: the growing building. Because it is unpredictable rather than static, users can modify and customise it to meet their needs. Rapid change is standard in today's urban cities, and architects are responsible for creating structures that function as living things in the environment, permitting reuse, adaptability, and transformation.

5.4.7 Tectonics and Materiality

The original construction materials of Torre David primarily consist of concrete, steel, and bricks. In contrast, the squatters in the building utilise a diverse range of materials, incorporating items such as paper, wood, fabrics, and plastics alongside traditional bricks and lumber in their improvisational construction methods.

5.4.8 Summary

Torre David covers many architectural theories and concepts. Instead of representing Venezuelan architecture, Torre David is a study of the hybridity of formal and informal urban

design and a turning point in the global trend of informal living. Torre David investigates the phenomenon of urban informality in modern cities. It illustrates how unofficial settlements occupy areas and assert their claim to the city in this way. Each residence differs in size and form according to its inhabitants' skills, abilities, and tastes. Apartments from the 7th to the 16th story tend to be well-developed, as they were initially intended to serve as hotel rooms. However, residents create liveable and personal spaces by supplementing their incomes with ingenuity. Figure 54 below is one example of this.



Figure 54: Resident personalizes the space according to skill, ability, and taste
Source Afasiaarchzine (2012). 21 April 2023

The residents forge their way into the city by looking at the urban environment and finding any materials they can use to create a sense of place and connection to their new homes. Kenneth Frampton (1980) argues that critical regionalism respects local identity and culture. It combines locally sourced materials with cutting-edge construction techniques. The variety of spaces that families have constructed within the tower demonstrates how Torre David incorporates local identity and culture. Every created space incorporates local items and uses red clay brick to create a sense of location. Figure 55 below depicts how residents created timber balustrades with timber logs found in the environment. Each unit is unique in how it has used local materials.



Figure 55: Residents created timber balustrades with timber logs found locally.
Source: Afasiarchzine (2012). 21 April 2023

Figure 56 below depicts how residents have incorporated red clay bricks on the exterior.



Figure 56: Residents used red clay bricks to create a sense of place and identity
Source: Afasiarchzine (2012). 21 April 2023

The material chosen is the primary issue that the tower's occupants deal with. Frequently, hazardous or unhealthy building components were utilised in the construction of their apartments. To overcome this, Urban Think Tank has taught locals about acceptable and proper building methods and material selection (Brillembourg and Klumpner, 2013:102). Recognising that locations have an impact on their health and well-being, the residents frequently paint them in vivid hues to make them stand out as shared spaces. Adding greenery to public areas also contributes to a more organic and all-encompassing atmosphere that corresponds with how people perceive their surroundings.



Figure 57: Exploring informal structures.
Source: Author (2024)

6 SIXTH CHAPTER:

6.1 A CASE STUDY OF RHAWUTINI INFORMAL SETTLEMENT

6.1.1 Background

The Rhawutini informal settlement in Komani, formally known as Queenstown, is located between the CBD and the township along Pelem Road and runs along the Komani River into the township. The informal settlement began shortly after 1995 due to the migration of people from nearby rural areas. At present, the local government intends to transfer the inhabitants of the eRhawutini informal settlement to residences provided through the Reconstruction and Development Programme. This decision stems from deeming the current site unsuitable for living due to ongoing risks like river flooding, environmental pollution in the river, and its close proximity to the CBD. As noted by a resident, the relocation is viewed as a resolution to the challenges associated with the settlement's current location.



Figure 58: Pictorial picture of eRhawutini Informal Settlement.

Source: Author (2024)

The residents have been tried to be relocated, but due to their resilience, the municipality never succeeded. However, the settlement has occupied all available land along the Komani River since then.



Figure 59: Picture of the Komani River near the informal eRhawutini settlement
Source: Author (2024)

6.1.2 Justification of Choice

This thesis addresses settlement informality and develops a plan for a mixed-use centre which addresses the health and safety, social, and physical issues that people of informal settlements face. According to the architectural methodology outlined in this dissertation, the intervention's reaction must be informed by the intrinsic qualities of informality in order to successfully address these issues and win over the community. For architecture to have social resonance, it must embody the same language that permeates the community, representing the residents' identity and attitude to placemaking and constructed form. To begin to understand how the people living in informal settlements participate in placemaking and influence the built environment, this case study focused on an informal community. This comprehension is situated within the notion that the "conditions of existence" are crucial in establishing the "mode of production" for residents of informal settlements, hence moulding their surroundings and architectural style. According to the dominant idea, informality and the insurgency it creates result in a mode of production characterised by constant adaptation to a constantly changing set of obstacles.

First, the analysis of the eRhawutini informal settlement will help place the theory in the Komani framework. It is believed that eRhawutini is an extreme setting with significant obstacles, especially in relation to the river and its frequent floods. The goal of the study is to evaluate the theory's applicability in these extremely difficult circumstances.



Figure 60: Picture of the eRhawutini Informal Settlement communities showing the resilience of not relocating even after floods

Source: Author (2024)

6.1.3 Location and Social Context

The Rhawutini informal settlement in Komani, formally known as Queenstown, is located between the CBD and the township along Pelem Road and runs along the Komani River into the township. The informal settlement creates a connection between the CBD and the township. Pelem Road is a significant entrance in and out of the township, with a formal taxi rank across the Komani River at the entrance to the CBD. Pelem Bridge connects the CBD and the township, and most commuters are on foot in and out of the township, passing the eRhawutini informal settlement daily. Pelem Road stretches from the township past eRhawutini informal settlement into the main street of Komani, but after the river into the CBD, the name of the street changes to Calderwoods Roads. Along these routes are street vendors, informal and formal trading, taxi rank, sheep and goat trading, and informal live bands or shows. Figure 61 below is an area map of the connections between various informal communities in Komani.



Figures 62 and 63: These two images depict the proximity within which residents live.
(Source: Author (2024))

Young people congregate in different groups around the settlement to engage in a variety of activities, such as pool and draughts, at any time of day. Every night, the men congregate in front of their favourite or closest drinking establishment. Young ladies congregate in groups around communal laundry facilities or water faucets. One of the houses is used by the elderly

women for church services. In makeshift crèches, moms who lack collective authority tend to each other's children as well as the children of those who work outside at hawker stalls or regular occupations. The settlement's entertainment nodes are the most popular locations for gathering and socialising. This aids in distinguishing individuals who do not belong to the Rhawutini (RIS) community as well. This is achieved by the fact that the community knows each other and there are codes that they use to communicate within the settlement.

6.1.6 Built Form Typology

The Rhawutini (RIS) informal settlements display a combination of several typologies. Dovey (2013) claims that the typology of currently existing informal settlements is usually consistent and is typified by the gradual addition of rooms, which is affected by the difficulty in obtaining long-lasting materials. There is also a style of urban architecture with laneway networks that seem impenetrable from the outside yet are porous locally. Although the functional characteristics of this typology and morphology support the growth and sustainability of settlements, they may also present problems with regard to open space, light, ventilation, sanitation, and other considerations (Dovey, 2013). In response to the challenges faced by the residents of RIS, there is a growing necessity to devise new construction types that integrate recycled materials, incremental processes, adaptability, and multi-functionality, while also enhancing efficiency, safety, and building density. The primary challenge confronted by RIS residents is the flooding of the Komani River and the flat topography of the settlement. In addressing this issue, residents have adopted various strategies. A common approach involves elevating their structures on higher platforms, frequently constructed using cement and sand. However, some constructions still prove inefficient during floods, often attributed to a lack of comprehensive construction knowledge. Figure 6.8 below illustrates some inefficient slabs.



Figure 64: shows a slab constructed by the residence but not efficiently
Source: Author (2024)

6.1.7 Summary

A great deal of the theory discussed in Chapters 2, 3 and 4, as well as the examples in Chapter 5 provide a backdrop for South Africa and has been put into perspective through the study of the Rhawutini Informal Settlement. It is now clear that several international theories concerning informal settlements, with examples in Dharavi Redevelopment Project are consistent with the conditions found in RIS. Additionally, the importance of community engagement has been underscored, particularly in contrast to the failed relocation intervention that lacked proper community involvement. The concept of resilience, especially displayed after flooding, has played a significant role in fostering unity within the settlement, potentially acting as a unifying force for its residents.



Figure 65: A father doing his laundry while the children wonder where to play.
(Source: Author) 2024

7 SEVENTH CHAPTER:

7.1 ANALYSIS AND DISCUSSION

7.1.1 Introduction

The analysis and discussion of interviews with members of Komani's informal settlement, namely the Rhawutini Informal Settlement, are the main topics of this chapter. The knowledge acquired from these interviews offers a more profound comprehension of the day-to-day experiences in informal settlements and emphasises the architectural and social prerequisites for successful interventions to tackle the problems these communities face. In addition, the chapter looks at the theoretical framework this document presents and assesses how previous research fits in and addresses the requirements of groups living in informal settlements.

7.1.2 Interviews with Professionals in the Built Environment

The interview was to understand the Incoh Mgijima Local Municipality, how they have assisted the RIS community, and their role regarding the community, specifically in addressing their requirements and needs within the settlement. The questions asked and answers received were:

- What are the living conditions in the Informal Settlement at the footprint of the CBD?
 - ✓ The living conditions are characterised by overcrowding, pollution, and poor waste management.
- What are the plans and prospects for water, electricity, and sanitation access?
 - ✓ Communal water toilets are allocated through a partnership between the Housing Development Agency and Christ Hani Municipality.
- What are the job prospects in the Informal Settlement community?
 - ✓ Most people are self-employed; some work as cashiers and petrol attendants, with a select few being unemployed.
- Is trading space within the settlement catered for?
 - ✓ There are informal trading spaces within the settlement which the residents run. Trading spaces are also catered for at the Temporary Relocation Area (TRA) where the flood-affected were moved. It consists of one container, which has the sole purpose of providing essential goods.
- What communal space is required for the residents?
 - ✓ Mostly washing lines and toilets. Recreational areas near the informal settlement include gyms and sports fields.
- What communal space is required for the residents for schooling and health?
 - ✓ Libraries and clinics. These are available near the informal settlement.

- Are there programmes geared to assist the Informal Settlement community in improving their lives?
 - ✓ No.
- What type of accommodation is provided?
 - ✓ Accommodation consists of prefab houses at the TRA, but the informal settlements primarily consist of zinc.
- Do community members have access to public buildings in the Informal Settlement (explain)?
 - ✓ No, but public buildings like community halls and libraries are close to the informal settlement.
- Are the existing buildings equipped to accommodate all types of users?
 - ✓ No. The accommodation is not equipped for disabled users as there are no ramps and the toilets are not handicap friendly.
- What improvements would enhance the building and spatial areas of the resident's lifestyle?
 - ✓ It would be necessary for the informal settlement to undergo re-blocking. This is important as it will ensure that the shacks are rearranged and reconstructed to maximize open space in the settlement and ensure emergency services can be accessed without obstruction. Relocking or upgrading the walking paths can prevent flooding as the shacks will be built on raised platforms.

7.1.3 Interview with Architecture Experts in the Field of Informal Settlements

- What are the living conditions in the Informal Settlement at the footprint of the CBD?
 - ✓ They are in a state of limbo. They live in constant fear, tapping into the existing infrastructure where they can.
- What are the plans and prospects for water, electricity, and sanitation access?
 - ✓ Municipalities usually provide essential services. This is not ideal for the number of people living there.
- What are the job prospects in the Informal Settlement community?
 - ✓ They are usually creative and self-sufficient, supporting/creating informal opportunities.
- Is trading space within the settlement catered for?
 - ✓ No, but you find spaza shops/tuck shops along walking routes.
- What communal space is required for the residents?
 - ✓ Churches, meeting spaces. Spaces to wash clothes and prepare goods.
- What communal space is required for the residents for schooling and health?
 - ✓ Creches/daycare mobile clinics.
- Are there programmes geared to assist the Informal Settlement community in improving their lives?
 - ✓ No. There are plans to re-block but not empower.

- What type of accommodation is provided?
 - ✓ Basic bed and shelter.
- Do community members have access to public buildings in the Informal Settlement (explain)?
 - ✓ They are citizens (legal), so they can use public buildings; however, living in the settlement, they are seen as outsiders.
- Are the existing buildings equipped to accommodate all types of users?
 - ✓ No.
- What improvements would enhance the building and spatial areas of the resident's lifestyle?
 - ✓ Spaces that can empower them and provide gaps in training and education. They need spaces that respond to them and make them a part of the city.

7.1.4 Shack Dwellers: Community Members:

The purpose of the resident interviews was to gain insight into the daily routines and cultural practices of the RIS in an effort to develop more adaptable design. There was more of a bottom-up downward attitude to the process. Also, a greater understanding of the effects which the architecture produced and the various challenges of life in an informal settlement and how the community addresses these. Five people (5) were interviewed within the Rhawutini Informal Settlement.

7.1.4.1 Culture and Community:

1]

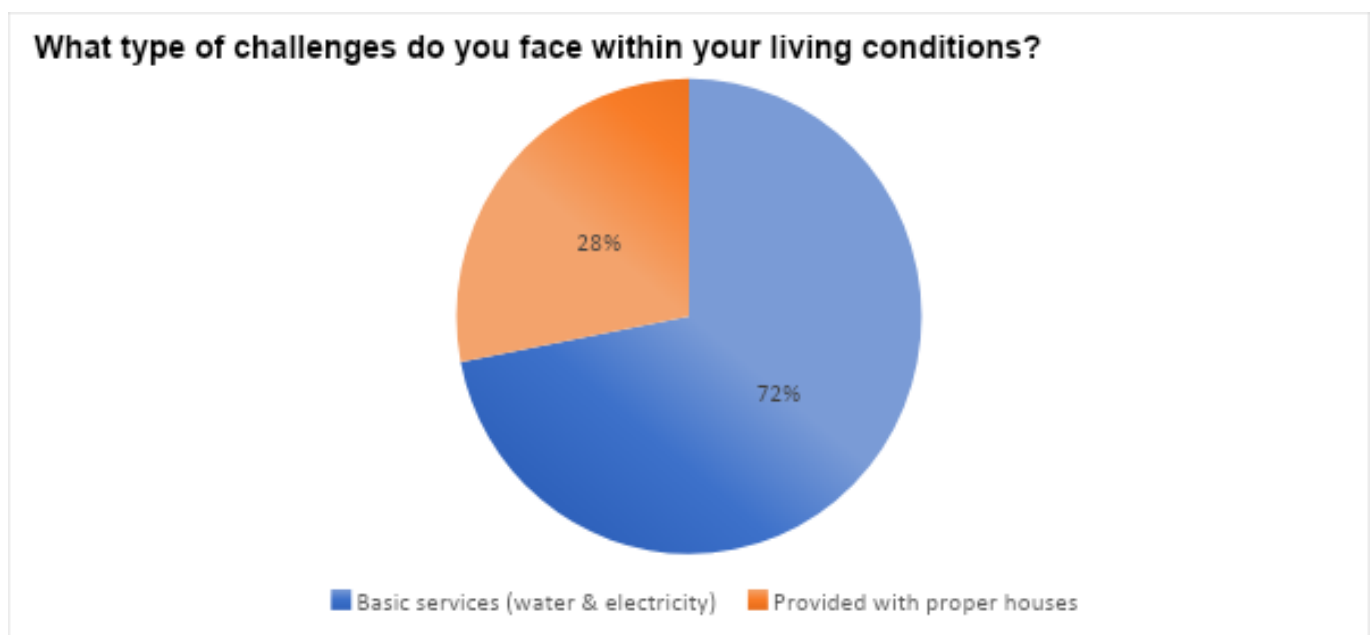


Figure 66: Pie chart showing the daily struggles that the settlement's residents face
Source: Author (2024)

The graph above shows that the community is more concerned about essential services than housing structures. When asked about structures, they responded that they could collect old and thrown-away materials to construct the type of shack they require.

2] Is there access to water, electricity, and sanitation?

As mentioned by one of the members. There was access to water, but the tap seemed to have been vandalised and stolen by people outside the community. Since the settlement was developed, the municipality has never installed electricity. They do their own dangerous and illegal installations.

3]

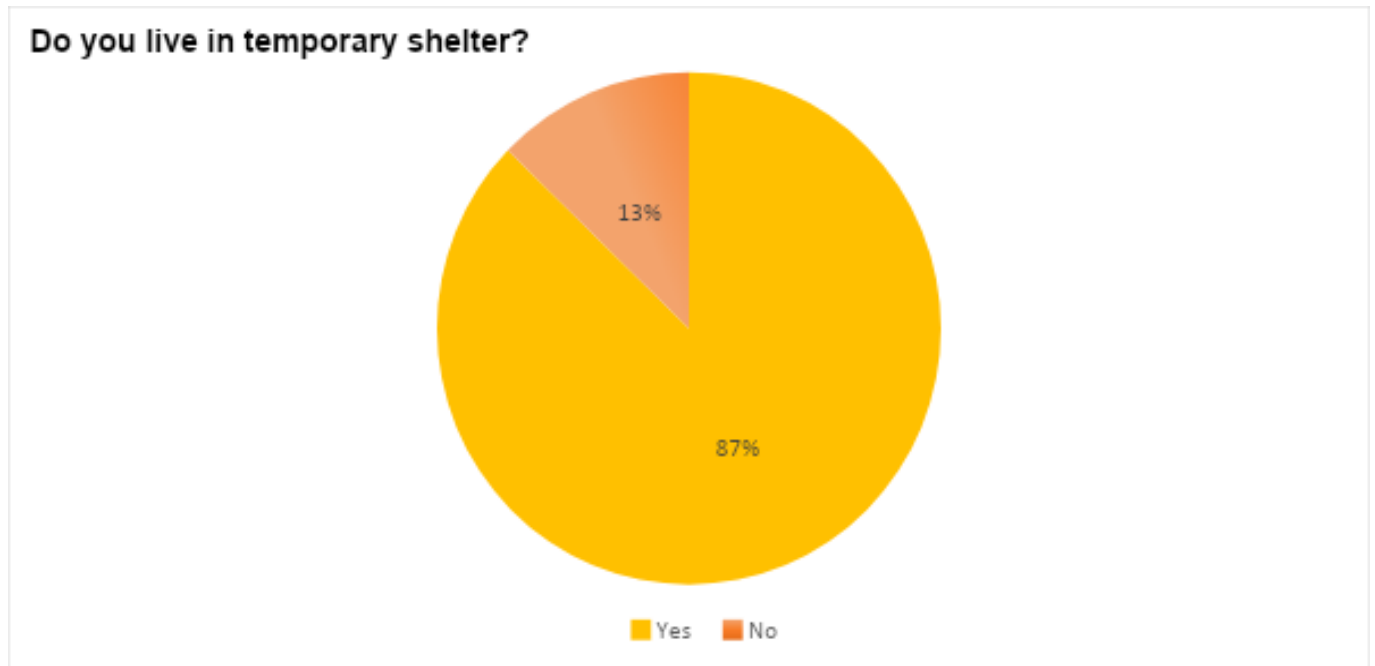


Figure 67: Pie graph depicting number of residents with temporary structures in the settlement
Source: Author (2024)

Most of the members live in shelters they have built themselves; only those who lost their shelter due to the flood were provided with temporary shelter. Most claim that the shelters the municipality provided do not meet their requirements because they require them to relocate to a formal settlement, which they are resilient about. Those provided with the structures did relocate, only to return within a couple of weeks due to the new placement area being too far from the CBD. The temporary structures are white elephants, or the residents illegally rent them out to foreigners to generate more income.

4] How do you generate a living?

There was a mixture of responses, but they generated a living mainly through temporary jobs, selling anything they found to be resourceful. Some of them relied on the R350 monthly social grants but added that they had to queue for days to be able to access these. So, it was better to go out there and sell whatever they could.

5] Are you permanently employed?

None of the persons interviewed were permanently employed, but when asked about being interviewed for a job, most added that they were unemployable due to the area where they lived.

6] Are there recreation centres within the community?

Respondents claimed that there is a community hall and a depilated arts centre close by; even though the hall was built to accommodate functions for the community of Komani, the hall was only accessible when there was a function that was hosted by the municipality or a community from the former apartheid township. If they wanted to conduct meetings through their municipal councillor, they held them in the streets around the RIS.

7] Are there any services that the municipality provides?

Respondents claimed that there were services provided before, such as communal water taps, but they stopped functioning or were stolen. They claim the municipality would only be active close to the political voting season. They also claim that the city does not conduct an assessment through the community to ask about their needs and requirements.

8] Are there any services that the municipality provides?

The only road the community can access is Pelem Street, the main street from the CBD into the township.

9] What kind of businesses are around the area? Are there job opportunities?

Respondents claimed that the formal settlements undermine them; their skills are overlooked because of their origins. However, there are a few vehicles: mechanical workshops, truck transportation businesses, shoemakers, welding, stitching, and spaza shops. All these trading areas take place around the settlement. The area is also referred to as a danger zone; therefore, even the community from the township fears utilising the services in RIS.

10]

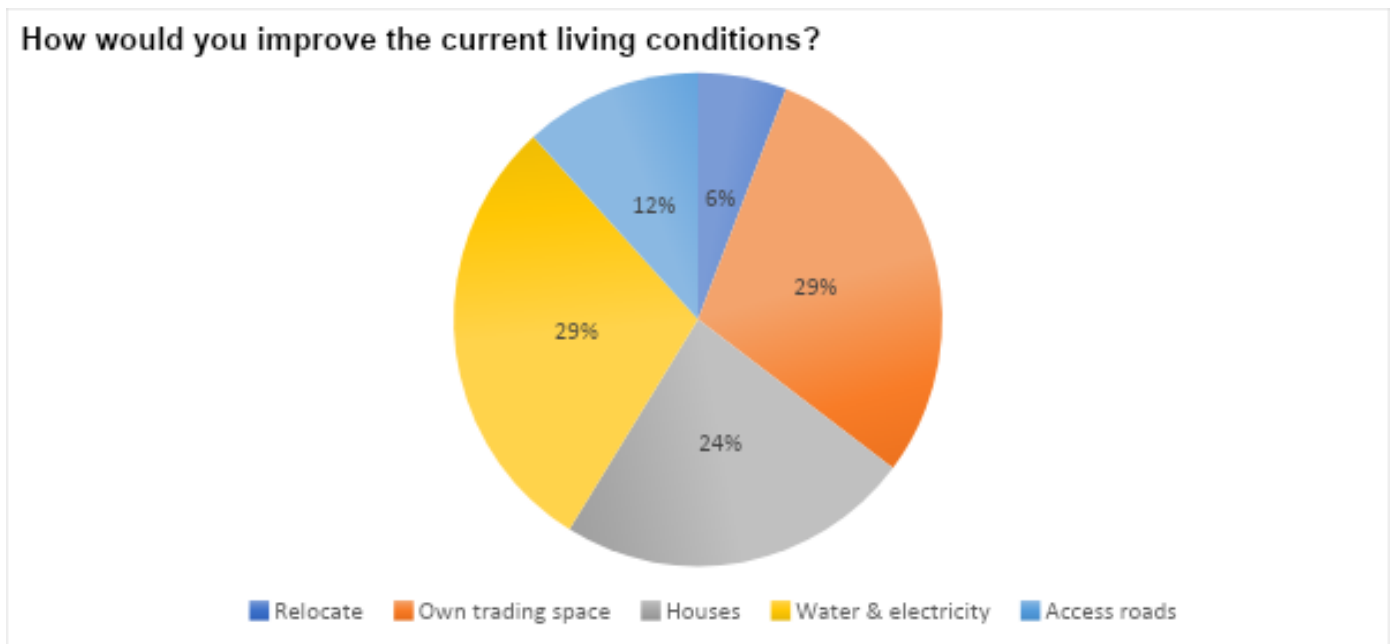


Figure 68: Pie graph depicting residents' views of residences regarding improving living conditions. Source: Author (2024)

The above graph indicates how the community wanted to improve the living conditions. Surprisingly, most chose trading spaces, water, and electricity over houses. When asked, they said

that the houses being provided were not meeting their requirements and that they would be required to relocate to get a home, which they were unwilling to do.

11] Are there parks for the children to play and walk?

One primary concern the respondents raised was the children in the community. Besides playing in and around the communal nodes, they were in danger of the vehicles (amaphela) driving on Pelem Street at high speeds. The children played in the street due to the lack of recreation playing areas.

12]

My understanding of how an architectural intervention incorporated into the colony could enhance the community's quality of life was aided by the interviews. The majority of attendees asked to be placed in an area they could call home. Figure 7.5 below depicts the facilities the residents require.

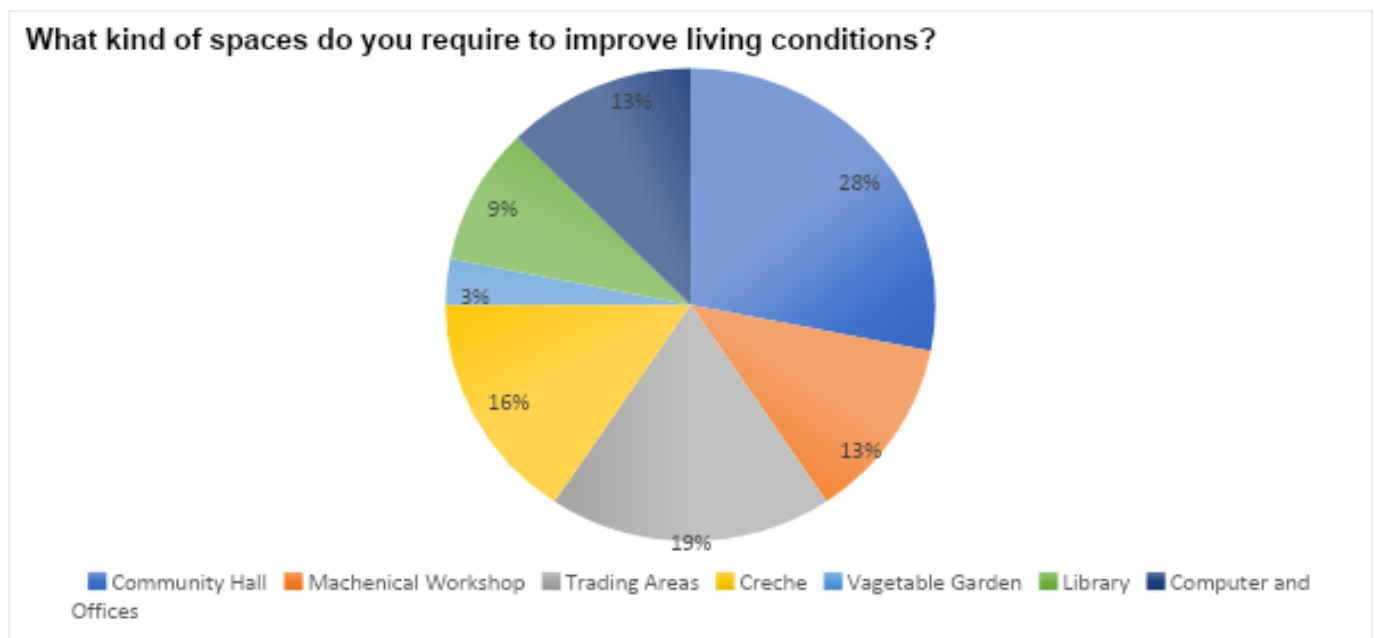


Figure 69: Pie graph depicting the kind of spaces required to improve the living conditions within the settlement.

Source: Author (2024)

Rhawutini Informal Settlement residents' lives were significantly improved in the area through trading and self-empowerment. When asked what kind of public infrastructure they would like to see, they admitted that they were in dire need of a communal gathering space where children could play in safety. A meeting place would enable community members to interact and deliberate about pressing issues. They added that the municipality only tells them what to do and expects them to do it without giving them a voice in the matters that affect them. Additionally, they implied that while they want the municipality to give them housing, power, and water, they are afraid they would not be able to influence how the city acts without their help. Since NGOs are the ones that are involved in the neighbourhood, their suggestion that they participate more in municipal meetings was highly appreciated.

7.1.4.2 *Discussions and Theoretical Implications*

The goal of this research is to develop a highly responsive architectural design method that considers the demands of populations living in informal settlements by combining ideas from placemaking and architecture, insurgency, and informality. Through an exploration of the socio-economic and cultural features of the communities, empowerment dynamics, and placemaking processes, the study aims to understand the morphology of informality. The three overarching theories—Culture, Empowerment, and Placemaking—contribute to a comprehensive understanding of the material, cultural, and daily living conditions within informal settlement communities, shedding light on their perspectives and approaches to shaping their living spaces. The examination of these theories has led to the development of two architectural concepts for scrutinising key precedents and their effectiveness in addressing informality. These concepts include the bottom-up design approach and the integration of formal and informal elements.

7.1.4.3 *Bottom-up Design Approach*

According to Sandercock and Bridgman (1999: pp), the formal sector—especially architects—must pay attention to the voices of "difference" and develop a constructive politics of difference in order to achieve social justice and recognise cultural variety. These voices of difference speak for underprivileged groups which experience social, cultural, and economic injustices and live outside formal society and business centres. These groupings include informal settlement communities, although they are frequently disregarded by society at large. "All too often, 'we'—planners responding to politicians—are engaged in an ongoing battle to keep 'them' [e.g., homeless people, transients, those feared] out of our communities," (1999: 48) the authors write, challenging the dominant paradigm. They pose important queries, such as "To which communities do they belong? Who can speak for them? Who prepares for them? What assertions do they make about space in the contemporary city? They draw attention to the detrimental effects of lumping all planners together under the same collective term, 'we'." (Bridgman and Sanderson, 1999: pp50)

7.1.4.4 *Restitching to the Informal and Formal*

The fundamental objective of informality is to achieve a harmonious integration between the proposed architecture and the prevailing context. A critical aspect of this goal involves seamlessly blending the new architecture into the current urban context. It is essential to consider and respect the existing nodes and pathways, catering to both pedestrians and vehicles in the design process. For example, architecture was used to lift the community in Kamwokya Community Centre – Uganda by using a bottom-up approach, involving the community to design their requirements and needs and using the surrounding urban fabric to restitch the design into the current fabric. The way in which the Alexandra Interpretation Centre in Johannesburg, South Africa extends across the street, formalising an already established public node at the intersection, acts as a strategy for effortlessly integrating the architecture into the urban context.

7.1.5 Analysis of Precedent and Case Study

Through the theories mentioned in the document, the research has discovered how the community of Rhawutini Informal Settlement has defined and sculptured its style and way of living. They have created their own culture and identity within their society and have empowered themselves with whatever resources they find. The precedent studies mentioned in the document can assist in reshaping their ways of living through empowerment, culture, and place-making. Precedents one and two have introduced a bottom-up approach in terms of the design. This has shown how to create a building that the end user can feel proud of and associate with when the architect involves the community. The Alexandra Interpretation Centre is speaks with the surrounding urban fabric and structures' context, seamlessly blending with the surroundings. The third precedent illustrates how the Torre David community turned an unused building into a shelter for everyone living there. They created their own culture, rules, and identity. Through these studies, the RIS could learn some lessons in shaping and creating their identity and culture.

7.1.6 Conclusion

Elaborating on the analytical process, the assessment of compiled data has highlighted the practical applicability of the theories and concepts articulated in this dissertation. Crafting architecture that seamlessly integrates into the intricate tapestry of informal settlements necessitates a nuanced understanding of both physical and social contexts, striving for acceptance from formal and informal communities alike. This endeavour calls for a meticulous amalgamation of conventional and traditional processes. A more profound exploration of the theories and approaches embraced by informal settlement communities regarding building form and placemaking has led to the formulation of two pivotal concepts. These concepts serve as guiding beacons for architectural interventions in informal settlements, aspiring to foster designs that deeply resonate with these communities and adeptly cater to their specific needs.

To contextualise and evaluate the practical application of these concepts, an in-depth analysis of three precedent studies was conducted, each aligned with the respective theories. While these precedents have demonstrated success in meeting the needs of their communities, the examination also revealed untapped opportunities. These overlooked potentials, if fully realised, could have elevated the designs to even greater heights of responsiveness and positive impact within their respective informal settlement contexts.



Figure 70: A passage node through the informal.
(Source: Author)2024

8 EIGHTH CHAPTER:

8.1 CONCLUSIONS AND RECOMMENDATION

8.1.1 Introduction

This research delves into the intricate interplay between informality and the cultural dimensions inherent in informal settlement communities, with the overarching goal of informing architectural interventions that more effectively address the challenges faced by these communities. The journey of conceptualising and developing responsive architecture for informal settlements involved a thorough exploration of their social networks, socio-spatial dynamics, economic structures, culture, and insurgent practices.

The study has yielded a profound understanding of the daily life and challenges confronted by informal settlement residents. The data collected throughout the research process has significantly contributed to a deeper comprehension of informal settlement culture and its potential impact on architectural design. Additionally, formal responses to the challenges faced by these communities were scrutinised, providing valuable insights that were crucial in achieving the objectives outlined in the initial chapter. Ultimately, the study sought to forge a synthesis between architecture and informality, aiming for more inclusive and contextually relevant built environments.

8.1.2 Purpose

The study emphasises that architectural interventions in informal settlements can only be moulded and directed by the existing informality knowledge systems that are part of these communities and their everyday lives, and only then can they be smoothly integrated into their physical and social settings. The theoretical framework is constructed to establish an insight into life in informal settlements by analysing the culture, empowerment, and placemaking that evolves within such contexts. It explores how these aspects influence the way communities shape their built environment. The study's objectives are structured with reference to and compared against the initially outlined objectives in this dissertation as follows:

First Objective

"Is to establish a foundational comprehension of the circumstances that led to the establishment of informal settlements and the unfair urban planning that denied these residents their right to the city within the framework of South Africa."

As a result of the rapid modernising of developing countries and their incapacity to handle the inflow of rural-urban migrants seeking better lives, informal settlements have proliferated around the outskirts of these cities (Elleh, 2011). Black immigrants from rural areas have historically not received adequate support in any city. This was especially true for South Africa's colonial and apartheid governments, which saw black residents' visits as transient and limited to business purposes.

Second Objective

"To map this graphically and establish an understanding of socio-spatial dynamics, economic networks, and culture within informal settlements."

After reading about a variety of informal settlements across the globe, it was determined that the people who live in them are resilient to their living circumstances. This is mostly because of the robust social networks and subcultures that emerge directly as a result of these challenging living circumstances. In summary, the culture that emerges from the informal sphere is defined by adaptability to the multitude of obstacles that urbanites in the informal sphere encounter on a daily basis. The fabric of the informal community is dynamic and ever evolving. Because of this, the residents in informal settlements constantly adjust to their changing surroundings.

Third Objective

"To comprehend the resiliency strategies used by communities living in informal settlements to defend their rights in urban areas."

In three different ways, informal settlement communities fight for their rights to the city: they fight for the ability to live in the city for an extended period of time and have a central location; they fight for the ability to take part in central decision-making; and they fight for the ability to creatively design public spaces (Huchzermeyer, 2011). In order to fight for their rights, groups living in informal settlements, according to Miraftab. (2009: 32), create new "extra-legal" venues rather than limiting themselves to normative spaces for citizen involvement. They transition between these "invented" and "invited" areas; it is precisely this adaptability and flexibility in their shifting strategies that enables them to draw the attention of the relevant authorities.

Fourth Objective

"To investigate the methods these communities, use for trading and empowerment in the surrounding informal settlements."

Since socio-economic improvements, also referred to as societies' development, did not result in adequate gains for the poor and marginalised groups, the empowerment approach has been recommended in relation to development challenges. The empowerment approach aims to change development approaches by taking a critical look at them. According to this strategy, the ability of the poor and disadvantaged groups to satisfy their needs and achieve their desires, rests on their civic and collective power (Safarabadi et al., 2015). In informal settlements, empowerment is not always the same as, say, selling apples if you were previously selling oranges. Through trading items that are in demand right now, the community empowers itself.

Fifth Objective

"To investigate these communities' methods for placemaking and building form production in the face of adversity."

Instead of being a bounded square, public space in informal settlements typically has a linear quality. This is mostly due to the informal settlement fabric's great density, which puts private space first. This is confirmed by the case study, Opalach (1997), and Tames' publications from 2004. Two characteristics of the constructed form found in the fabric of informal settlements are incrementalism and flexibility. At different periods of the day or week, the same area can serve the widest range of purposes. For instance, at night the area is transformed into a church service and then back into a crèche during the day.

8.1.3 Recommendations

This set of guidelines offers insights into the recommended design principles for the envisioned mixed-use community centre in Rhawutini Informal Settlement, Komani, Eastern Cape, catering specifically to the Rhawutini Informal Settlement community. The scholarly discourse has focused on comprehending the contextual intricacies of urban informality and the lifestyles prevalent in informal settlement communities. An examination of socio-spatial dynamics, cultural components, economic networks, rebellious acts, and informal architecture are all included in this study. The aim is to promote an architectural approach that is more flexible and customised to meet the specific requirements of these communities.

Tailoring to the Community:

The design of the mixed-use community centre must be attuned to the distinctive challenges and issues confronting the Rhawutini informal settlement community.

Site-Specific Considerations:

Since unofficial communities frequently occur in areas that are considered inappropriate for traditional construction, or uninhabitable, the building's technology and design must greatly address the site's physical challenges.

Integration into the Urban Fabric:

The architectural concept should seamlessly integrate into the existing informal and formal urban fabric, aligning with established pathways, nodes, and contributing harmoniously to emerging nodes and pathways.

Incremental Design:

Given that informal settlements are inherently dynamic and uncertain, the building must be able to address both immediate requirements and long-term uncertainty in order to successfully mitigate varying degrees of urgency.

Community Engagement and Co-design:

The success of the intervention hinges on designing collaboratively with the community's input and aid. This collaborative approach facilitates a nuanced understanding of the community's context and specific requirements.

Flexibility:

The design must incorporate adaptability in its layout to accommodate diverse activities and facilitate future changes in use.

Empowerment Facilities:

The building should house facilities dedicated to community empowerment, encompassing business development, education, computer skills training, entrepreneurial opportunities tailored to the community, and spaces for children's play and childcare.

Urban Design:

Urban design considerations should embrace diverse cultures, promoting inclusivity, continuous utilisation, and engagement throughout various times of the day.

Innovative Sustainable Design:

Given the challenges associated with introducing municipal services to informal settlements, the building's design should leverage technology to reduce dependence on the municipality for essentials such as piped water, sanitation, and electricity.

Turning Challenges into Opportunities:

The building should possess the capability to transform site-specific challenges into opportunities for community empowerment. For instance, addressing waste management challenges through collaborative waste partnerships with the municipality can empower the community through waste recycling initiatives.

Cultivation of Identity:

The design's architectonic language and material choices should reflect both informal and formal elements, utilising familiar materials to dispel prejudices and foster a sense of identity within the community.

Accommodation Schedule:

The needs of the people of the RIS community drive this accommodation schedule. With the site as big as four rugby fields, the site will be divided into three parts:

1. Public Park

It will be located at the river's edge, moving towards Scanlen Street, seemingly connecting to the buildings. The Park will consist of:

- Playgrounds
- Rest areas with benches and tables
- Amphitheatre

- Bike and walking path.

2. Recreational Space

This space will be for the physical activities:

- Rugby field
- Netball court
- Tennis court
- Basketball court
- Change rooms
- Public gym

3. Buildings

Chapter five and chapter seven of this report, Precedent Studies, drove the schedule and the theories mentioned within the document. The accommodation schedule is outlined as follows:

- Multi-purpose Hall - To house mass meetings, functions, and indoor sports facilities
- Market Area - To conduct their daily different trading activities.
- Creche - To accommodate the children while the parent is at work. This will be for the RIS community and all other communities.
- Hydroponic Farm - To grow crops that they would then sell at the market trading area.
- Workshops consist of vehicle mechanics, welders, and woodworkers.
- Waste Collection – For collecting the waste within the settlement and other nearby formal settlements.
- Councillor Offices – For the political councillors.
- Public Meeting Board Rooms – Meeting rooms to be utilised by the public.
- Library, Computer Labs and Classrooms – For empowering the RIS and other public communities.
- Ablutions- to give dignity to the users.

8.1.4 Conclusion

The guidelines that are provided serve as a foundation for creating a responsive architecture, which is exemplified in the development of a Mixed Community Centre that is customised for communities living in informal settlements. This centre functions as a model facility that responds to the immediate needs of these communities by providing basic services, resolving site-specific issues, infrastructure deficiencies, educational needs, and empowerment programmes. Improving the community's quality of life and strengthening its resistance to the numerous difficulties that come with living in an informal settlement are the main objectives. The Mixed Community Centre seeks to greatly improve the community's quality of life by providing access to possibilities that are comparable to those offered to the larger town. The project's goal is to set the standard for responsive architectural interventions that put the welfare and development of people living in informal settlements first.



Figure 71: Communal water taps are also where social gatherings take place.
(Source: Author) 2024

9 NINTH CHAPTER:

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Figure 72: A bridge linking the Informal to the CBD.
(Source: Author) 2024

10 TENTH CHAPTER:

10.1 APPENDIX

10.1.1 Questionnaires

PROFESSIONAL QUESTIONNAIRE

An Architectural Response to informality: A proposed mixed-use community centre in Queenstown Informal Settlement, Eastern Cape.

Questionnaire: Key stakeholders

1. What are the living conditions in the Informal Settlement, at the footprint of the CBD?

The living conditions are characterized by overcrowding, pollution and poor waste managements.

2. What are the plans and prospects for access to water, electricity and sanitation?

There is communal water & toilets allocated through a partnership between the Housing Development Agency and Christ Hani.

3. What are the job prospects in the Informal Settlement community?

Most of the people are self employed and some work as cashiers and petrol attendants with a select few being unemployed.

4. Is trading space within the settlement catered for?

There are informal trading spaces within the settlement in which the residents run. There are also trading space catered for at the Temporary Relocation Area (TRA) where the flood affected where moved to. Its consists of 1 container which has the sole purpose of providing basic good.

5. What communal space is required for the residents?

Mostly washing lines & Toilets. There are recreational areas in close proximity to the informal settlement such as gyms and sports fields.

6. What communal space is required for the residents for schooling and health?

Libraries and clinics. These are available in close proximity to the informal settlement.

7. Are there programmes geared to assist the Informal Settlement community for improvement of their lives?

No.

8. What type of accommodation is provided?

Accommodation provided consists of prefab houses at the TRA but the informal settlements mostly consists of zinc.

9. Do community members have access to public buildings in the Informal Settlement (explain)?

No. There are public buildings such as libraries and community halls in close proximity to the informal settlement.

10. Are the existing buildings equipped to accommodate all types of users?

No. The accommodation is not equipped for disabled users as there are no ramps and the toilets that are provided are not handicap friendly.

11. What improvements would enhance the building and spatial areas of the residents' lifestyle?

For the informal settlement it would be important for it to undergo reblocking. This is important as it will make sure that the shacks are reaaranged and reconstructed to maximise open space in the settlement to ensure emergency services can access without obstruction. Reblocking can also to assist prevention of flooding as the shacks will be built on raised platforms.

IPHEPHA LEMIBUZO LABANTU BASEKUHLALeni

Impendulo yezakhiwo: Isindululo sokusetyenziswa kombindi wasekuhlaleni kuKomani, Empuma Koloni.

Imibuzo: Abachaphazelekayo

1. Zingxaki ezinjani ojongene nazo ekuhlaleni kwakho emphakathini?

Indlu - Imbakha yendlu. Gahwelo yonke ye disafel.

2. Uyafikelela na emanzini, embaneni nakwe zococeko?

Siyachela iinkuni eNathini Sikha amanzi emlanjeni.

3. Ingaba uhlala kwisakhiwo sexeshana?

Finandawo yemka namanzi.

4. Uziphilisa kanjani imihla ngemihla?

Emisebenzi efumaneka kubantu abanempilo ebucaleni.

5. Uqeshwe ngokwesigxina okanye okwexeshana?

Anatye Shwanga

6. Zikhona iindawo zozilolonga apha emphakathini?

Azikho

7. Zikhona iinkonzo ezenziwa ngumasipala apha ekuhlaleni?

Azikho

8. Zikhona iindlela apho uhlala khona?

Azikho

9. Akhona amathuba emisebenzi apho uhlala khona?

Azikho

10. Zikhona izithuba zokuba abarhwebi barhwebe?

Azi kho

11. Ungaliphucula njani izinga lesimo sokuhlala nokuphila emphakathini wakho?

Andi kwazi

12. Kukho amashishini aluphi uhlobo emphakathini wakho?

Awekho

13. Kudingeka iindawo ezinjani ukuze impilo yoluntu iphucuke ekuhlaleni?

Amanzi - Izindlu - Ukuvic - Umsebenzi

14. Zikhona iindawo apho abantwana bangadlala khona?

Azi kho

15. Yanele indawo okuyo yokuba wenze izidingo nemfuno zakho zemihla ngemihla?

Azi kho

COMMUNITY QUESTIONNAIRE

An Architectural Response to informality: A proposed mixed-use community centre in Queenstown Informal Settlement, Eastern Cape.

Questionnaire: Key stakeholders

1. What challenges do you experience within your living conditions?
*We don't have water electricity Sanitation
 No basic services*
2. Is there access to water, electricity, and sanitation?
Nothing
3. Do you live in a temporary shelter?
No relocation we are permanently staying here
4. How do you generate a living?
With temporary jobs
5. Are you permanently employed?
No
6. Are there recreation centres within the community?
No
7. Are there services that the municipality provides?
No services from Municipality
8. Are there roads in your immediate area?
No roads
9. Are there job opportunities in your area?
No jobs in my area

10. Are there any areas for traders to operate from?

No the place is in a danger zone

11. How would you want to improve the current living conditions?

If we can be moved here maybe to a safer place

12. What type of business and trading take place in the area?

Nothing for business in the area

13. What kind of spaces do you require to improve living conditions?

In this area we don't have any space to improve living conditions

14. Are there parks for children to play and take walks?

Nothing

15. Is there adequate space for your daily life activities?

No adequate space in this area

COMMUNITY QUESTIONNAIRE

An Architectural Response to informality: A proposed mixed-use community centre in Queenstown Informal Settlement, Eastern Cape.

Questionnaire: Key stakeholders

1. What challenges do you experience within your living conditions?

WE DONT HAVE WATER, SANITATION
AND ELECTRICITY

2. Is there access to water, electricity, and sanitation?

THE IS NON OF ABOVE

3. Do you live in a temporary shelter?

NO

4. How do you generate a living?

THE IS NO JOB NOTHING AT ALL

5. Are you permanently employed?

NO

6. Are there recreation centres within the community?

NO

7. Are there services that the municipality provides?

NO

8. Are there roads in your immediate area?

NO

9. Are there job opportunities in your area?

NO

10. Are there any areas for traders to operate from?

..... NO

11. How would you want to improve the current living conditions?

..... GET JOBS, PAINTING, FREESTING

AN GENERAL WORK

12. What type of business and trading take place in the area?

.....
.....
.....

13. What kind of spaces do you require to improve living conditions?

..... TO GET SPACES FOR PLAYING

14. Are there parks for children to play and take walks?

..... NO

15. Is there adequate space for your daily life activities?

..... NO



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DESIGN REPORT

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(Source: https://issuu.com/abdullahsal/docs/abdullah_alsalmi_portfolio/s/25752743. – 02 February 2024)

1. CHAPTER 1: INTRODUCTION:

1.1 Introduction

Approximately 1 billion people reside in informal settlements, primarily in urban areas close to the central business area in middle-income countries. In South Africa, there is over 2,700 informal settlements households, or over 5 million people, reside in informal settlements in 2021 (Partnership, 2021). But because of historical injustices and segregation brought about by colonialism and apartheid, a sizable portion of South Africa's population is still marginalized today and lives in impoverished, dangerous informal settlements on the outskirts of cities. The authorities have been forced to alter their policies regarding informal settlements and look for a way to normalize them as a part of South African cities in light of the fact that these communities have turned insurgent and are fighting for their "right to the city" and a higher standard of living. In light of this, architecture should reassess how it might help communities living in informal settlements.

By developing exemplary architecture that is sensitive to the needs and challenges of the communities on a daily basis, this dissertation seeks to comprehend the culture and customs of the informal community. In order to produce a more responsive architecture that can improve the quality of life for informal settlement communities, increase their resilience to site-specific challenges, and ultimately help them achieve their goals and aspirations, it was proposed that informality and architecture should be synthesized through an understanding of the existing socio-spatial dynamics, culture, economic networks, insurgent practices, and approach to the production of built form of these communities. The idea of a Mix Use Hub for the Rhawutini informal settlement community is the result of the architectural approach outlined in the dissertation. Its goal is to address and mitigate site-specific issues that the community encounters on a daily basis, ultimately enhancing their quality of life.

1.2 Project Description

(Roy, 2005) Defines urban informality as spatial categorizations and organizational forms, associated with the urban poor and absence of capitalist development and state planning. Because of its adaptability, insurgency can function in "invented" and "invited" venues of public engagement to draw attention from the authorities and eventually help these persons achieve their rights.

One of South Africa's most serious difficulties today is the vast number of people residing in the cities' footprints in central business districts (CBDs). Consequently, inexpensive, and suitable housing scarcity has led to informal settlements (Marutlulle, 2017). Despite constitutionally mandated land reform initiatives, South Africa's post-apartheid government has been unable to resolve the legacy of spatial planning.

(Brillembourg and Klumpner, 2010) State that an architect must take numerous actions at once, such as mapping, researching, networking, designing, and building, in order to address the harsh conditions and unpredictability of informal settlements. In order to respond to its context of uncertainty and constant change, the architect must design with adaptability and flexibility in

mind. The architect needs to pay close attention to the degree of urgency and importance that these communities assign to each of their difficulties, as well as the harsh realities of the informal context.

Because the Mix Use Hub is a prototype with components that can be duplicated in various informal settlements, its typology is thus flexible. Its ultimate goal is to raise the community's resiliency against the hardships of living in an informal settlement and, eventually, raise their standard of living. But different informal settlements prioritize different problems, and the structure needs to be adaptable enough to change with the community's requirements over time as well as to varied contexts and communities.

URBAN DESIGN CONCEPT:

- Restitching into the urban fabric
- Connecting the informal and formal together
- Enhancing the left-over space
- To create inclusive space
- To bring the Rhawutini Informal Settlement into the space in order to be part of the town
- The building's design must blend seamlessly with the informal settlement's existing urban fabric and architectural style.
- The site needs to account for the current transportation routes and nodes in its design.

ARCHITECTURAL CONCEPT:

- To create a free flowing space
- Create a building that connects to the urban context
- To design a building that is permeable and facilitates simple pedestrian movement, serving as a daily thoroughfare for the settlement's occupants.
- The building ought to rely as little as possible on the municipality for services and be as self-sufficient as possible.
- The building's design must provide for functional flexibility to accommodate the community's evolving needs.
- The design's materiality and architectural expression need to take into consideration the nearby informal community.
- The settlement's diverse social activities must be accommodated for, and it should be planned to serve as a center for both cultural and social activities.

1.3 The Client

For the community of Rhawutini informal settlement, the client needs a multipurpose facility that has the following features:

- Offers a forum for interaction between the client and the community to help with the settlement's phased upgrade process.
- Offers areas where problems that the community experiences on a daily basis are solved through creative and sustainable methods.
- Provide areas for public park, commercial opportunities, recreational and educational facilities.

1.4 Client's Brief

SITE PLAN

- Public Park:
 - Bike and walking route
 - Amphitheatre
 - Sitting areas
 - Connecting bridges
- Recreation Area:
 - Netball court
 - Tennis court
 - Rugby field
 - Jungle gym
 - Parking

FLOOR PLAN

- Community hall
- Creche
- Hydroponic crop area
- Trading market – stalls
- Public ablutions
- Various public space
- Library

Class rm & computer labs
Reception
Public meeting rms
Counsilor offices
Ablutions

1.5 Conclusion

In order to effectively address such a terrible and uncertain setting, the theory demands for an architectural response that is creative, adaptable, and willing to challenge conventional ideas and norms over time.

With the help of the building, the community will be more resilient to the ups and downs of living in an informal settlement; essential infrastructure and services will be introduced; spaces for education and training will be provided to enable the community; and site-specific challenges will be turned into opportunities for the community.

There is no precedence in built architecture for a building to have such a broad range of purposes within it, and it defies and challenges traditional architectural typological categorization. But in order for the architecture to have a long-lasting beneficial influence on the community, it must perform a wide range of tasks and operate in ways that defy conventional wisdom.

2 SITE ANALYSIS:

2.1 Site Survey

The site is located at the edge foot print of the of township, creating a connection between the CBD, Rhawtini Informal Settlement and the township. It is a vacant privately owned site, but the municipality are in negotioations of pushasing it from the private developer.

ADVANTAGES:

Site is on a daily accessible route by vehicles and pedestrians – Promote economic empowerment - Can create a link within the 3 different type of cultures - Close proximity to a major transportation hub and other amenities - Creates the connection between the CBD, RIS and the township - Located opposite to eRhawutini Informal Settlement - The area of the site is large to be able to harness some natural landscape and vegetation. Creates a link to other immunities (Art centre and sport centre)

DISADVANTAGES:

Vehicles and pedestrians' traffic can be too overwhelming - Site being at the footprint of the township, people who reside in the suburbs might not feel safe going to utilize the facilities - Informal settlements are still regarded as a place of crime, poverty and drug abuse.



Figure.1 Diagram illustrating the links between the Rhawutini Informal Settlement and its intended location, the rest of the urban area, and other informal settlements.

(Author's source) 2024

ZONING:

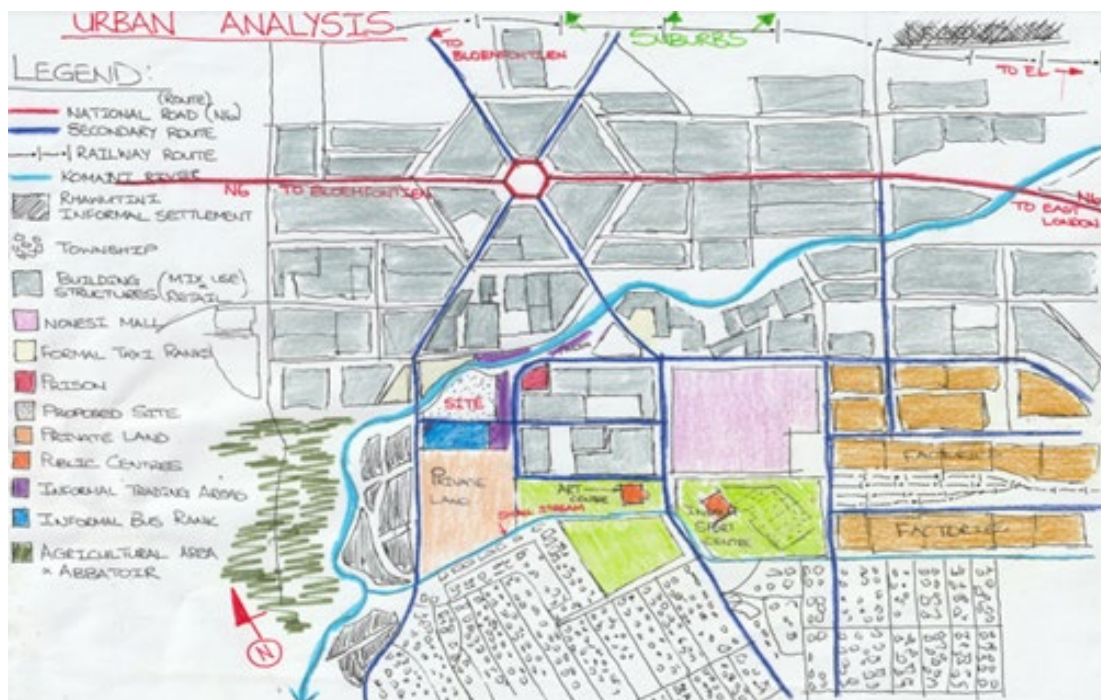


Figure. 2 Diagram displaying the overall context of the site's zoning

(Author's source) 2024

CLIMATE ANALYSIS:



Figure. 3 Diagram illustrating climate analysis

(Author's source) 2024

2.2 Background of the Settlement

The Rhawutini informal settlement in Komani, formally known as Komani, is located between the CBD and the township along Pelem Road and runs along the Komani River into the township. The informal settlement creates a connection between the CBD and the township. Pelem Road is a significant entrance in and out of the township, with a formal taxi rank across the Komani River at the entrance of the CBD.

Pelem Bridge connects the CBD and the township, and most commuters are on foot in and out of the township, passing the eRhawutini informal settlement daily. Pelem Road stretches from the township past eRhawutini informal settlement into the main street of Komani, but after the river into the CBD, the name of the street changes to Calderwoods Roads. Along these, street vendors, informal and formal trading, taxi rank, sheep and goat trading, and informal live bands or shows occur.

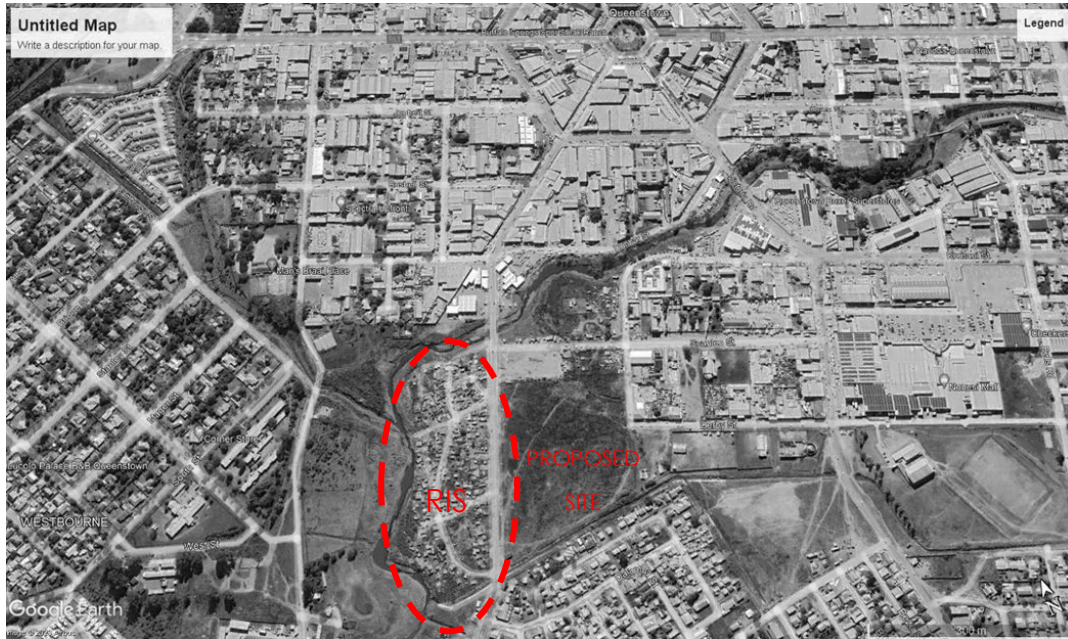


Figure 4: An image from Google Earth showing the connections between the Rhawutini informal village and other informal communities as well as the overall urban fabric.

(Source: Author, Google Maps) 2024

2.3 Settlement & Site Analysis

To start, one should speculate that by analysing the socio-spatial relationships of the Rhawutini informal settlement, it will become clear how placemaking is influenced by social networks, subcultural activities, and public-private partnerships. Through a collaborative mapping exercise, the community identified the different zones of activity within the settlement, which served as the basis for the research.



Figure 5: The social spatial analysis produced by the community collaborative mapping exercise

(Source: author) 2024

3 DESIGN DEVELOPMENT:

3.1 Urban Design Proposal

The idea for urban design sought to integrate the inaccessible space within the settlement's dense fabric into the surrounding informal fabric through the use of architecture.

To integrate the architecture into the informal settlement's overall design, a number of buildings have been thoughtfully positioned around the community, often in close proximity to already-existing paths and nodes.

The suggested incremental upgrading, which is made possible by the Mix Use Hub, is the second facet of the urban design. This will initially take place there before finally changing the settlement as a whole.

THE GOALS OF THE URBAN DESIGN ARE TO:

Bolster and mend any weakened connections between settlement, formal business, and township nodes.

- Make the surroundings safer and improve the riverbanks.
- Design and establish a public area within and surrounding the suggested intervention.
- Bolster and fortify the various cultures and unofficial trade that already exists.

DESIGN INTENTIONS:

- To create a building that satisfies the unique requirements of the community living in the Rhawitini informal settlement.
- Reduce site-specific difficulties by using creative, long-lasting solutions that the community can oversee.
- To provide amenities that contribute to raising the community's standard of living
- To create a structure that can change to meet the community's evolving demands by incorporating the settlement's architectural expression into the intervention's design, to foster a feeling of identity and ownership.

3.2 Design Concept

The concept is restitching a divided community into the urban fabric. Creating an architecture and urban landscaping that seamlessly stitches and unites the informal settlements and the formal through urban spaces and using the street as a vibrant connection to link the settlement to the Center.

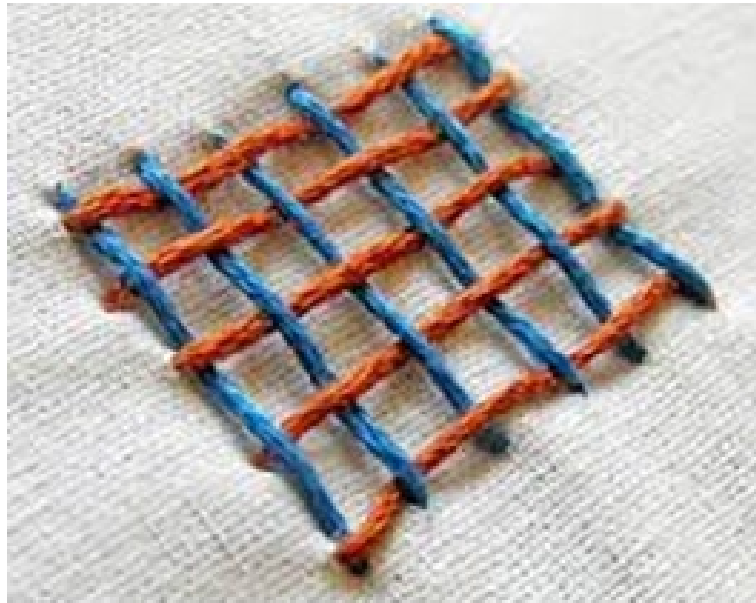


Figure 6: The concept of restitching into the urban fabric

(Source: author) 2024

3.2.1.1 SUB-CONCEPTS:

Weaving into the Informal Fabric:

In order to restitch the site with the settlement and its surroundings the following must be identified:

- Pelem Street – connection between RIS and site
- nodes
- social and inclusive spaces
- risk areas
- challenges
- Economic
- social and political circumstances
- Creating a pedestrian walkway bring life along the street that can feed into the site & buildings

Paths in informal settlements are the primary social spaces due to the lack of space and nodes occur around spots of activity like the community water tap, informal trading area and even local taverns.

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