CROSS-BORDER POLLINATION

Incubation hub for urban farming in Yeoville



Cross-Border Pollination

Incubation hub for urban farming

School of Architecture & Planning
University of the Witwatersrand
Johannesburg, South Africa

A research report proposal submitted to the Faculty of Engineering and the Build Environment, University of the Witwatersrand, in partial fulfillment of the requirements for the degree of Master of Architecture (Professional).

Date: 3 April 2023

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Urban Farming:

Potential Client:

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Declaration

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I confirm that the work submitted for assessment for the above course is my own unaided work except where I have stated explicitly otherwise.

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I understand that the University of the Witwatersrand may take disciplinary action against me if there is a belief that this is not my unaided work or that I have failed to acknowledge the source of the ideas or words in my own work.

Nzoli Kubanza

3 April 2023





Acknowledgments

I would like to extend my gratitude to the following people;

My family; their sacrifice has allowed my sister and me to experience the world. Our travels exposed us to a diaspora of people, opening our minds to the possibilities of what and who we could become. Without their financial support, patience, and love, I would not be here today.

My friends: thank you for allowing me to be myself, entertaining my crazy theories and sometimes inappropriate jokes. The hourly conversations have expanded my knowledge. Lastly, thank you for providing me with endless chats and laughter.

My mentor: thank you for providing me with countless resources. Thank you for allowing me to design at my own pace and giving me the freedom to direct my thesis. To everyone who has contributed to the thesis.

Figure 1 : **Cover Page** (Author, 2022, aftergoogle maps)
Figure 2 : **Aerial photo of Yeovillle** (Author, after NGI 2016)
Figure 3 : **Picture of author's parents** (Author, NGI 2016)

Abstract

Yeoville holds the reputation as an Afro-migrant-centric suburb in Johannesburg (ABED, 2019), with each dispossessed body desiring to keep their cultures alive. This has created social boundaries between South Africans and other African nationalities in the urban landscape. The burning of Yeoville Market is the physical manifestation of growing tension in the community.

Gambela (BÉNIT-GBAFFOU, 2019) (known by the neighbourhood) provides migrant women from the diaspora the opportunity to respond to the economic crisis they face in their home country. The enclosed market sphere encourages cultural exchange and interaction by eating, processing, and selling food from home. For migrants living in Yeoville, food is not only a source of nutrients but a tool to transmit culture. Thus, the burning of the market signifies the resistance of the community to integrate.

The thesis will follow the Congolese women in the Yeoville market who frequently encounter borders, traveling with various products including cassava. The traders use cassava to transgress the misconceptions of a patriarchal stereotype of an African housewife, simultaneously ensuring household survival.

Cassava holds a cultural significance to the West African women as the method of processing cassava requires the knowledge of the native women that have passed down from one generation to another, perfected through time and across borders (Christina Emery, 2021).

The importance of the plant not only lies in its mobility but its functional characteristics of promoting harmony, encouraging collaboration, and a medium in which information is transferred (Christina Emery, 2021).

In asking the question “how can cassava be used to mend the fragmented community of Yeoville” this thesis will be using cassava as a framework to explore themes of, mobility, boundary, and identity. Re-introducing the market to the community as an agricultural hub.

The architectural intervention will re-interpret the market as a space that transmits and preserves culture. The project aims to mediate the fragmented communities of Yeoville using food to educate, generate social spaces, and food works to encourage community involvement.

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Preface

When we first arrived in South Africa, the first thought in my mother's mind was, "Where can I find pondu?" we lived in Japan for over four years and had not consumed any Congolese food. Our family members in Johannesburg recommended we go to the Yeoville market, informally known as Gambela, by the community.

Gambela is a crucial space for migrants in Johannesburg as it helps to preserve the Congolese and other African cultures by selling African food and other products from home to the migrant population across the city.

Before I entered university, my mother started growing and selling processed cassava from home. Over the years, she has grown her business and developed relationship with other women who sold cassava for a living in Johannesburg.

She introduced me to the woman in my research who conducts business with her weekly. Following her, I witnessed the networking system created by the migrants from the diaspora in the process of trading. An invisible pipeline of African entrepreneurs exporting and importing cassava and other boundary objects.

I have had the privilege of encountering diverse groups and African cultures in my life. My parents emphasized the importance of maintaining customs and culture regardless of where we were. Food became one of the ways my mother made sure we remembered where we came from. As a result, it has become a culture within my house to eat pondu at least once a week.

Food also functions to bring cultures together; my best memories are of me getting my friends to my house. First, they would see a pile of green leaves on the table. Then, driven by curiosity, I would serve them cooked pondu with various responses to the foreign taste.

This project explores the potential of cassava and food to preserve and bring cultures together. This document serves to preserve and transfer the knowledge of my mother, the Congolese women, and those who came before her.



Chapter 01

Introduction

Figure 4 : **Picture of Yeoville Market** (Author 2022)

"… Draw the history of that was there before our arrival… excavate before projecting our ideas of what the space should be"… Emmanuel Admassu.

This chapter will justify the author's decision of using cassava as a symbolic tool to bridge the relationship between the communities of Yeoville. Examine the history of cassava and its relationship to the subject; the cassava traders of Yeoville.



'The Border' Story of Amigo

Amigo slides the curtain open, hoping to catch the sun's rays into her room but the sun will not be up for few more hours. She attempts to wake her husband Gaylord before strolling to her cupboard where she stood indecisively going through her outfits. Once ready, she snatches the keys of the bakkie from the table and tosses it to her husband who caught it with ease, immediately closing the door behind him following her path. He starts off the engine and they begin the two-hour-long journey to the cassava farm.

An hour passes on the road Amigo catches herself falling asleep, to keep herself awake, Loi by Kofi plays in the background. While staring at the road ahead, she reminisces about her brother Serge's wedding last year, where she last saw her family in Kinshasa.

The cold wind sends shivers through her body as she stepped out of the bakkie. The couple walks over to the front door of Patrick's house and knocks on the door till a short figure with stables opens the door. Patrick and Gaylord shared words briefly while walking to the cassava sacks. They both began loading the cassava on the back of the bakkie while catching up on their lives.

Amigo surveillance the two men shivering until they were ready to go. Gaylord sat in the driver's seat while Amigo, in the passenger switched on the radio-ready for the long road to Johannesburg. The two were too distracted by the company each other that none of them noticed the road sign indicating that they had left Xhai-Xhai.

Awakened by the sudden stop, Amigo opened her eyes, finding herself at the South African border. Shining the torchlight in their face, a policeman commanded the driver out and began to search the bakkie. Grabbing the mask and the envelope, Gaylord steps out, following the police to the back. He informs the police of their whereabouts and the cassava sacks' intention. They're both too familiar with the routine.

Amigo carefully watches the exchange taking place from the rear-view mirror and sees Patrick handing over the envelope. To his surprise, the policeman seems unsatisfied, he approaches the car where Amigo was sitting and sticks out his head and asks if she has any money on her.

Figure 5 : **Women accessing South African border** [https://www.thesouthafrican.com/news/beitbridge-ports-of-entry-coronavirus Accessed 2022]

Clarice checks her watch from outside of Gambela to see it is 5 am; the streetlights on Hunter's street are barely illuminating her car as she impatiently waits for the bakkie to arrive. She shivers out in the cold, half an hour pass. She tries to get hold of Amigo but goes straight to voice mail. Since the pandemic, she has encountered problems at the borders requiring them to pay additional money to the guards. The last time she was forced to turn back spoiling cassava and was unable to sell it causing Amigo to lose money.

A figure of a bakkie approaches with a visible hump, announcing that her cassava has arrived. Amigo and Gaylord begin offloading the sacks with relief on their faces. She interrogates them with an irritant tone, knowing full well the story. They informed her of the extra money they had to pay to the guards, who would not let them go.

Amigo had used the money intended to get back home to persuade the guard to let them go. “My god how am I going to pay you guys now?”, Clarice mumbles to herself as she watches the two offload the last bunch of cassava sacks from the truck to her stand. She unrolls the top of maputa, careful not to expose money; she pays compensates the two.

Laying the rows of cassava, she prepares the tables for her early customers to arrive. The shutter door to her stall unrolls; her first customer appears.



Figure 6 : **Cassava** (Author 2022)

Background

The thesis will follow the cassava's journey, the plant's migratory history, its route from the farms in Mozambique, its arrival at the South African borders, Yeoville market and to the plates of households in Johannesburg.

Amigo's experience of the border serves as a springboard to the thesis, as it represents the everyday experience of the border traders. The female traders in the context of the study, Yeoville, often face persecution by the authorities at the borders, leaving them with no choice but to bribe their way into South Africa. In addition, the border patrols are suspicious of the goods these traders carry due to a lack of knowledge of the plants and migrants being synonymous with bringing drugs into the country.

Nevertheless, these women travel long distances despite their obstacles and bring various goods and boundary objects. Boundary objects are artifacts that enable knowledge sharing across all boundaries (Bakker, 2011).

In 2020, the closure of borders due to the outbreak of COVD-19 made it nearly impossible for traders to bring cassava to South Africa from the farms in Mozambique, losing their source of income. The problem would not have been an issue if the women had access to land in South Africa to cultivate cassava.

Cassava is a tropical root crop consumed in the Congolese, Nigerian, and Ghana communities (Christina Emery, n.d.). The roots are the primary dietary energy source and are known to be the highest source of nutrients among staple foods (Christina Emery, 2021). The leaves are rich in proteins and can be consumed after intensive processing. The plant contains cyanogenic glucosides, a toxin that can cause toxic neuropathy with overdose (Christina Emery, 2021). The symptoms include numbness on the feet, difficulties walking, and neuropathic pain. The knowledge of cassava processing has been passed down from generation to generation, crossing geographical and cultural boundaries.

The first evidence of cassava farming dates to 8000BC in Meso-America. The Meso-American women perfected the processing method and traded the cultivation method to neighbouring tribes (Christina Emery, 2021).



Figure 7 : **Map of cassava distribution around the world** (Author 2022)

Migrants in a transnational context preserve culture through eating and preparation of food. Food work provokes memories and feelings of home embedded in the subconscious (Beagan, 2011). Cassava, therefore, is a medium in which information and culture are transmitted and preserved. It also serves as a bridging device connecting cultures across borders through its consumption, proving that it is a boundary object.

The cassava traders of Yeoville Market vary in nationalities, from Mozambique, DRC, and Nigeria to Zimbabwean women. These women trade cassava not only as a source of livelihood but have created employment opportunities for the newcomers to Johannesburg. Using cassava, the women of the Yeoville market challenge and transgress the misconceptions of a patriarchal stereotype of an African housewife. They are often the household breadwinners and collaborate with their husbands, who contribute to the business by transporting plants around the city and country.

The status of the women varies from those with permanent resident permits to refugees, asylum seekers, and undocumented. In the process of trading, the cassava traders create a networking system with other migrants—an invisible pipeline of African entrepreneurs exporting and importing cassava and other boundary objects.

An unknown group burnt down the corner of Raleigh and Bedford portion of the Yeoville market on June 21, 2022. The traders met this with grief and saw this act as a xenophobic attack. The market is filled with people from foreign nationalities, where cultural interaction and collaboration can be seen.

Yeoville holds the reputation for being a pan-African neighborhood where diversity is celebrated (CLAIRE BÉNIT-GBAFFOU, 2019). However, upon closer investigation, it is revealed that tension exists among the community members, particularly between South Africans against other African nationalities. The tension is evident in the social territories created within the suburb, creating fragmenting community. The burning of the market is the physical manifestation of the growing tensions.

The burnt market created an opportunity for an architectural intervention. The project will redefine the boundaries separating the market and its community by introducing an agricultural hub to the existing program. The agriculture hub will function as a communal space that engages and educates the community through the production and consumption of cassava. Food has been a commodity for peace offerings between tribes and cultures. It can therefore have the potential to bridge the fragmented urban scape of Yeoville. The thesis will explore the uses of cassava as a commuting tool for mending cultures of Yeoville.



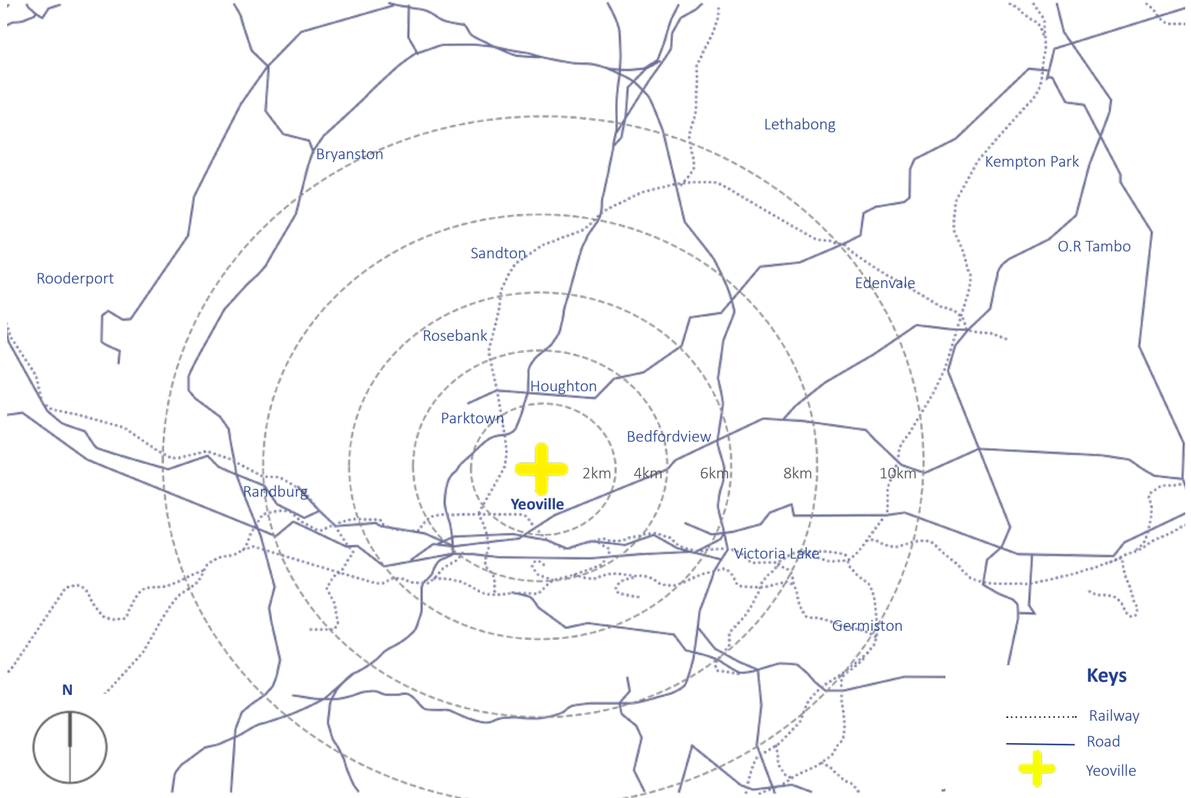
Figure 8 : **Interior of the burnt Yeoville Market** (Author 2022)



Figure 9 Collage showing the after effect of the fire (Author 2022)



Figure 10 : Cassava surviving the fire (Author 2022)



Port of Entry

The site of interest is in the inner city of Johannesburg; Yeoville was established in 1890 and advertised as an urban oasis for the middle class (CLAIRE BÉNIT-GBAFFOU, 2019). The suburb was far from the noise and pollution of the mining at the time. It instead attracted the working class of the Jewish population (CLAIRE BÉNIT-GBAFFOU, 2019), who would later move to newer northern suburbs such as Houghton and Park Town. Finding success with the working class, Yeoville established itself as a transitional space, a port of entry for migrants, and a threshold to Johannesburg.

The late '70s and early '80s saw economic activities move from the inner city Hillbrow and Joubert to Rocky-Raleigh Street Yeoville, attracting young students from all over the city (ABED, 2019). Raleigh street at the time only had a gay club, but later seeing the success, other entrepreneurs followed, starting a long trend of clubs and restaurants being erected along the street. Yeoville birthed short-lived counter-culture movements against the Apartheid regimes, where young people from all races could interact (ABED, 2019). The suburb became a space enabling interaction with other cultures and a temporary dwelling place for the dispossessed bodies.



Upon closer investigation, it is revealed that tension exists among the community members, particularly between South Africans and other African nationalities. This is evident in the social territories within the suburb, creating fragmenting community. The burning of the market is the physical manifestation of the growing tensions, making it the ideal location for the nature of the project.

Figure 12 Early Yeoville https://www.eggsa.org/postcards/South-Africa/Gauteng/Johannesburg/Johannesburg+View+of+Yeoville+looking+towards+Johannesburg.jpg [Accessed 13 March 2020]

Figure 11 Map showing Yeoville in context of Johannesburg (Author 2022)

In the early 90s, the suburb had experienced a shift in demography, with most of the residents now black South Africans (BÉNIT-GBAFFOU, 2019). The street traders who once catered to the white population on Raleigh Street started selling everyday products catered for the black pedestrians (ABED, 2019). The street was filled with street traders whose space of trading though temporary, was permanently embedded within the streetscape of Yeoville. The street became a place that juxtaposed temporality and permanence.

In the late '90s, post-apartheid, an influx of African migrants entered Johannesburg and Yeoville (ABED, 2019) (CLAIRE BÉNIT-GBAFFOU, 2019). The migrants supplemented the existing population, overcrowding the neighbourhood. The housings previously used strictly for the home were re-zoned for businesses (ABED, 2019). They were emerging new spatial typologies that enabled temporality and hybrid living. Today languages from the African diaspora can be heard in the street; it is estimated that over 40% of the population are migrants in Yeoville.

The Yeoville Market was commissioned by the City of Johannesburg to bound and control the growing population of street traders (ABED, 2019). The new structure was a backlash by the South African street traders whose livelihood depended on exposure. To fill in the empty plots, migrants were allowed to install stands (ABED, 2019). The enclosed market was re-interpreted by the migrants as a space of asylum, crucial trading space for migrant women giving them the opportunity for a livelihood.

Figure 13 https://gideonmendel.com/yeoville-in-the-80s/ [accessed 3 March 2020]



The Yeoville Market, or Gambela, known by the community, has established itself as a staple for where to buy African food in Johannesburg for the migrants. The importance of the market not only lies in its ability to create an income opportunity, providing a space of production for migrants but also encourage cultural interaction and make the site and market an appropriate site for the intervention.

Figure 14 Yeoville Market trader https://www.dailymaverick.co.za/article/2022-06-21-heartbreaking-scenes-as-yeoville-market-catches-fire-after-several-threats-to-burn-it-down/ **[Accessed 6 Junly 2022)**



Field of Inquiry

The thesis will seek to answer the following question:

How can cassava be used to mend the fragmented community of Yeoville?

Following the journey of cassava, the following themes were extracted: mobility, boundary, and identity- the project will research the three themes and investigate ways to include cassava production in Yeoville. Market. Reconstruct the market as a community center and a pan-African gastronomic center.

Methodology

The research was done primarily through observations of the everyday activities of the migrant traders in Gambela. Which then later translated into a series of questions based on the observations. The question was not asked through questionnaires as I felt it would unconsciously divert the answers in one direction. For that reason,

I allowed my intuition to guide the questions. The conversations were recorded using notes and voice recordings, and production spaces of the traders were recorded using taking pictures and drawings—permissions from the traders were received prior to engagement. Pictures of the site were taken with care not to reveal any identities of the traders who, in nature, operate in discretion.

Document

Due to the nature of the project, the structure of the document will be based on the journey that cassava takes to get to the plate of households:

1.Boundary Object: Cassava – Background

2.Border - Theory

3.Bordered Space: Gambela – Site

4.Kitchen – Design Development

5.The Plate – Final Design

Aim

The aim of the project is to mend the fragmented community of Yeoville using cassava as a symbolic tool.

Objective

Cassava:

•Creating awareness of the potential of cassava as a food staple

•Examining the migratory routes of cassava and understanding the role of borders in Africa.

•Harnessing the agricultural knowledge of migrants.

Boundaries:

•Inspect the use of boundaries in market spaces and the strategic uses of invisibility.

•Analyse the spatial uses in the African markets to help design production spaces for migrants in a transnational context.

Identity:

•Understanding the role that food and work play in maintaining culture for migrants in a diasporic context.

•To understand how food can bring communities together.



Boundary Object

Figure 15 Cassava (*Author 2022)*

MIgration of Cassava



The cassava traders in Yeoville provided recipes on how cassava can be cooked. Later origin of the recipes was researched, and cooking instructions were obtained online. The timeline shows the cassava recipes recorded throughout history and the technologies that developed along it.

Figure 16 Migratory routes of cassava (Author 2022)

8000 BCE

First evidence of cassava farming in Meso-America. It was believed that seeds and stems cutting were traded over short distances.

19



cassava graters, Tipiti Manioc Squeezer, Basket Sieve for manioc

Recipe

Cassva Bread

24.

Tipiti Manioc Squeezer, Basket Sieve for manioc

20



21



Cassava Graters

250-750

Artist from Moche represented cassava together with *Leptodactylus pentadactylus* (Smoky jungle frog) from the Amazons. The frog was associated with agriculture and ceramics were potentially used as part of a ritual to ensurf bountiful harvesting.

22



1500:

The Portuguese arrival in West Africa

23



1578

In the book History of Voyage to the land of Brazil, French traveller Jean de Lery records the recipe for the cassava alcoholic beverage 'chika'.

1600

The Processing of cassava was communicated to the European settlers. Through slave trade and cassava was introduced to South America, the Caribbeans, and West Africa becoming subsistence food for enslaved labour plantations.

1650

Amerindian were bought to West Africa to teach Africans how to process cassava

>1650

Africans learned their own way of processing cassava. Leaves were now consumed instead of just roots, new recipes emerged. Gari was invented; can be stored for a longer period.

1719

Metamorphosis insectorum Surinamensium; Maria Sibylla's representation of cassava. Ingredient for the cassava bread was written by her and spread across Europe.

1800

European traveller's knowledge of cassava were recorded entering European texts.





1500 1578-1701 1702-1800

Figure 17 Meso-American women making cassava bread, https://lab.plant-humanities.org/cassava/ [Accessed 16 July 2022]

Figure 18 Tipiti Manioc Squeezer, https://lab.plant-humanities.org/cassava/ (Accedded 16 July 2022)

Figure 19 Cassava Graters https://lab.plant-humanities.org/cassava/ (Accedded 16 July 2022)

Figure 20 Navigation journal https://lab.plant-humanities.org/cassava/ (Accedded 16 July 2022)

Figure 21 Artist depecting *Leptodactylus pentadactylus* (Smoky jungle frog from the Amazons) https://lab.plant-humanities.org/cassava/ (Accedded 16 July 2022)

Figure 22 Collages depicting the borders cassava crossed (Author 2022)



Figure 23 **Boiled Cassava** https://stock.adobe.com/za/images/traditional-indonesian-culinary-food-singkong-rebus-or-boiled-cassava-boiled-cassava-indonesian-food-that-is-simple-and-often-made-at-home-in-donesian-street-food/305842621 (Accessed 6 July 2022)

Boiled Cassava

Place of consumption:

Trinidad and Tobago, Costa Rica, Guatemala, Honduras, Nicaragua, Panama, Argentina, Ecuador, Paraguay, India,

Ingredients

•2 medium size cassava

•Water to cover cassava

Instruction

1.0000 Place the cassava root on a cutting board and cut off the tip and tail of the root.

2.0000 Remove the peel using a small knife, cutting the cassava root into approximately 10cm long. Then slice through the peel of each piece vertically – from top to bottom.

3.0000 Gently wedge the knife under the peel so that it lifts and can be removed in large pieces, and then work your thumbs under one side of the cut. Be sure to get underneath the first white layer, too, as it will help you peel the skin off in large chunks.

4.0000 Remove all the brown peel and the thin white layer beneath it.

5.0000 Once peeled, cut away any brown streaks, as these parts are no longer fresh.

6. 000 If you are hesitant to use a knife, you may decide to use a vegetable peeler.

7.0000 Once the root is peeled, chop it into small chunks.



Figure 24 **Fried Cassava** https://www.kosher.com/recipe/yucca-fries-recipe-3693 ***(Author 2022)***

Fried Cassava

Country of consumption

Cuba, Dominican Republic, Puerto Rico, Costa Rica, El Salvador, Argentina, Bolivia, Brazil, Venezuela,

Ingredients

- 2 pounds cassava (yuca)
- salt, to taste
- Vegetable oil, or another neutral oil (e.g., canola), for deep-frying
- Freshly ground black pepper, to taste

Instruction

1.Add the cassava to a pot, cover with water, and bring to a boil. When the pot comes to a boil, season with salt to taste. Let cassava cook until fork tender, about 20 minutes.

2.Drain the cooked cassava well and let it cool until it's easy to handle.

3.Cut the cassava pieces in half and remove the hard spine in the middle. Cut the halved pieces into 1/2-inch strips.

4.Add about 2 to 3 inches of oil to a heavy pot or Dutch oven and heat over high until the oil is 350 F. Working in batches, fry cassava pieces until they are gently browned.

5.Using a slotted spoon, remove cassava fries from hot oil and let drain on paper towels. Season with salt and pepper.

6.Serve just as you would French fries with ketchup, mojito garlic dipping sauce, or spicy homemade mayo.

Figure 25 ***Pondu*** (Author 2022)



Country of consumption:

DRC, Nigeria, Cameroon

Ingredients

· Processed cassava leaves

· 3 Onion (depending on how served)

· Spices

· Palm oil

· Dried fish

IInstruction

1.Pour water into the pot and add cassava to the pot. Leave it on the stove for 3 hours. Make sure to stir every 15 minutes or so.

2.Cut the onion and add the spices that you prepared. Mix it well

3.0000 After 3 hours, add in the palm oil and fish. Leave it on the stove for 1 hour.

Figure 26 ***Kwanga*** (https://www.tasteatlas.com/chikwanga)



Country of consumption:

DRC, Nigeria, Cameroon

Ingredients

· Processed cassava leaves

· 3 Onion (depending on how served)

· Spices

· Palm oil

· Dried fish

IInstruction

1.Pour water into the pot and add cassava to the pot. Leave it on the stove for 3 hours. Make sure to stir every 15 minutes or so.

2.Cut the onion and add the spices that you prepared. Mix it well

3.0000 After 3 hours, add in the palm oil and fish. Leave it on the stove for 1 hour.

General Information on Cassava

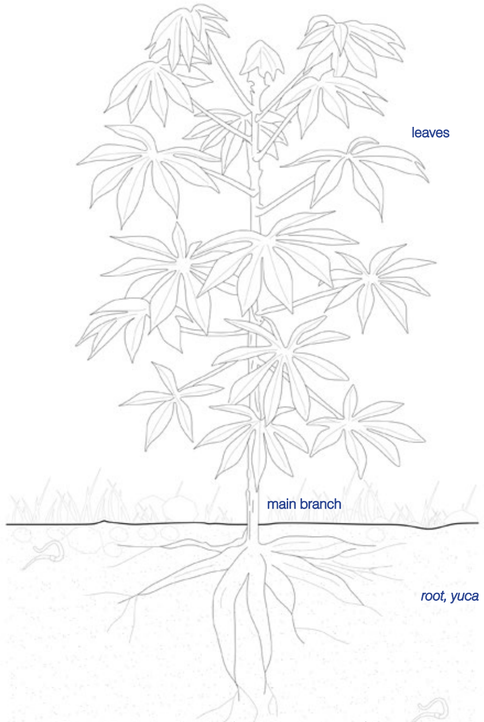


Figure 27 Drawing depeicting Anatomy of Cassava *(Author 2022)*

Scientific Name and names across borders:

'Manihot Esculenta'

'Yuca'

'Cassava'

'Pondu'

Family: Euphorbiaceous Kingdom:

Plant Order: Malpighiales

Class: Magnoliopsida

Health benefits of cassava: Vitamin C, thiamine, folic acid, manganese, Carbohydrate, and potassium

The first evidence of domestic use of cassava dates to 8000BC in Meso-America. There is enough evidence to support that women have traded information on recipes and safely processed cassava with neighbouring tribes (Christina Emery, 2021). Cassava, although an essential source of nutrition, due to its high level of cyanogenic glucosides, if not processed correctly over time, can cause Toxic Neuropathy. According to the University of Oregon Health Science 'Toxic Neuropathy'

"is a form of peripheral neuropathy, damage to the nerves away from the brain and spinal cord" ...

The plant's toxicity depends on the environment it is grown in, the temperature, and the soil conditions (Christina Emery, 2021). . The correct method of processing cassava has been credited to the Mesoamerican women who perfected the process and passed the knowledge to their predecessors (Christina Emery, 2021).. The process included a multi-step process of washing, grating the cassava root, mushing it into a pulp, hanging and dehydrating it, and finally drying the pulp on a hot surface (Christina Emery, 2021)..

The process included a multi-step process of washing, grating the cassava root, mushing it into a pulp, hanging and dehydrating it, and finally drying the pulp on a hot surface.

There are two distinct characteristics of cassava: the sweet and the bitter. The bitter cassava contains a higher concentration of cyanide that requires additional steps to ensure all toxins have been removed. An archaeologist shows that the Meso-Americans preferred the bitter cassava for harvesting due to its higher resistance to diseases and insects.

Besides the Meso-America, cassava was cultivated by the Arawak people from the Greater Antilles in the Caribbean before Christopher Columbus's arrival. Through colonization, the plant was introduced further into Caribbean countries such as Barbados, and Haiti becoming a subsistence for the enslaved labour on plantations. The recipes and processing methods were recorded by the European travelers who later circulated the knowledge and processing methods to the West coast of Africa.

African women learned that the root was poisonous, so they started processing leaves instead. Congolese women still use the method today, as demonstrated in the drawings. However, as done in South America, they also started processing roots differently, which involves pressing the roots with a stone instead of hanging them.

The Congolese women in the Yeoville market use both bitter and sweet cassava; the bitter cassava has more significant roots and is used to make chikwanga, a fermented bread. At the same time, the sweet cassava with smaller roots is used to make "pondu", which is crushed cassava leaves. The women have also developed technologies to help them cultivate cassava faster. The following images show the method of cultivation used by the trader and the technologies used.

The importance of cassava lies not in its nutritional values but in its ability to transfer information and mobility (Christina Emery, 2021).. Through cassava, the women across the border have traded knowledge, transgressing the social, cultural, and geographical boundaries. Thus, the function of cassava can be understood as a medium that transfers knowledge and a bridging device that enables interaction with cultures across borders. Hence, making cassava a boundary object.



Figure 28 Cassava traders sorting the leaves *(Author 2021)*

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Figure 29 Picking and plucking of the leaves Part 2 *(2 Author 2021)*

Processing Cassava

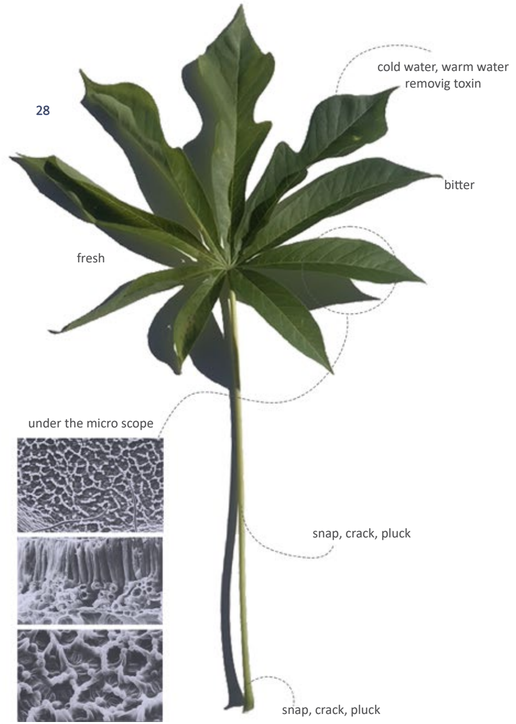


Figure 30 Illustration of cassava processing Part 1 *(Author 2021)*

1.



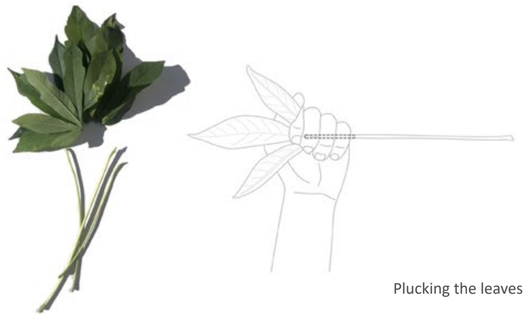
Cassava is plucked from its branches

2.



snap, crack, pluck

3.



Plucking the leaves

29

1. washing in and out of cold water



2. Water gets renewed and the process starts again

3. Take cassava put it in the pot and boil



Figure 31 Illustration of cassava processing Part 2 *(.2 Author 2021)*

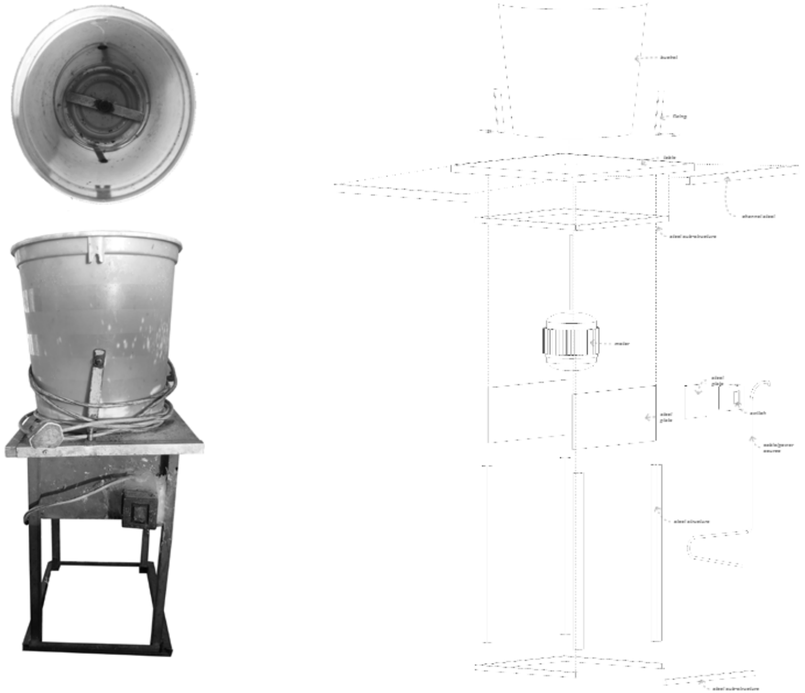


Figure 32 Cassava grinder used by the Congoelase women *(.2 Author 2021)*

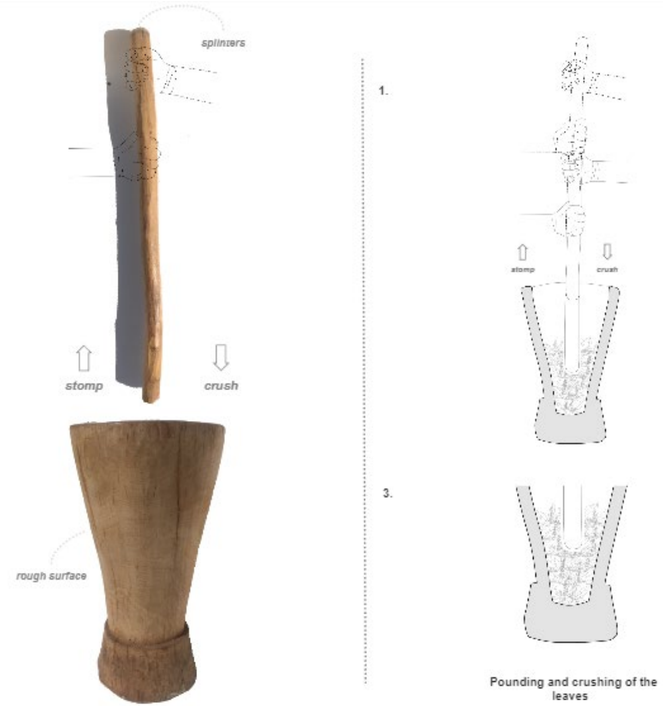


Figure 33 Cassava processing technology used by the Congoelase women *(.2 Author 2021)*

Now that we have established the function of cassava, we will look at the theoretical framework that supports the argument of cassava as a boundary object. Andres P.S. and Paula J. state (Bakker, 2011):

..." boundary objects are artefacts that enable and constrain knowledge across boundaries"... (Bakker, 2011)

In the case of cassava, it was previously proven that before colonization, information on cultivating cassava was shared amongst the women of Meso-American tribes, transgressing the cultural boundaries. The information was spread further through colonization by the Europeans across geographical borders.

The two go further in creating a framework in which an item can be classified as a boundary object.

.."Artefacts become boundary objects if they are meaningfully and usefully incorporated into the practices of actors working in diverse fields"... (Bakker, 2011)

This point was proven previously by showing the consumption of cassava by various women across time and borders. Each woman was cultivated to be consumed in households. The cultivation method has been passed down from generation to generation generating cultural significance.

" Boundary objects are defined as 'flexible epistemic artefacts that inhabit several intersecting social worlds and satisfy the information requirements of each of them. Boundary objects also have a common identity across fields." (Bakker, 2011)

The last point was proven by showing the dual uses of the plant by the women of Meso-America, the Caribbean, and Western African women. Though the way it gets consumed differs, the importance of the plant as one of the sources of nutrients remains the same. Across all cultures, it is used to pass down traditions and cultures.

In conclusion, cassava can be classified as a boundary object satisfying all the requirements. Making cassava an appropriate plant to use as a symbolic tool to mend the relationship of the community of Yeoville.

Figure 34 Close up of cassava *(Author 2022)*



Transgressing boundaries with boundary object

In Africa, cassava is grown in Nigeria, DRC, Mozambique, Ghana and Tanzania. Nigeria is the largest cassava producer, producing over 34 million tons of cassava roots (Christina Emery, 2021). Its ability to grow in arid temperatures has marked cassava as one of the most important crops that could help prevent food scarcity in the future (Christina Emery, 2021). Despite the advantages, the production of the crop is low compared to the other staple foods. Food and Agriculture of the United Nations launched a biotechnology development program to increase the production and popularity of plants but failed to reach its true potential (Christina Emery, 2021).

My project aims to create awareness and contribute to the research of the plant by cultivating cassava in the city of Johannesburg. To my knowledge and research, there are no known cassava farms in Johannesburg.

In South Africa, the agriculture sector is still mainly male-dominated compared to the rest of African countries, with males and females equally involved in agriculture (Rybarczyk, 2021) (Anon., 2021). Agriculture contributes about 3% to the economy's GDP, a crucial sector for developing countries (Anon., 2021). However, there are numerous boundaries that the migrant female overcome in order to see a profit in selling cassava. The first issue is the lack of control of production due to the lack of land access.

As of October 2020, the government released 700 000 hectares of land, of which they had promised that 50% would be dedicated to women and youth, in line with the National Policy on beneficiary Selection and Land Allocation (Rybarczyk, 2021). However, only 53 000 hectares out of 700 000; less than 10% was given to female farmers (Rybarczyk, 2021).

Owning land or having a space to grow cassava would benefit the suppliers in controlling the production of cassava in the following ways: managing the pricing of the finished product, regulating the quality of the crops grown, and they will be able to employ more women. Currently, the women only control cassava's supply and marketing, which is still a lucrative business.

The cassava suppliers of Yeoville import from a cassava farm in Xhai Xhai Mozambique and some from Limpopo at an unknown location. The farm is owned by a man who rents out a space for the suppliers to grow the crops, and the women sell it to traders across Johannesburg. The plant arrives early in the morning at the stall in Yeoville Market, where it only takes 3 hours for the plant to get sold after arrival. The cassava gets brought in via small to large brown sacks.

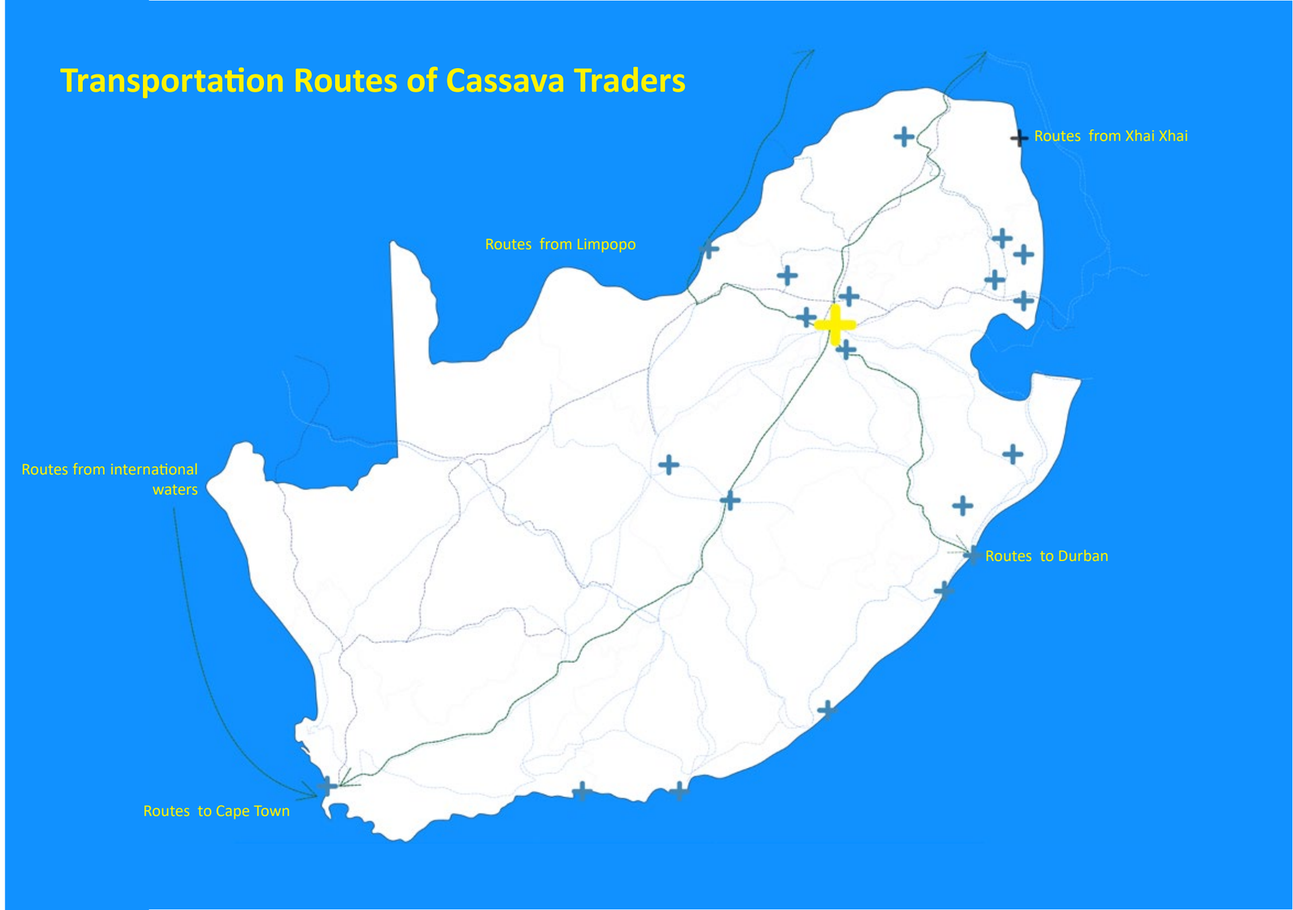


Figure 35 Cassava sack at the Mozambique Market in Kirk Street *(Author 2022)*



The medium sack is approximately 1,5m x 2.5m, priced at R500 per sack. The medium size is only offered in summer when there is a surplus of cassava. The giant sack is approximately 2.3m x 2m, priced at R800 – R1000 per sack. The price differs according to season. In winter, only the R1000 sacks are available and sold. The suppliers bring in roughly 30-50 sacks of bags twice a week: Monday and Tuesday.

In the Mozambique Market located at Kirk street, bring in cassava up to four times per week. Roughly a week, cassava traders can earn anywhere from R30 000 to R100 000. This excludes the expenses they would have to cover for labour, renting out the land, and transportation fees. The women grind, process, and package into smaller sacks. The processed cassava is priced anywhere from R15 to R30 per sack.

These figures show the high demand for cassava in Johannesburg within the migrant community. The women are using cassava not just to feed people but to transgress the economic obstacles faced when coming to South Africa. Cassava has created jobs for the women who have followed their husbands or relatives in the hope of better career opportunities. Some migrant women do not have the educational background or qualifications, but out of the five cassava suppliers that I have interviewed, 4 have qualifications in tertiary education.

However, they are prevented from having "formalized jobs" due to not having the correct documentation. Cassava has provided women with alternative means of generating income for their households.

The production task of cassava between male and female.

Division of farm task	Male	Female
Ploughing	x	x
Planting	x	x
Weeding	x	x
Fertilizing	x	x
Spraying	x	x
Manual Watering	x	x
Mechanical Watering	x	x
Harvesting	x	x
Putting in the sack	x	x
Transporting	x	
Marketing		x
Selling		x

The women I interviewed reported collaborating with the males in the house (relatives, sons, or fathers) to grow the business. The table provided shows the tasks that are divided amongst the partners. Some husbands even take the role of the primary caretaker in the household for the women who trade far from home. The women become the breadwinner sending money home, and she sees her children whenever she travels back into the country. The women show that by selling cassava, they not only have more financial freedom but also transgress the African housewife stereotype, working with their husbands to ensure household survival. They are challenging and changing the relationship of the husband-and-wife dynamic of the African household.

The mending of the culture occurs when the community feels connected to the project, this will be achieved by creating programmes that engage the community. Urban agriculture will feed the community members and create job opportunities for migrants who might not be qualified to get 'formal' jobs. It will link the city back to nature and drive the community to become more self-reliant.

It will help reduce the carbon footprint emitted by the trucks importing and exporting food around the country (Putra, 2021). Community participation will be crucial for the success of the project. The food grown needs to have cultural significance for the traders selling but represent the culture of the community.

According to the guideline provided by the United Nations Environment Program (Joanna Wilbers, 2004), urban agriculture has the potential to reduce inequalities between sexes, reduce erosion reduction, and push the hunger level to zero. Furthermore, it can solve issues related to land, (as discussed earlier) water, and climate back by greening urban spaces and encouraging community participation.

The lack of cassava farms in Johannesburg and South Africa shows the potential for the project to be successful as it is a niche product that the potential has not yet been harnessed. The farms in Xhai Xhai and Limpopo could be the potential partners of this project, maintaining the relationships made by the cassava traders of Yeoville. The intervention could specialize in producing the product to make it more marketable for the public to consume. Partnerships with other agricultural investors could help to progress the technologies used in cassava processing.

Despite the countless evident showing the benefits of urban agriculture, I must recognize the unintended potential of the program for the environment and human health. Growing food in highly polluted areas could poison the crops and people consuming it. Training would need to be provided, and maintenance checks should be conducted regularly.





The Nest We grow

Kengo Kuma & Associates + College of Environmental Design UC Berkeley

The Nest We Grow was designed for the 4th Annual LIXIL International Design-Build competition in 2014. The project was a collaboration between the College of Environmental Design UC Berkeley and Kengo & Associates. The Nest was built with the intention to bring people from the community of Hokkaido Japan together to store, prepare and enjoy the locally produced food in the building.

The architects chose the programs of the building according to the life cycles of growing the local food: growing, harvesting, storing, cooking/dining, and composing. The building encourages engagement with the community creating a symbiotic relationship between the community and the building.

The enclosed structure was chosen as a precedent study because of its use of the program that takes into consideration of the food cycle and engages the community with each process. This is an important factor to consider designing my building. As mentioned previously the processing methods of cassava is a crucial step as it not only gets rid of the toxicity, but it also symbolizes the passing of knowledge. So, engaging in processing cassava is how one teaches and passes the knowledge of the predecessors.

The Nest maximizes the production of food in the building with each space dedicated to food works. This point will be considered in designing food space in the market. Any wasted space invites new stalls to be erected. The building can be used as a solution to solve land ownership, as it gives people the opportunity to own a space that can be used to grow food. A new typology can emerge A multi-story stall that sells grows and harvests cassava in the market.

Note to consider:

The nature of African markets requires each space to be flexible enough to be altered. How can I design a space that has a specific program but can be altered later if deemed necessary by the user?

Figure 36 The Nest we grow https://www.archdaily.com/592660/nest-we-grow-college-of-environmental-design-uc-berkeley-kengo-kuma-and-associates?ad_source=search&ad_medium=projects_tab *(Accessed 18 June 2022)*



Growing with the community

Victoria Yards

I noticed the following in finding precedents for urban agriculture within African production spaces. Firstly, these spaces tend to be closed off from the public, so much so that people whom urban agriculture is supposed to cater do not know of its existence.

Victoria Yard is an urban regeneration through an urban agriculture project that aims to provide the community of Lorentzille with job opportunities, encourages entrepreneurship within the neighbourhood and is an artisan hub. The Yard grows food all around the place, with 95% of the plant deemed edible. On first Sundays, the enclosed space can be seen busy with people of all backgrounds all around the city engaging with the shops. The Yard prides itself on hiring community members from the neighbour to create each shop, engaging them as they build more office spaces.

Brain Green, the developer in charge of the project during the site visit, has stated that before they allow anyone to rent out space, they first ask the question, "what do you plan on doing for the neighbourhood". Everyone who rents contributes to the community by providing them with jobs or providing something that could help develop the neighbourhood. Brain Green realizes that any project's success depends on its engagement with the community. Other programmes include environmental theatre, green economy-focused work and training opportunities, and edu-entertainment that engages with the public.

During the off day, the Yard is very quiet with no signs of life. In the enclosed space, though designed for community upliftment, the actual communities cannot afford the food or products sold. Which begs the question, who is the project really for? Does involving the community end with them doing work? How can you inject culture into agricultural work?

Figure 37 Victoria yards *(Author 2022)*



Chapter 02

Theoretical Framework

Figure 38 Port of Entry https://www.southafricavisa.com/land-border-crossings-with-south-africa/ [accessed 23 JUly 2022)

The merchants in Gambela, apart from South African, Mozambican, and Zimbabwean, have been predominantly from Western African counties; Democratic Republic of Congo, Congo (Brazzaville), Cameroon, Ghana, Angola, Ivory Coast, Malawi, and Nigeria. The traders consist primarily of women from countries with a long history of highly organised female-led market organisations. For example, since the 1980s, Market Queens of the Accra Market contributed 80% of the country's economy in Ghana. They import and export goods in and out of their country and neighbouring countries (Avakian, 2001).

Studies have shown that Gahannian women are likelier to start a business than men in Ghana (Liza Rose Cirolia, 2021). Despite being the spine of the economy in their country, the negative stigma attached to the informal traders still prevails. Female informal traders are still expected to fulfil their domestic obligations, ensuring household survival (Liza Rose Cirolia, 2021) . Migrants' women have been at the forefront of informal trading in Yeoville, supporting their families and livelihood. In addition, they are contributing to the community activities and the development of South African cities. The success of these women depends on the ability to access and cross borders.



Figure 39 Mobile Traders http://researchcollective.blogspot.com/2018/07/of-market-queens-and-womens-empowerment.html [accessed 23 JUly 2022)

The experience of borders varies on different factors. The mobile traders have reported that some days they had easy access where the police would let them in. While other times, crossing the border becomes time-consuming. Endless questions followed by a routine inspection of the products. Upon hearing and seeing that the trades are non-natives, the women have described that the border patrol would begin threatening to report them to an authority or state that their goods are illegal and therefore command them to turn around. For many, this signifies that the authority wants to be compensated.

During the outbreak of COVID-19 in 2020, the women disclosed increased harassment at the border. South Africa went into national lockdown due to the global pandemic in March 2020, soon after President Ramaphosa announced the closure of the borders. The closure of borders and restrictions increased resistance to letting women into South Africa with their goods. Many encounters at the border ended with bribery being the only option to access. Some noted that most of the money was spent at the borders rather than travelling during the lockdown.

Those who could not afford to pay returned their goods or attempted to travel across other borders risked spoiling the food. The delays in transportation resulted in spoiled food that could not be sold to the customers. Lost potential avenues, and many were unable to cover the transportation fees. Transporting the goods into South Africa became too expensive to sustain. Despite the obstacles endured at the borders, the women and men of Gambela were persistent in bringing food to their customers.

History has shown that prior to the development of borders Africans would travel and trade goods with neighbouring tribes (Bakker, 2011) (Herbst, 1989). The European colonial powers established the current borders in Africa in 1885 at Berlin Congo Conference. The conference's goals were to mitigate the competition between England, France, and Germany (Szary, 2018). They, at the time, were already scrambling for different parts of Africa—extorting resources for the growth of their nations. (Herbst, 1989) (Szary, 2018).

Despite the widespread belief that the motives behind the event were to demarcate Africa, it was instead a strategy to ensure that no war broke off between superpowers. The conference ensured that the territory claimed by one nation could not be contested or competed by other European countries, thus preventing wars. If wars broke off between European superpowers, the cost would be too high and time-consuming.

It was, to quote Jefferey Herbst, "... a boundary creation on the cheap".

Free trade between the nations was supposed to be established in the basin and mouth of The Congo, but instead, a monopolistic system was developed (Herbst, 1989). The borders were established solely to claim territory, segregate land, and exploit the soils of Africa between the European nations. T (Herbst, 1989) he borders that were drawn by 1904 are still used in Africa today.

In the early 1960s, the new independent African countries established The Organization of African Unity (OAU). Where the topic to re-establish boundaries came up as part of de-colonizing-colonizing Africa (Herbst, 1989). Few wars have since broken off, but no significant changes to the borders in Africa have been made since the Berlin Congo Conference (Herbst, 1989).

The newly appointed leaders instead chose to preserve the borders drawn by the European powers. They had faced the same problems as their predecessors in demarcating land; the new establishment of territories would mean war breaking off between nations. To prevent this, the newly independent African leaders held the same solution as their predecessors.

The borders drawn by the colonial powers are arbitrary and do not rely on any geographic, demography or ethnography of the land. It is almost an impossible task to demarcate a continent "naturally". (Herbst, 1989) When the borders were drawn, very little information about the lands was available to the colonized colonizers. A lack of effort was taken to consider the complexity of the infrastructure of Africa. (Herbst, 1989)

The precolonial Africans did have an existing ethnic identity and had established systems to demarcate lands between villages and tribes. Tribes and cities were divided by geographic features such as rivers, lakes, and mountains. (Herbst, 1989)

These natural dividers provided the people with a clear boundary, and settlers settled where they were no other villages and tribes in sight. Permeant settlers often stayed close to where water flowed and grew crops, and herded cattle for milk and protein, solidifying their home. Some groups were seminomadic, travelled across land and settled only to migrate again according to seasonal changes (Herbst, 1989).

The establishment of the border grouped large groups of people that had no allegiance to each other. (Herbst, 1989) Political power in precolonial Africa was exercised through people and not land.

The traditional characteristic of borders was characterized as a device of spatial division, ending with globalization's consequences (Fabian Gülzau, 2021). The only function that the borders once served was to define the boundaries and territories of a nation, simultaneously joining different entities. What globalization has done is blurred the lines of what is permissible and what is not, enabling in addition to people, cultures, and political ideologies to cross over to another nation—making the border permeable. (Fabian Gülzau, 2021) Borders are now a space that enables a relationship with the "other", a space of encounter that creates an opportunity for developing a relationship between the two identities and place-making. (Fabian Gülzau, 2021)

The increase in the need to export and import goods has led nations and cultures to enter act with one another. This encounter with the "other" is essential to understanding the border theory.The phenomenon of globalization has allowed for an exchange of goods to occur on a global scale; however, exchanging of goods across borders/boundaries is an act that has been practised throughout history.

The distribution system created by European colonial powers allowed one nation to control all goods extracted from Africa. Thus, creating an imbalance between the superpowers, where one benefitted greater than the other. (Fabian Gülzau, 2021) However, the explorers intended to take more than giving. The exchanges between the soldiers who landed and the natives went one way; the colonial men benefitted more than the tribes. The two parties learned about each other despite the limitations of languages and culture.

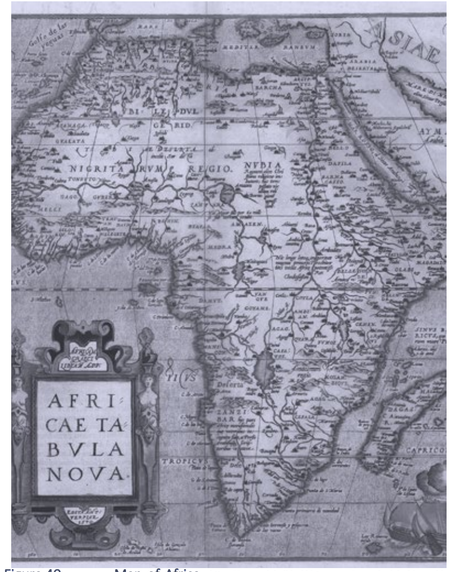


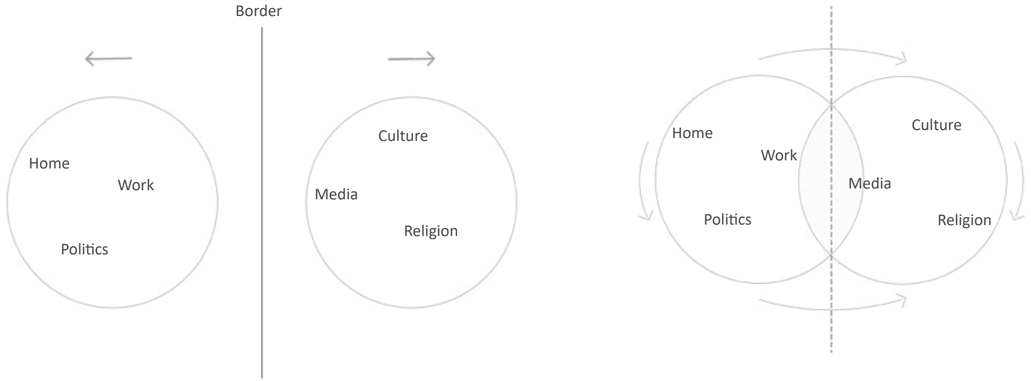
Figure 40 Map of Africa https://www.globalblackhistory.com/pre-colonial-african-philosophy-about-universe/[accessed 23 JUly 2022)

The limitations resulted in misconceptions of African people and misunderstanding of their customs. The act of exchange between two parties is more than giving an object and receiving something of equal value in return. The act of exchanging allows for two worlds of opposite cultures to connect and expose one to the culture of the other and creating an opportunity to learn and transmit cultures. These objects that define the boundary, boundary objects are objects that can exist outside of their border and can bring two entities together.

The shift from territoriality to the functionality of the border helps us understand that the border is not a static linear line but a multidimensional bordering process.

“The ordering process, rather than the borderline per se, has universal significance in the ordering of society”. (Herbst, 1989)

The border's function can shift and change depending on its relevance in the society, continually remade based on concrete political, cultural, and economic practices. Thus, the border can facilitate communication, mediate and suspend everyday reality. It is a border that creates boundaries for the social systems created by communications alone (Herbst, 1989).



The border theory



City of Boundaries

Located in the inner city of Johannesburg, Yeoville holds a long history of blurring and transgressing the social boundaries even at a time when integrating with the others was criminalized in South Africa.

The first and many shit shift in the demographic of the suburb in Yeoville came during the 1980' and 90's. The new era saw an accelerated move of black South Africans and Africans from all regions into Yeoville. The greying of the inner city encouraged property property owners to allow for black, Indian, and coloured population to rent and fill in their properties that were becoming empty due white people moving out. The architecture on Raleigh and Rocky Street had typologies inspired by the various European architectural styles trending in the 1920's. The low rising houses had adopted the art deco styles with courtyard typology. Later as more businesses started to open on Raileigh Street, the houses were rezoned as business. The business was mostly informal, varying from spaza shops, hair salons, and restaurants, spilling over to the street. Contributing to the liveliness of Raileigh Street. The traditional home still maintained the traditional and symbolic cultural settings furnishing family meanings and aspect and the community tradition.



But it had added a programme of business, to the mix. Transforming the interior functions to reflect the cultural changes and spatial uses in Yeoville. The courtyards created an opportunity for the residents to earn more money by renting them out through courtyard housings. The physical elements of the houses remained the same, construction methods, material, and the technology used in the area. The high-rise apartment blocks were built later in the years having a postmodernist style, an exposed bricked square block with windows. Some provided the ground floor with communal areas for the residentials and privatised gardens.

Figure 41 Map showing Yeoville in context of Johannesburg (Author 2022)

Figure 42 Early Yeoville https://www.eggsa.org/postcards/South-Africa/Gauteng/Johannesburg/Johannesburg+View+of+Yeoville+looking+towards+Johannesburg.jpg [Accessed 13 March 2020]

By 1998 over 84% of the population was black South Africans living in Yeoville. It is during this time that there was an increase in informal activities in Yeoville by the black populations. The concept of street trading and informal businesses is not new; however, it previously existed to cater and attract the white demographic. Post 1994, the street trader's target market shifted to the everyday black civilians selling everyday items and food such as cigarettes, chappies, vegetables, and fruits. The trading was unregulated, the Johannesburg Inner City Development Forum saw this as one of the issues they needed to tackle in the post-apartheid era. After a failed attempt to regulate and street traders a solution of establishing a market was introduced as a solution to cleanse the street from its street traders.

Figure 43 Mobile Traders http://researchcollective.blogspot.com/2018/07/of-market-queens-and-womens-empowerment.html [accessed 23 JUly 2022)





Bordered Space

Gambela

This chapter investigate the role of African markets in Johannesburg, and what the spatial uses of the migrant traders can inform about designing spaces for people living in diasporic context

Figure 44 Rocky Market https://www.newframe.com/yeoville-market-fire-devastates-traders-livelihoods/

A particular interest was set on investigating African markets for their spatial practices differ from other formalised markets in Johannesburg. Site visits were conducted on various markets to draw comparison. These were documented by means of filming and taking pictures. A special attention was taken to not show case faces in any of the pictures. Question was asked with sensitivity, and status of citizenship were avoided.

The Discovery of gold and the establishment of Johannesburg in 1886 brought in migrants from all over the world. Many depending on trading as a source of income. At first the market operated on the square of Marshall Town, where they traded at the back of the wagon. To regulate the trading spaces, the Market Square was introduced. Within a brief period, the market became a staple of the city where all migrants had the opportunity to trade and make a living. Merchants traded from an open field, with temporary stalls standing across strips.

The Market square became so lucrative that the market manager at some point was earning more money than the president. Seeing the success of the market it was than moved to New Town, where this time it was sheltered and in an enclosed space.



THE MARKET SQUARE, JOHANNESBURG.

Figure 45 Johannesburg Square Market https://www.theheritageportal.co.za/article/joburgs-market-square-defined-town
Figure 46 Johannesburg Square Market https://www.theheritageportal.co.za/article/joburgs-market-square-defined-town



Yeoville Market

The Yeoville Market, also known as Gambela to the community, was the outcome and solution to control and bound the street traders from the street of Yeoville (ARRAZOUAKI, 2019). It was designed to cooperate between the taxi rank and street traders. Originally anticipating having a life span of 15 years, the city did not anticipate that the market would be present today. In 1999, It was initially met with a backlash from the street trading community due to its insufficiency and lack of community involvement in designing the market. However, the success of street traders came from the open and accessible nature of their business (ABED, 2019).

They could capture the walking civilian and offer everyday items cheaper than formal business. They were offering an alternative solution for those who might not have the finances to buy from the formal stores and do not require a particular good in bulk. Street traders provided the street with vibrancy, and they did not have to pay any fees for setting up their stores (ABED, 2019).

The criticism found for the street traders was that they took a lot of the spaces away from the pedestrian walkways and, in some cases, attracted unwanted eyes from thieves who would take advantage of the walking pedestrians buying food (ABED, 2019).

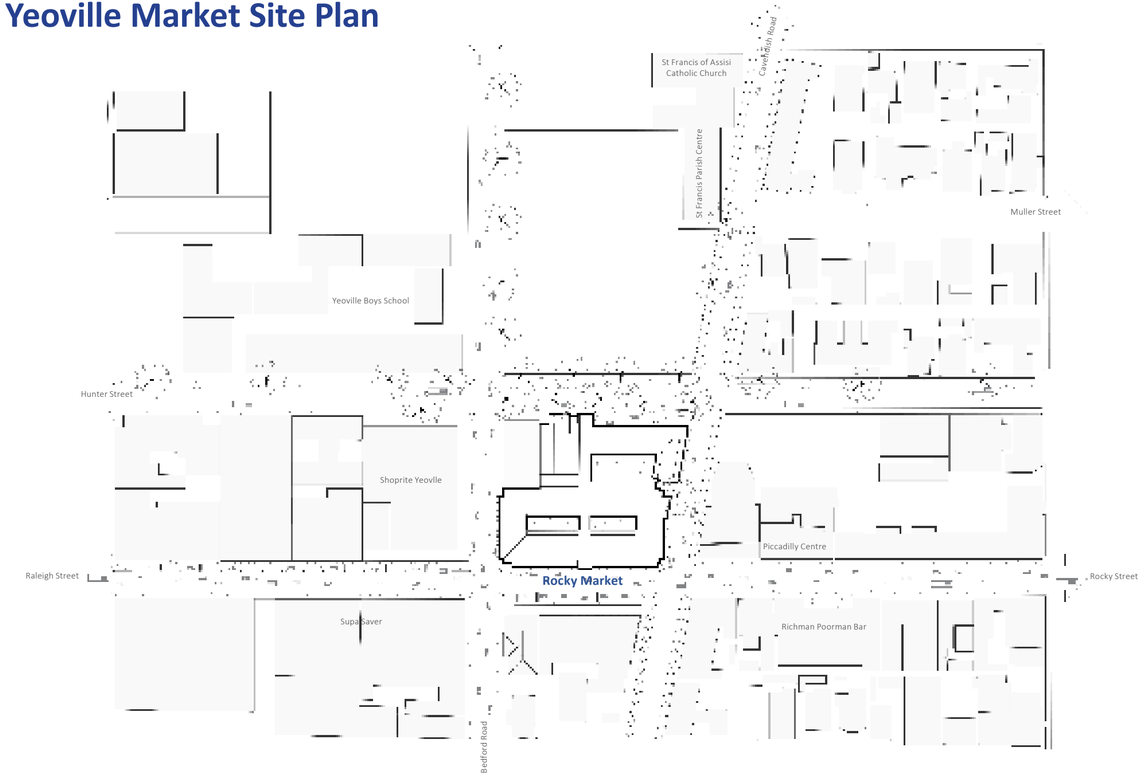
The enclosed market segregated a large number of traders from the customers so they would have been able to sell their food. It did not represent the community, nor did it have any relationship with the community it was serving to. Maurice voices his disappointment in the performance of the market by stating and pointing out the disconnection from the community it is meant to serve;

…"The community of Yeoville Bellevue has not 'taken ownership of the market. It is there, like Shoprite or Supa Saver (privately-owned supermarkets). It is a commercial enterprise with which they have no special relationship. There is, for most people, no sense of pride in the fact that we have a unique space in our midst, one which is different to all other such markets in the city" (ABED, 2019) …

He further critiques the government for not promoting the market enough and for not realizing its underlined potential:

…"There has been a lack of vision from the city-owned Metropolitan Trading Company (MTC) with respect to the potential of the Yeoville Market as a community space, as a node that attracts people, as a cultural centre, as a symbol of African diversity and unity, as a vibrant and developmental entrepreneurial hub, as an exciting tourist attraction" (ABED, 2019) …

Yeoville Market Site Plan



Although there was an initial backlash and resistance from the community to use the market and had received numerous criticisms for the poor performance, this is not to say that it is due to a lack of trying. On the contrary, the building was designed considering the current needs of traders, allowing for some flexibility in selling spaces for the traders, and creating courtyards with community activities. The design, however, had some issues that did not work with the urban scape of Raleigh Street.

The entrance of the building on Raleigh Street generates an opportunity for the pedestrian to walk past several stalls before entering the building. However, it fails to capitalize on the corner street of Bedford Road and Raleigh Street. This would have allowed the building to capture the foot traffic of the pedestrians. The building does an excellent job of engaging the pedestrian with the traders; the goods flow into the walkways engaging with the walking pedestrians. Traders in the outer stalls sold everyday items such as vegetables, fruits, loose cigarettes, shoes, clothes, and baby formula. Outer stalls at Cavendish Road provided everyday services such as hair salons, sewists and a kitchen that made fast food for people on the move.



Much like the street traders and the street activities on the more extensive streetscape, these stalls provided pedestrians with commercial programmes that the everyday pedestrian could use. The permission to extend the building's covered walkway was granted with the argument made by the architect stating that it is the nature of how markets are designed. The market followed the similar language of the art deco-inspired buildings neighbours but changed the construction and material construction of the formal business on Raleigh Street.

Figure 47 Looking outwad towards the Linear Street market *(Author 2022)*

Original Floor Plan

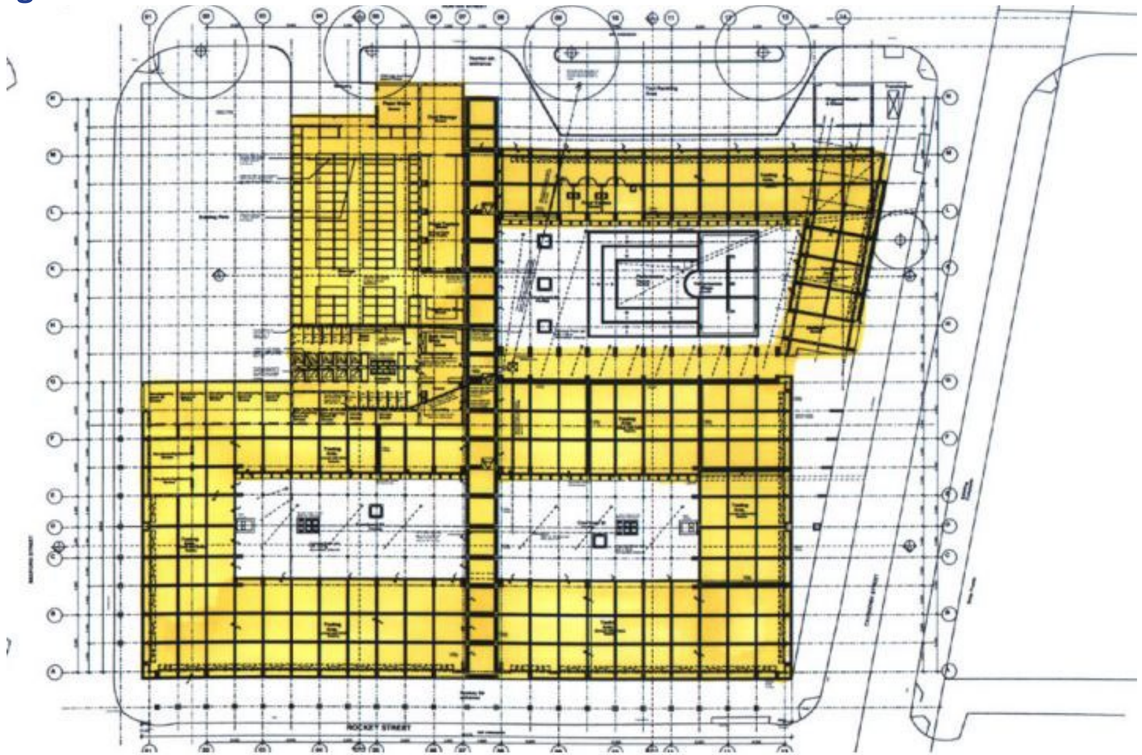


Figure 48 Rocky Market Original Floor Plan *(Unknown 2022)*

Figure 49 Linear Street market *(Author 2022)*



Another problem the traders had in the building was that pedestrians were unwilling to go inside the building due to its uninviting façade. They could not see the activities placed inside.

This did not benefit those whose businesses were located inside; they were not visible, thus losing potential customers. The original plan shows a series of courtyards that were designed to host community-engaging activities, seating areas were provided for people to eat, and movie sets were set up to draw children and adults into the market.

These spaces were under-utilized and eventually disappeared altogether. The traders stopped using the market, going back to the street, where they had more opportunities to sell their goods and did not have to pay rental fees. Some mobilized their shops by having one inside, using it as more storage space while selling some goods on the street.

In 2000, Yeoville saw the number of African migrants increasing, supplementing the existing South Africans in the areas and contributing to the area's overcrowding. According to the consensus stats of 2011, over 35% of the residents living in Yeoville are foreign nationals. With foreign nationals heavily involved with the economic activities within Rocky-Raleigh Street. Yeoville maintained its function as an entry point into Johannesburg but has now transformed to cater for the migrants to exist and sustain. The change in the culture and demography was also reflected in the market.

Previously only South Africans had the opportunity to sell in the market. As many of them started to move out, the landlords began renting out the spaces to the migrants who were willing to pay for the spaces and sell their goods within the enclosed spaces. As a result, the market was once again re-vitalized with traders.

The migrants embraced the alienated market, and Gambela slowly started to articulate the culture and social needs of the migrants. The round concrete and steel columns supporting the walkway found in the art deco buildings in Yeoville were replaced by the gum poles, exposing the concrete columns. Reminiscent of regional and vernacular architecture. The usage of wood softened the facade of the building, simultaneously invoking an image of a fortress and adding weight to the building. The enclosed space provided migrants with protection from the police, who would face harassment if they were selling on the street.

Migrant with asylum papers can legally register their businesses. However, many choose not to be fearful of their information to leaked and used against them. One migrant reported that they had applied to change their citizenship status, but there have been delays at home, leading them to have an illegals status. This is a familiar story amongst the migrant community, many come into the country with a visa hoping to solidify their status, but the system fails to accommodate them, leading to having overtime gaining the status of illegal immigrants. Spaces in the market were rented to those who had the money to pay rent with little information about their citizenship status.

Figure 50 Passage way Gambela *(Author 2022)*



Temporary vs Permanence

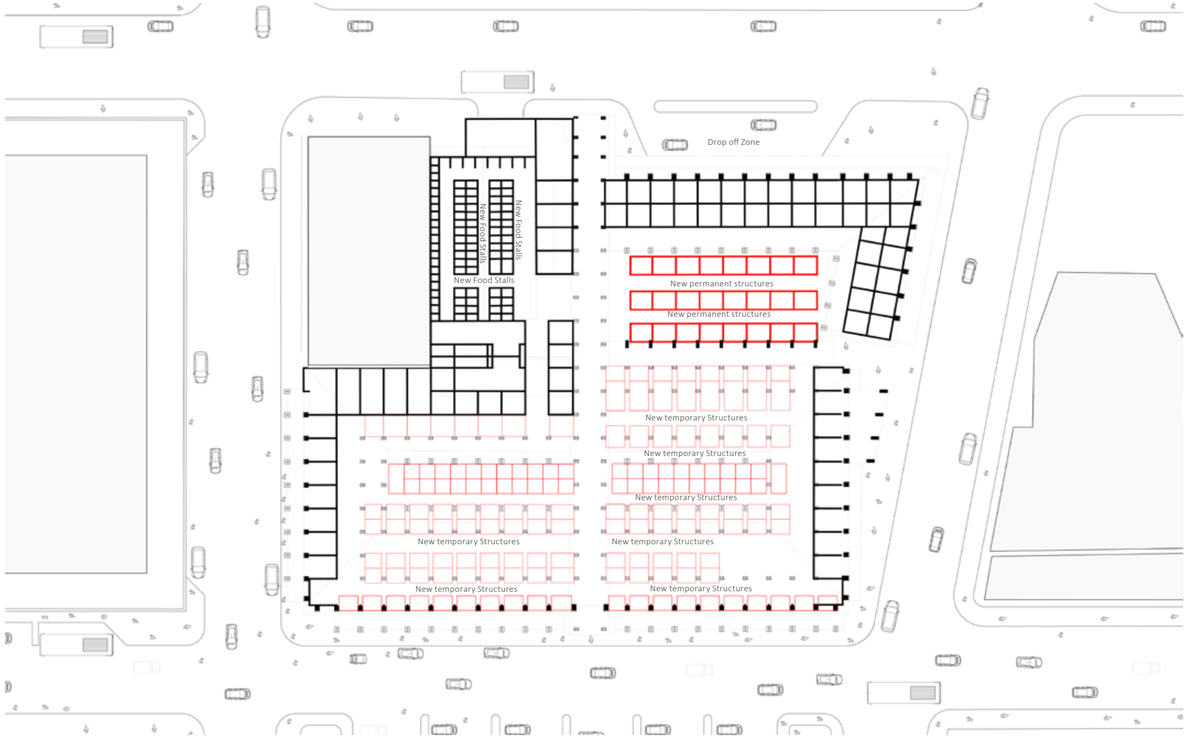


Figure 51 New Floor Plan as constructed by the market traders *(Author 2022)*

This allowed those who are struggling to sort out papers and thus struggle to get work outside of the informal environment to have a source of income. This was done by selling niche food that can only be found in the market. The market found its crowd solidifying its identity as the African market in Johannesburg, hosting a diaspora of African nationals-where they could proudly present and sell food from home.

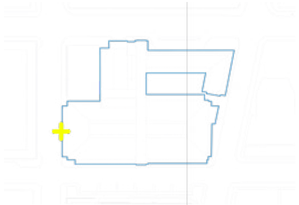
The market became a shared territory for immigrants, where they could feel a shared sense of belonging. The migrant traders of Gambela became essential in how migrants in Johannesburg (re)create and maintain ethnic identity in a transnational context.

Gambela took the attributes of courtyard typologies found in Yeoville but reinverted them to articulate the social structure and social connections of the migrants. The traders did not use the two courtyards found on Raleigh Street. In the end, it got filled with more trading activities.

The courtyard in Hunter's Street was kept until recently when more stalls with brick walls containing food activities were erected. This was to respond to the increase in theft in the market. The storage spaces that were allocated were broken into several times.

The traders received permission from the owners to enclose the stalls with cages. This temporary structure was successful for some time as it decreased theft but was still venerable to rodents, pests, and elementals—the poorly built new stalls in the courtyard experience leakage-spoiling products.

The spatial practices of Gambela mirror the social and spatial structures of Yoeville; through its transitions, it remained a space for the other. This was done through appropriating, re-inserting and re-defining space to accommodate their everyday spatial needs.



Reference Plan

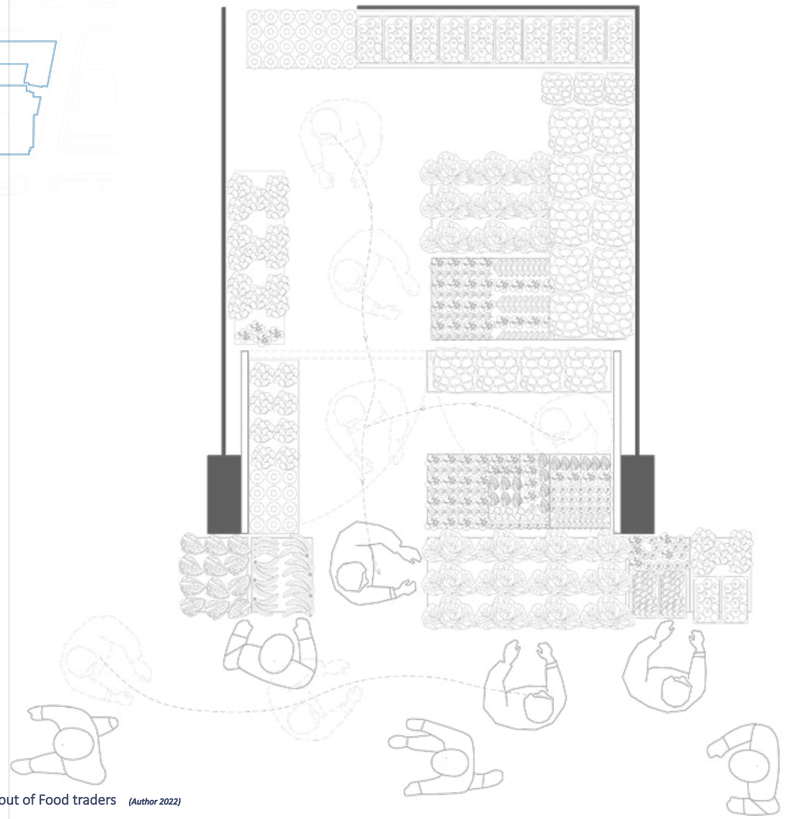
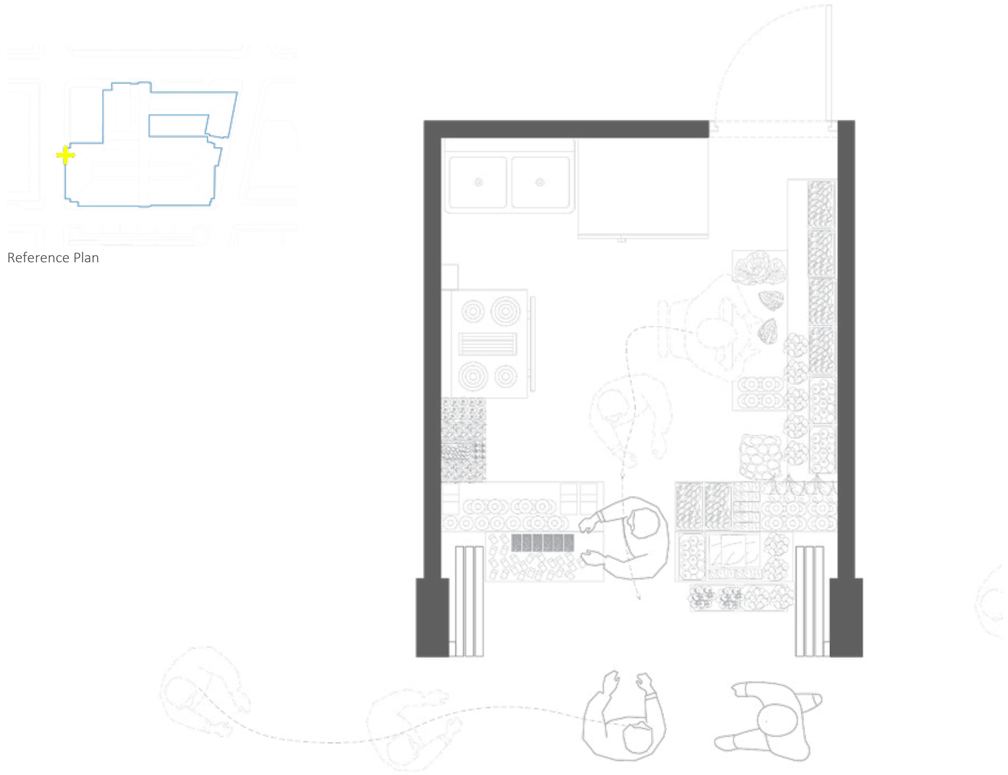


Figure 52 Typical layout of Food traders *(Author 2022)*



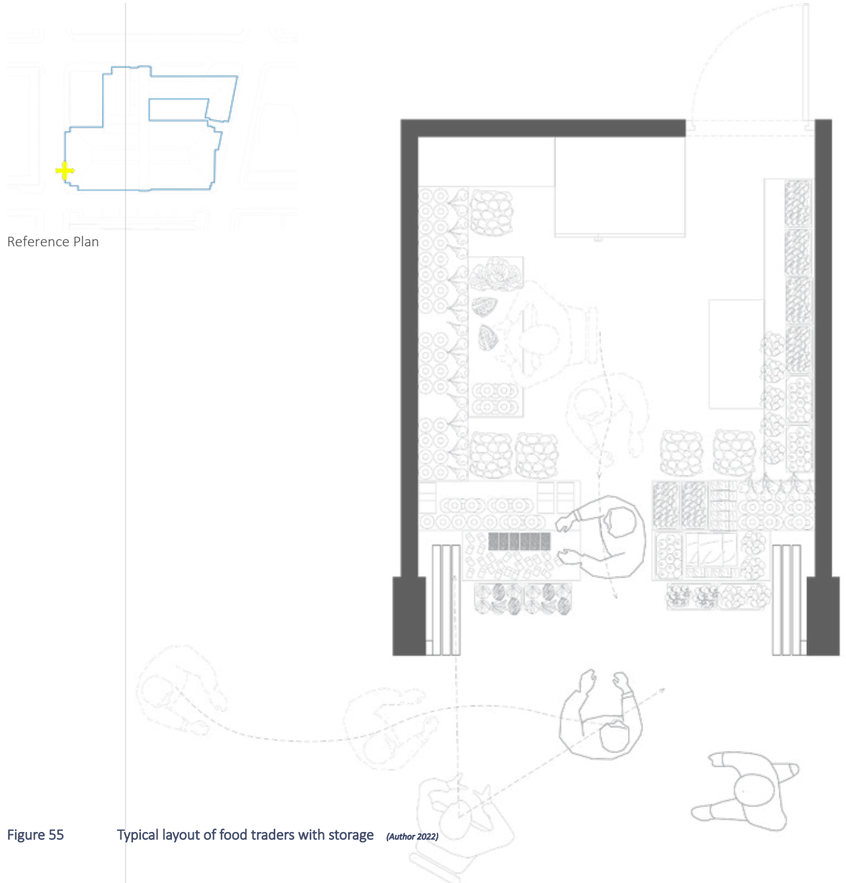
Reference Plan

Figure 53 Typical layout of Shoe traders *(Author 2022)*



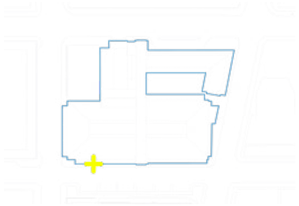
Reference Plan

Figure 54 Typical layout of Spice traders *(Author 2022)*



Reference Plan

Figure 55 Typical layout of food traders with storage *(Author 2022)*



Reference Plan

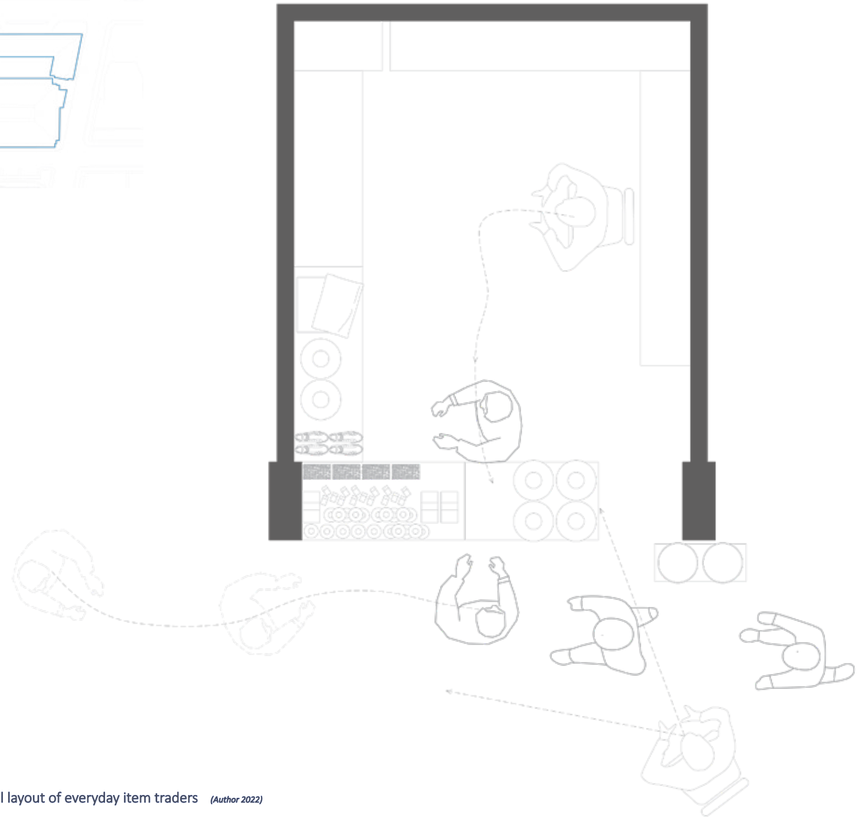
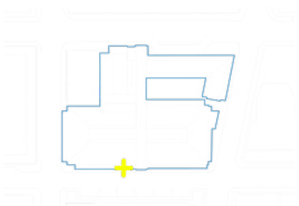
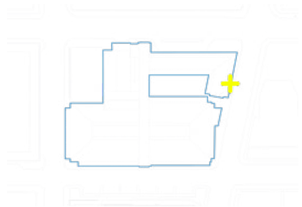


Figure 56 Typical layout of everyday item traders *(Author 2022)*



Reference Plan

Figure 57 Typical layout of spice traders *(Author 2022)*



Reference Plan

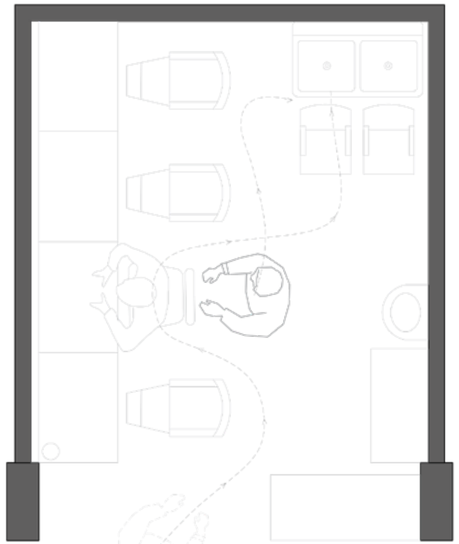
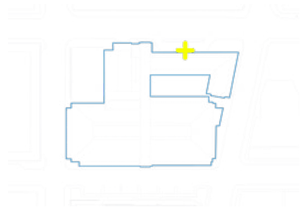


Figure 58 Typical layout of hair dressers *(Author 2022)*



Reference Plan

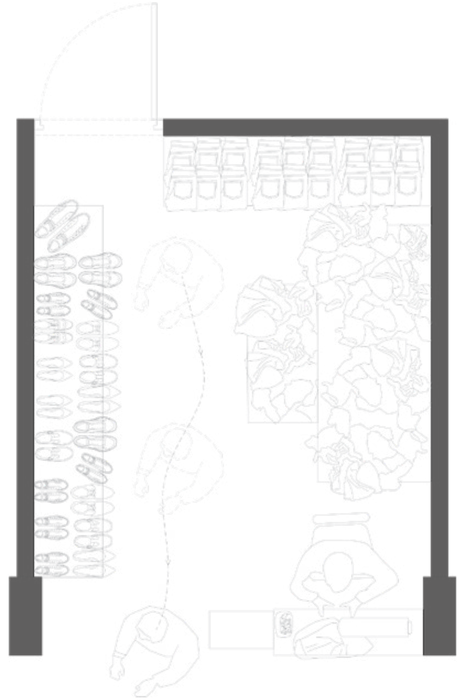


Figure 59 Typical layout of shoe makers *(Author 2022)*

Programs on Site

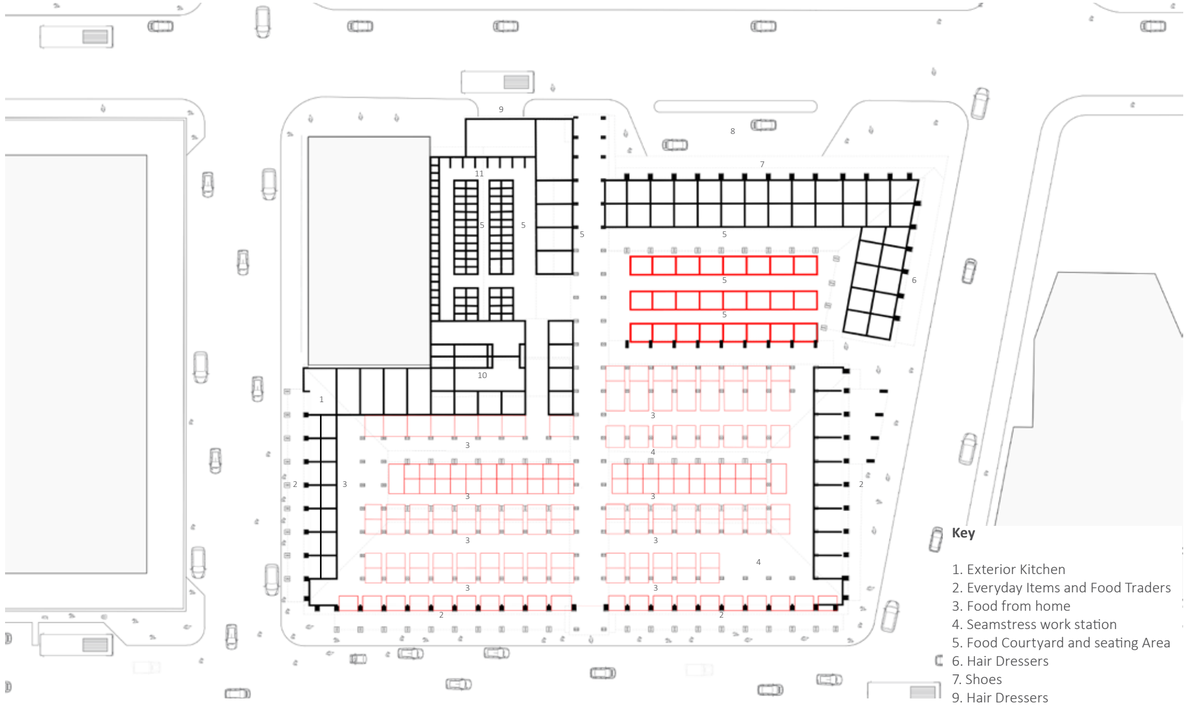
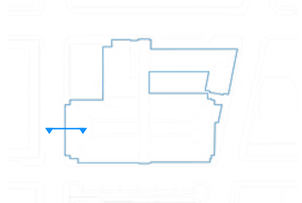


Figure 60 New market programs *(Author 2022)*

Urban Connection



Reference Plan

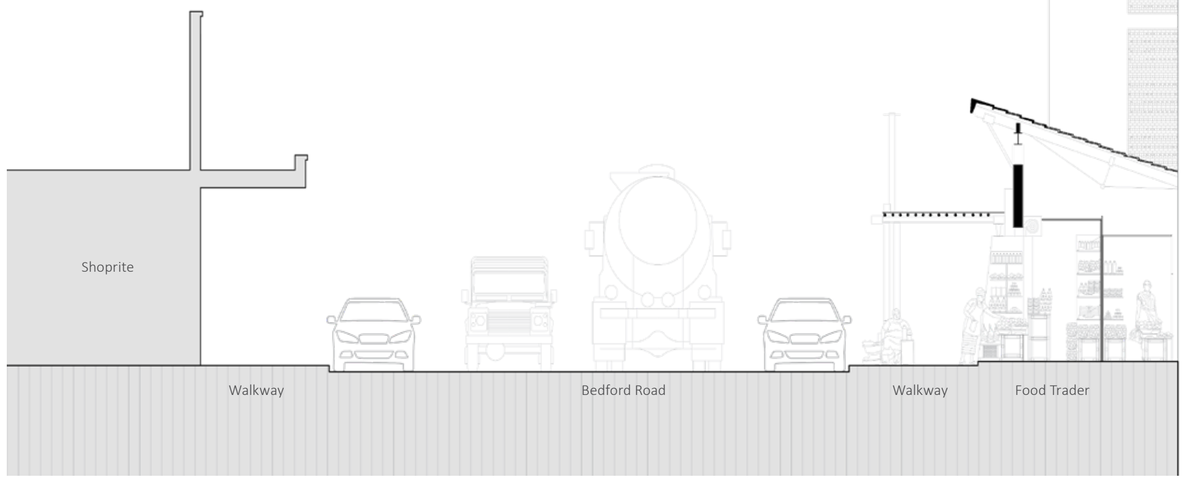


Figure 61 Section Through Bedford Road *(Author 2022)*



Reference Plan

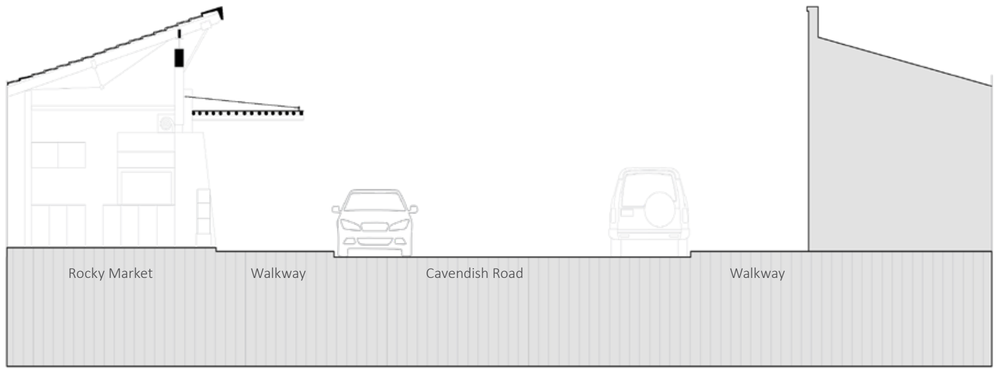
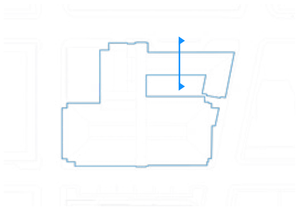


Figure 62 Section Through Cavendish Road *(Author 2022)*



Reference Plan

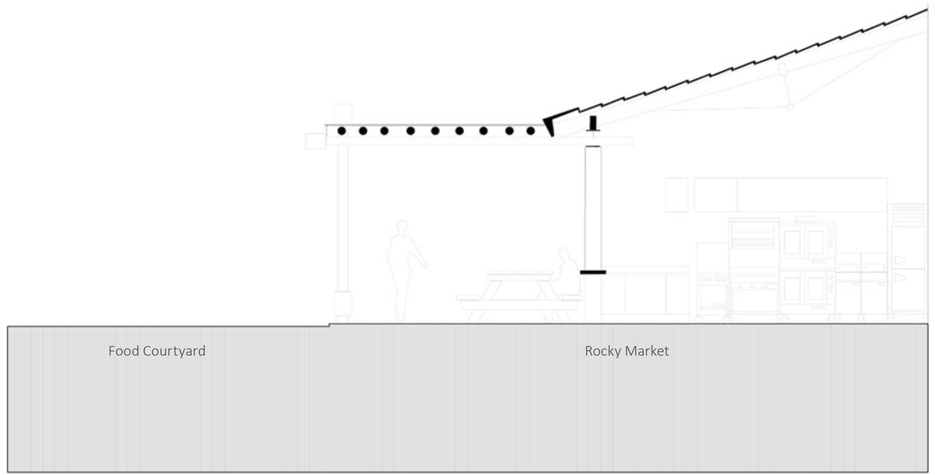
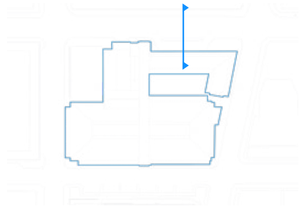


Figure 63 Section through food courtyard *(Author 2022)*



Reference Plan



Figure 64 Section Through Hunters Street *(Author 2022)*



Figure 65 Seamstress Working station *(Author 2022)*



Case Study: Nollymarket

The Nollymarket, or Naija market, is located between Claim Street and Plein Street in Johannesburg. One block away from MTN Noord Taxi rank. The market is only known by the Nigerian community, with the majority, if not all, the traders from Nigeria. The Ster City building was built in 1969 as the first multi-storey cinema building in Johannesburg. Somewhere in the '90s or early 2000s, the building was abandoned entirely after several changes in ownership. On the 30th of July 1987, a car bomb went off near the street, damaging the surrounding buildings (Dorman, 2015) .

Today the building is allegedly a mixed-use apartment facility. There is no official information available to the public. Moreover, the entrances to the apartment were not found on the site visit. Some traders became wary when we started questioning them about the nature of the building. The façade, however, shows signs of habitation somewhere on the upper floor.

The windows have been punctured out of the brick screens. Reasons presumed to allow for ventilation and adequate access to light for the tenants. How they managed to transform a cinema arena into rentable rooms is unknown. The building was designed to accommodate large groups of people, as many as 2000. How those spaces transformed today are unknown.

During the site visit, we managed to get to the first floor, which is now a repurposed space for a Christian church. The skeleton of the cinema is still visible. People now habit spaces on the wing. Who at the time seemed to be deployed elsewhere. We attempted to go further to the upper floor levels but determined it was too risky.

There was little to no light illuminating the floor, and the structure's condition was unknown. Cardboard boxes covered the void where the escalators once were. Children from the churches were running around in the area; anything of that nature could exist moving forward. We retreated and began walking downstairs, which is The first-floor level; it feels complexly separate from the market below—a world on its own.

Figure 66 Nigerian Market *(Author 2022)*



Figure 67 Ground floor market *(Author 2022)*



Figure 68 First floor abandoned spaces *(Author 2022)*



Figure 69 First floor abandoned spaces Part 1 *(Author 2022)*



In the early 1980s, an addition was made to the ground floor. Smaller cinemas were built. Today that space is repurposed as markets for migrants from Nigeria. Food ranging from everyday items to food that was exported from Nigeria. The building offers a space where the migrants could operate without the surveillance of the public—creating an alternative lifestyle. What drew me to this market was the idea that regardless of the language of the architecture, migrant and African markets occupy the building, inserting new meaning and directing the use of the building. The current use of the building contradicts the western ideology of architecture which preaches preservation and order. The Ninja Market, however, counterimages that by inserting new purposes into spaces.

Figure 70 First floor abandoned spaces Part 1 https://www.jhblive.com/Stories-in-Johannesburg/article/ster-land-city--a-place-forgotten,-reborn-anew/109351 [Accessed 12 September 2022]



Case Study: Yeoville Dinner Club

Mass production of products has created possibilities for cheaper products to be sold. They are catering to the demographic of people who otherwise would not be able to afford these products. On the other hand, fast consumerist culture has enabled products to be produced at a lower quality, thus reducing the quality of experience associated with these products. However, the actual value of a product does not lie within the monetary value but in the sentiment embedded within the product. Every item sold has an expiring date, depreciating over time.

However, the memory, the information and the relationships narrated using the product create the long-lasting value. We have lost the human connection made when exchanging goods. Food has, throughout history, been one of the commodities used when trading goods. Being essential to any living organism on Earth, exchanging and consuming food is intimate. Food can evoke memory, create social gatherings, and transmit information. The traders in Yeoville have demonstrated that through food and food work, they maintain cultures from home (Avakian, 2001).

They are evoking memories of home within a transnational context (Avakian, 2001).

Restaurants and fast-food ventures have reduced the experience associated with food consumption. Exchanging gustatory experience with sensory experience; staging, creating an atmosphere and experiencing food through décor (Janowski, 2012). Cultures across borders have understood food consumption and food work as more than a source of nutrients.

Yeoville Dinner Club offers the outsiders of Yeoville and the community members a seat at the table. For Sanza Sandile (The King of Yeoville), the founder of Yeoville Dinner Club. He calls the dinner club a love letter to Johannesburg. A fitting name for the location at the heart of Yeoville; is Rocky Street. The dinner club overlooks the street from above. He is creating a moment of pause from the busy street. He founded the club to build and mend the fragmented community. A different perspective of the club is experienced depending on where you enter.

Figure 71 Yeoville Dinner Club (Author2022)

I had the privilege of experiencing the club from the kitchen. As you enter the dark room, your nostrils are met with different spices and herbs aromas. He offered me homemade hibiscus juice that burst with colourful flavours in my mouth. Next, we began debating the politics of Yeoville. His perspective as someone who has been living in the suburb for an extended period. He expressed that although Yeoville has a diaspora of people living in it, people do not like associating with other cultures.

"The Nigerians sit with each other, and Congolese people sit with each other. No one wants to come together and create a community."

Many academic writings emphasize the tension between the migrant community and the South African community in Yeoville (ABED, 2019). However, little attention has been paid to the lack of unity between the other African nationalities. As someone whose goal is to unite, he has recognized and accepted the reality that some people will not join the cause. His job is to offer a solution, but whether someone partakes or not is out of his control.

His goal is to build a community one meal at a time. The food offered reflects the community of Yeoville, recipes from the African diaspora. Ingredients are bought from the market, where he has a good relationship with the traders. Through eating, you get to know food from across borders; The dining room is an intimate space only able to host a few people at a time. The commercial restaurant seating is separated and often spread to create a private dining experience.

The Yeoville club encourages interactions by seating everyone in a cramped space and one table. He deliberately asks you to sit away from the person you arrived with. They are forcing you to interact with a different person. In this space, your social status and or economic is not considered. In one room, everyone gets to taste something new. The interior design of restaurants at times stages the dinner. They are compensating for lack of gastronomic experience. The Yeoville club lacks overly designed elements. Looking more like a dining room that your parents or grandparents would have. This lack of formality contributes to the intimate feel of the space. Illustrations, paintings, and posters of famous figures hang on the wall, holding stories that are ready to be uncovered.

The table of the Yeoville Dinning club is more than just an inanimate object on which to set the dishes. It is a point of contact with the other. The table is an element that gathers people and enables social interaction. Food is the medium in which culture is transmitted, and knowledge is passed on. The dining room becomes a space that can transcend an individual's social, political and cultural boundaries.



Figure 72 The Table at the Yeoville Dinner Club (Author2022)

Figure 73 The author and friends (Author2022)



The Fame of Gawa

IIn "The fame of Gawa", Nancy D Munn shows the significance of food in creating and maintaining relationships by examining the Gawans in Gawa Island, New Guinea. The tribe members treated food giving as the primary form of generosity and determining the character of a person based on bodily movements and food consumption. A generous person is described as 'wide-handed' (karalanay yama-). Gestures of an open hand are associated with someone who gives. A selfish person holds back from retaining everything for themselves. The Gawan people describe this person as "one who eats" (kayus).

The Gowans also believed that someone determined to be selfish would be bewitched by having a portion of food inside one's chest, causing illness. They are showing the side effect that acts of selfishness will have on a person, poising the body from within.

How food is released directly connects with the person who is giving it. A man or a woman who has provided for and fed their children throughout life will be treated with the same generosity by their children. Food becomes a way in which gratitude is expressed, returning the original donor in the form of bodily care when they are no longer able to. Feeding and eating with someone nurture their body and the relationship between the two parties. Food becomes an essential part of creating and maintaining a relationship.

My mother used to test and teach adolescent children how to give by asking them to share their favourite food. Some would run away with their food while we chased them. Others would hesitate at first, but at the last minute, they would open their hand. Some would imitate the parents by feeding them the food themselves. My mother would say that this teaches a child how to share. A child who does not know how to share food will grow up selfish. Sharing and eating food becomes a way for people to showcase good character. Giving away something vital for your own survival is the ultimate act of generosity.

Do you eat Achu here?

In Henrietta Nyamnjoh's essay "Do you eat Achu here?", she examines the migrant Cameroonians living in Cape Town and investigating the origin of rituals associated with food in West African cultures. She highlights the implications associated with the type of food consumed. In Mankon and the Ngemba-speaking regions of Cameroon, a distinction is made between soft food: easy to swallow and hard food: which involves chewing and tearing food. Food that requires tearing and showing teeth like meat is associated with greed, destruction and overconsumption. While soft food that can be consumed in an instant, such as vegetables, is associated with sharing ground, advocating for growth, and promoting social harmony.

This comes from believing that anyone who causes destruction and consumes other lives must be a witch. A kefuru is a type of witchcraft involving a person who takes the form of a predatory animal to hunt for other animals. Eating flesh is associated with wilderness and considered inhuman. In (insert tribe name), killing animals was done only through necessity and the only way to receive protein. Respect and gratitude were paid to the animal after killing it, bedding a farewell. Animals were respected and not seen as creations for humans to rule over.

These tribes understood that living in harmony with the animals was key to a sustainable environment. As a result, many West African dishes are still served with plenty of vegetation. Consumption of plants and vegetation thus represents a sign of peaceful living.

Like the Gawans, many western African cultures also emphasize the role of the throat as an informant of the characteristics of a person. For example, soft food that can easily be swallowed is preferred over hard food that might cause blockage to the throat. This is because having a good throat is associated with being a good person. Henrietta states that.

“To be able to have good thoughts and say good words and to be in a transitional state between uttered words and ingested food is the physical expression of integration and harmony” (Henrietta Nyamnjoh, 2021)

A greedy throat, on the other hand, is associated with witchcraft. It can cause disharmony by consuming more than what is on their plate. Not allowing people around you to eat. Food and how one consumes food become a mirror of the individual's personality (Nyamnjoh, 2013). Food is emphasized as something that needs to be shared and experienced with others. Not something to hold on to. Food thus has a vital role in bridging and mending relationships between parties. (Nyamnjoh, 2013)

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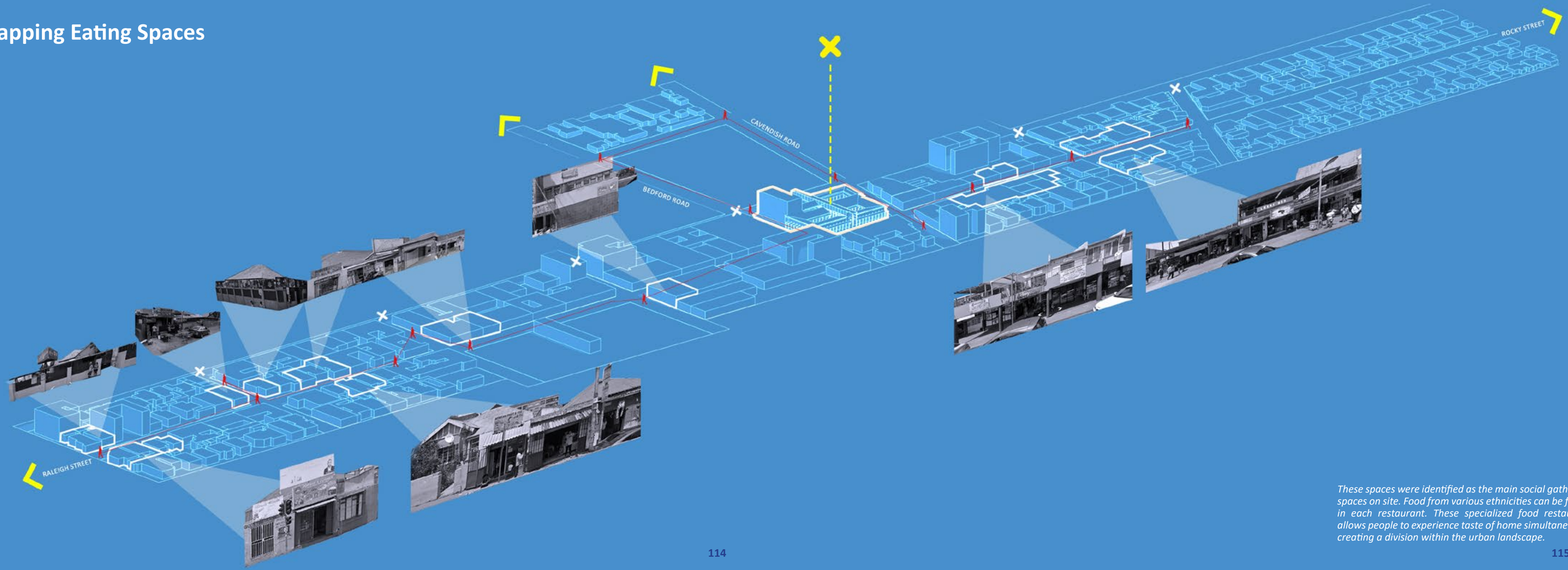
Chapter 03

Site analysis: City of boundaries

This chapter investigates the various ways boundaries and food are used on site to create social spaces, and the strategies deployed by the traders of Yeoville for strategic visibility.

Figure 74 Google image of Gambela (Author2022)

Mapping Eating Spaces



These spaces were identified as the main social gathering spaces on site. Food from various ethnicities can be found in each restaurant. These specialized food restaurant allows people to experience taste of home simultaneously creating a division within the urban landscape.

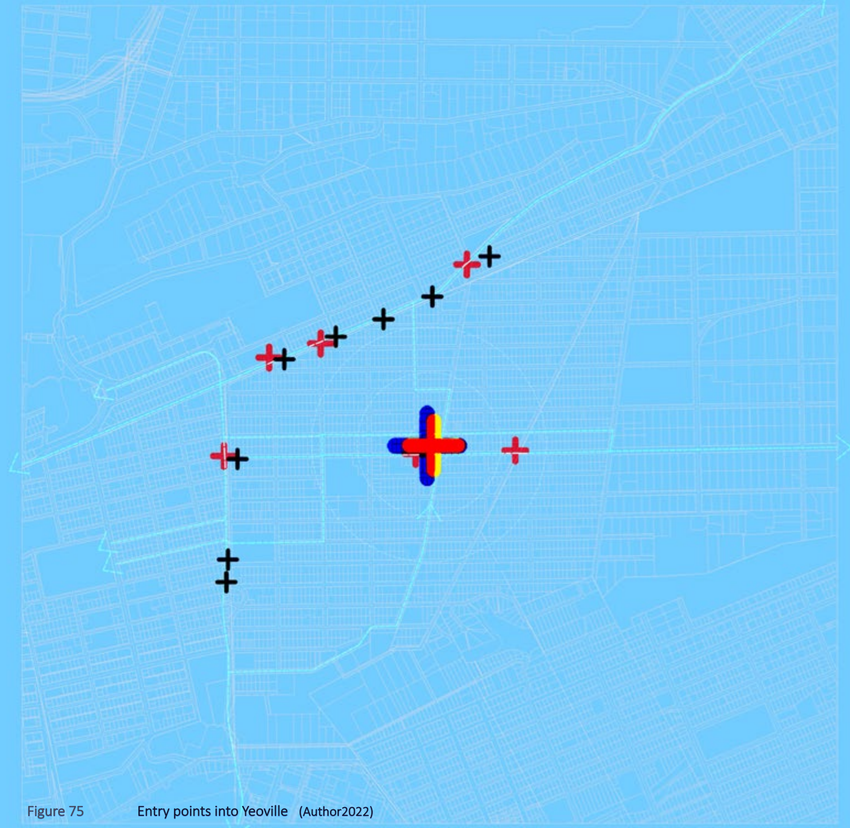


Figure 75 Entry points into Yeoville (Author2022)

Port of entry into Yeoville



Figure 76 Green Spaces (Author2022)

Green Spaces

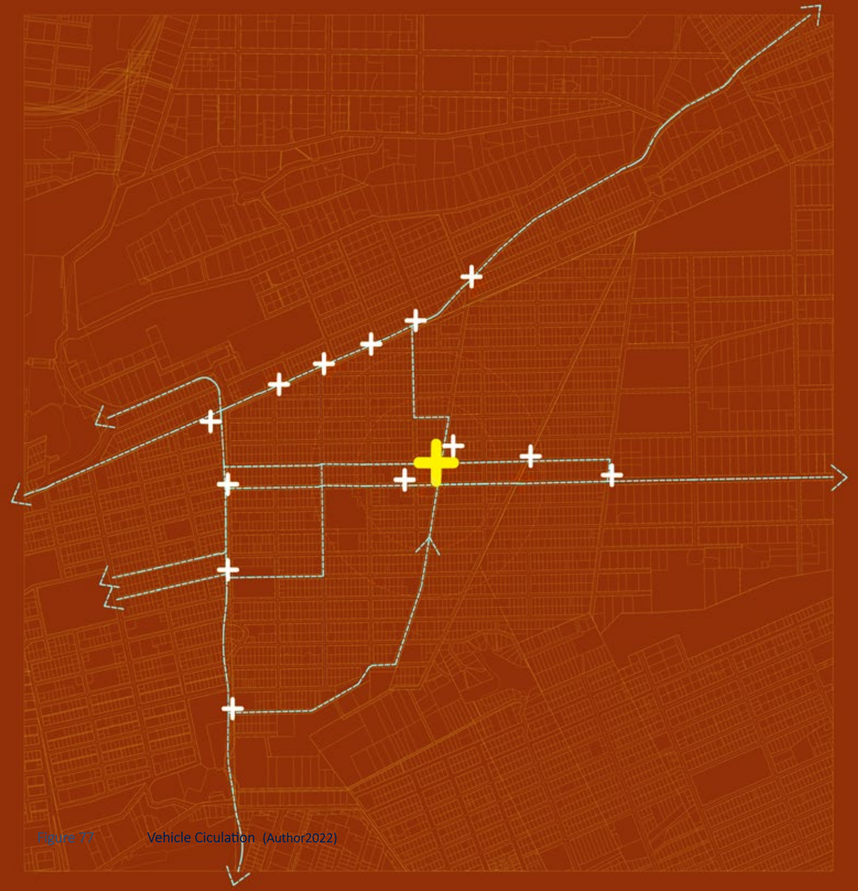


Figure 77 Vehicle Ciculation (Author2022)

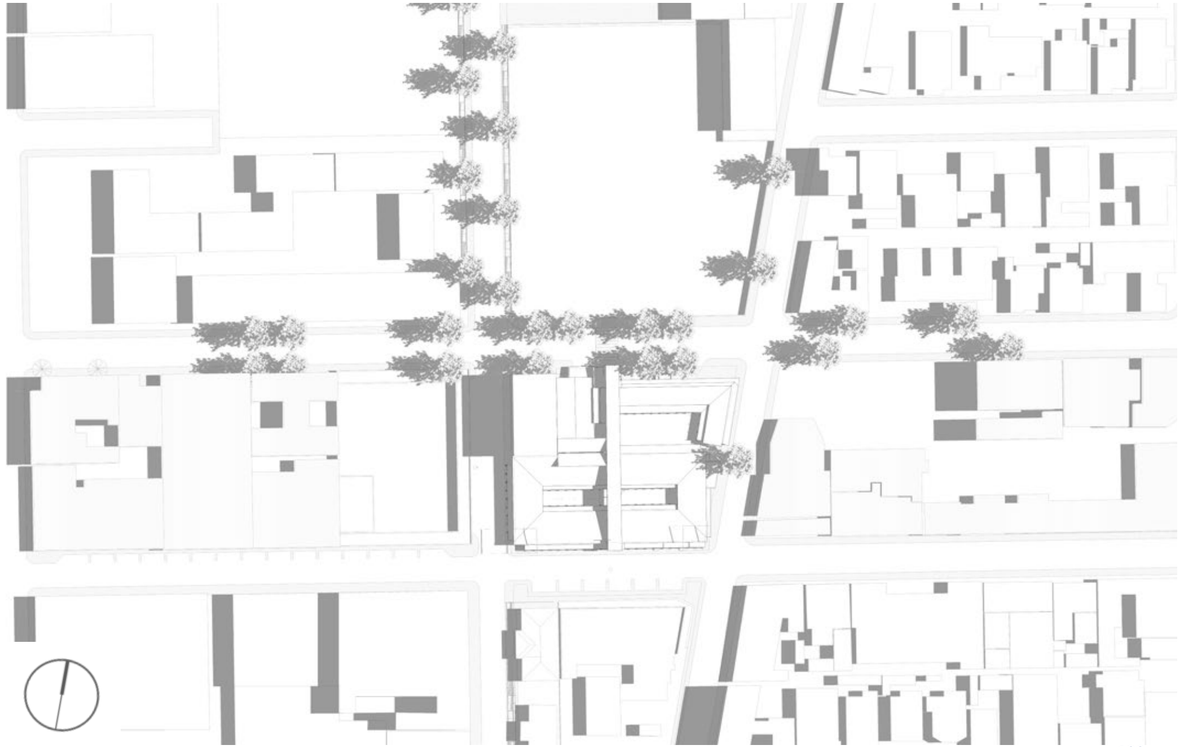
Vehicular Ciculation



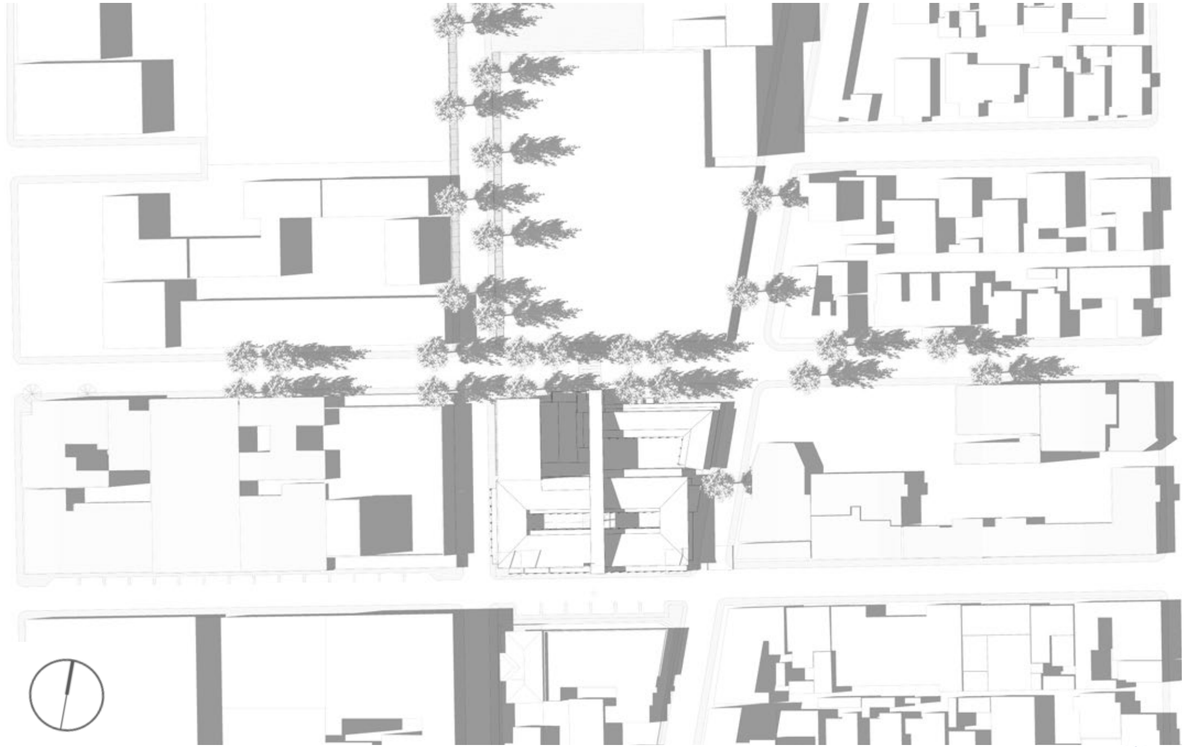
Figure 78 Nodes of Transportation Taxi (Author2022)

Nodes of Transportation

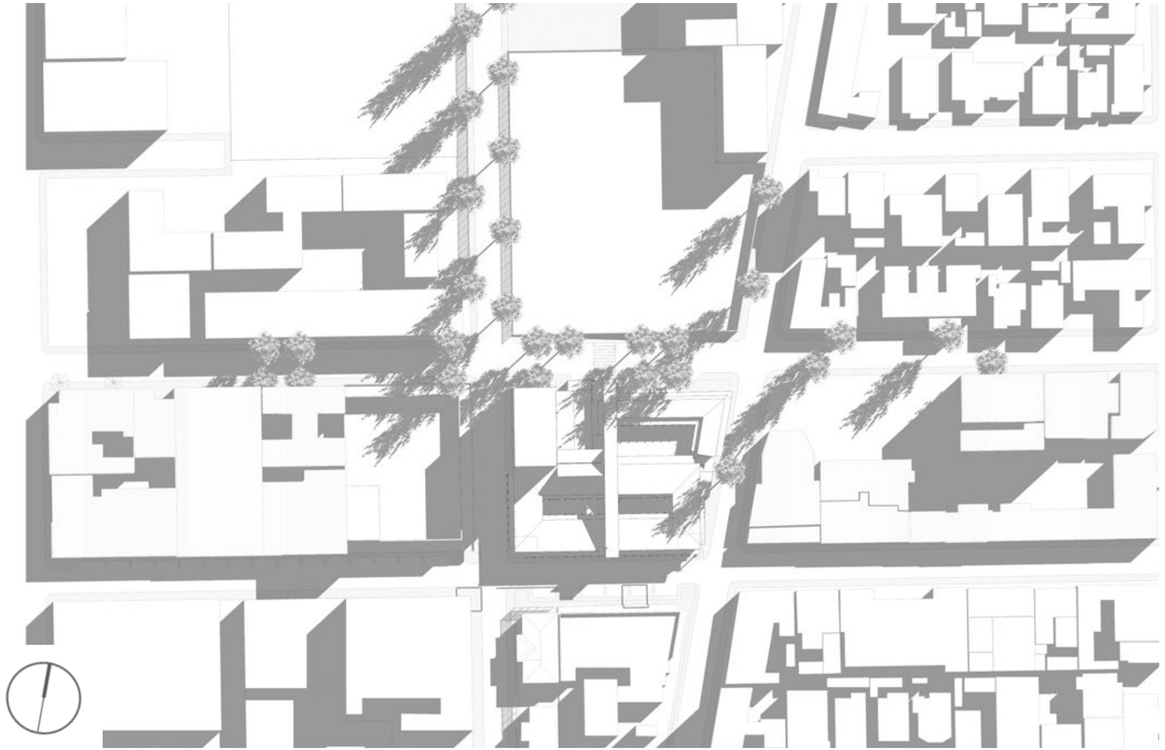
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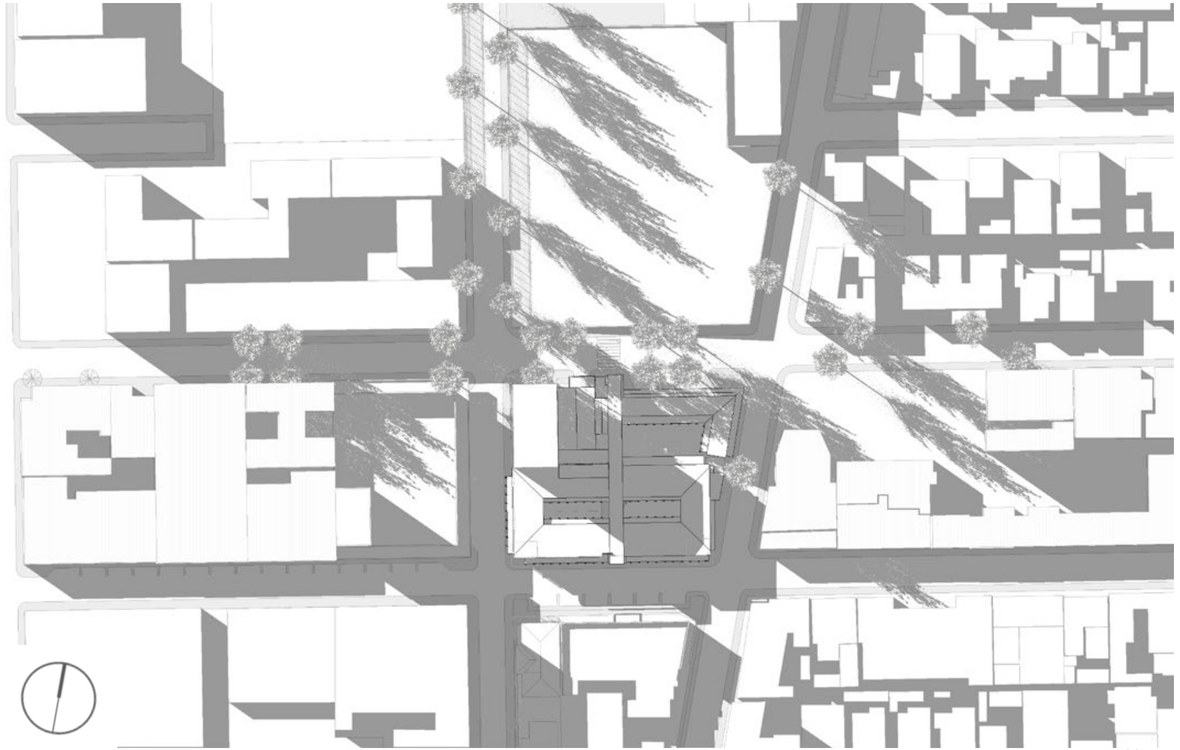
Summer 4pm



Winter 9am



Winter 4pm





Chapter 04

Concept Development

The charette took place earlier in the year before any direction of the project. However, it allowed me to explore the potential of the project. Within the exercise I explored the concept of cross pollination, boundary, and mobility. These three themes; later identified helped to define and give direction to the rest of the project.

Figure 79 Charette Main Cover Page (Author2022)



Architectural Intent

Based on the concept of boundary, the existing Yeoville Market is analyzed and the different types of boundaries were identified.

1. Functional Boundary: are defined as a hybrid and capable of responding to the surrounding context.

2. Blurred boundaries are defined as weak boundaries and emphasize the communication facilitated through the boundary.

3. Absolute Boundary is defined as A clear detachment of the interior from the exterior making the interior a safe space.

These three types of boundaries were used throughout the building to create a strategic visibility by the traders. Vegetables and other food from home became a way to notify others foreign nationals the existing of the hidden world.

The design will therefore employ these themes boundaries to create a space that is both porous but still maintains the opacity of Yeoville Market

Absolute Boundaries







Functional Boundaries







Blurred Boundaries









Charette Exploration

First Experiment

The first experiment explored the idea of cross pollination. Plantain leaves, from my garden were used. Peeling the leave, I was left with the stem. I than penetrated one to the other. This method of cutting and attaching is called grafting. The two wounded plants are bounded to encourage growth of new tissues. Creating new species of plant, a hybrid. This represented the migrant experience of being in a new city, you are left to create something new out of what you have. For the women that I have interviewed what they knew was agriculture. This experience also speaks on migrant spaces are in juxtaposition between permanent and temporarily.

Figure 81 Charette Exploration 01 (Author2022)

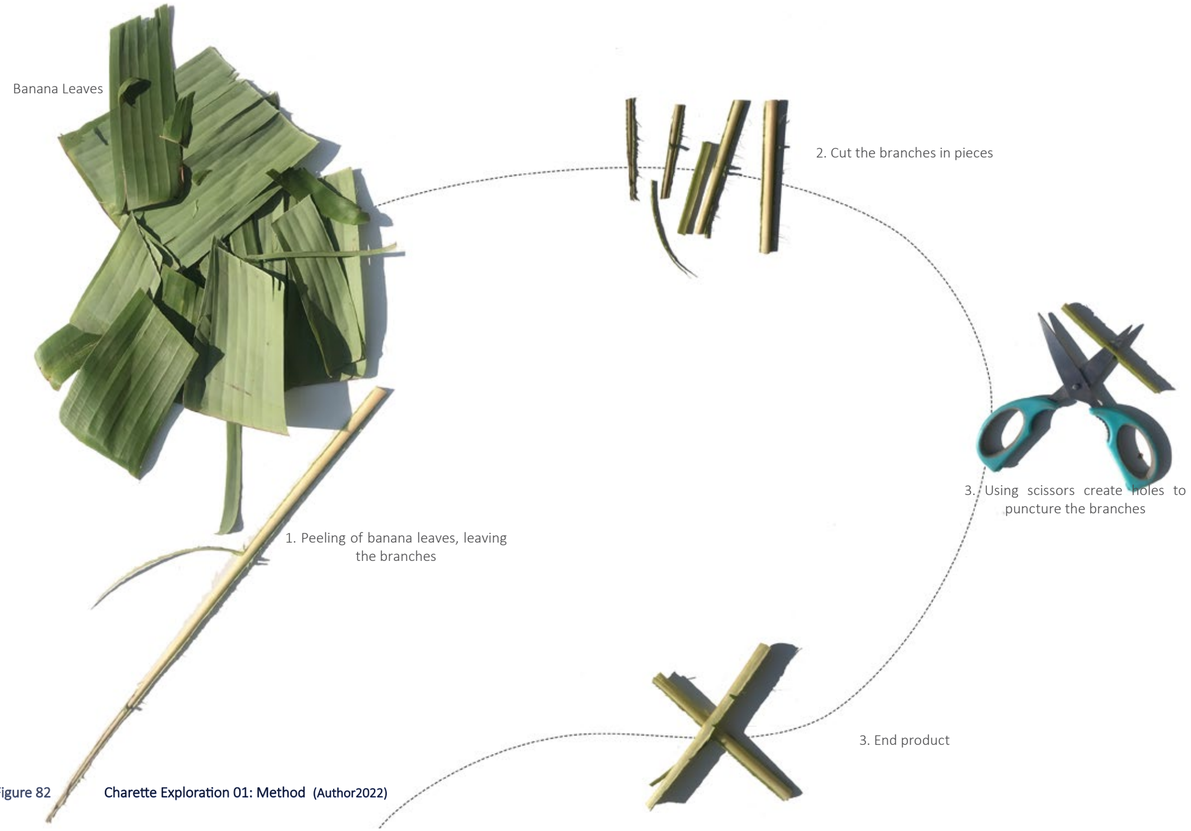
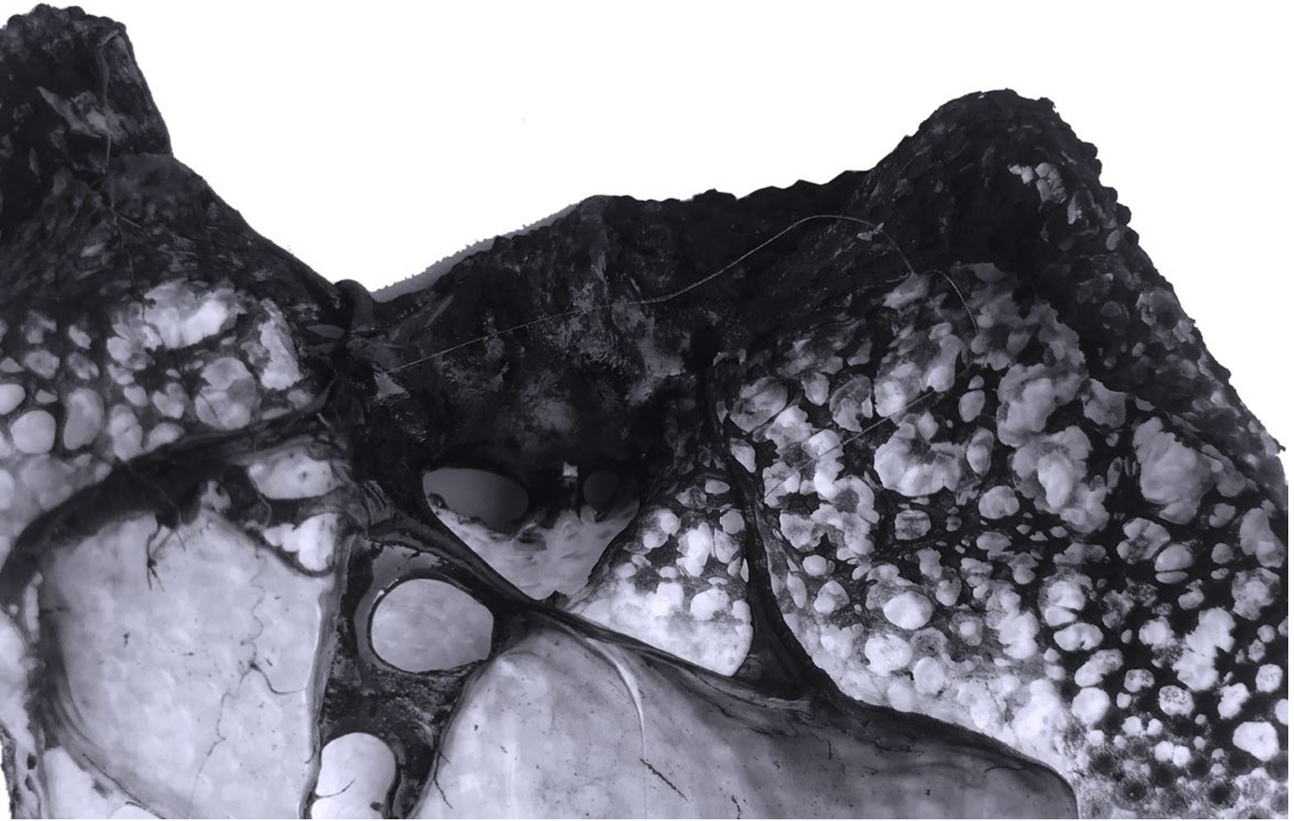


Figure 82 Charette Exploration 01: Method (Author2022)

Iterations



Figure 83 Charette Exploration 01: Outcome (Author2022)



Second Experiment



2. Polystyrene Box



2. Cut them into pieces



3. Burning using candle and matches

Figure 84 Charette Exploration 02: Cover Page 2 (Author2022)
Figure 85 Charette Exploration 02: Method (Author2022)

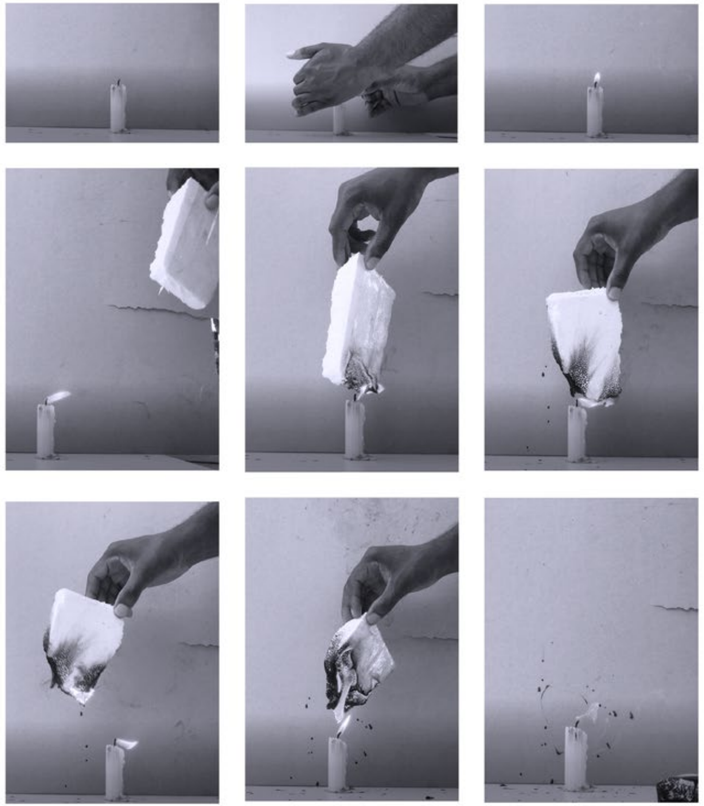


Figure 86 Charette Exploration 03: Method (Author2022)

For the second experiment, I began by burning the polystyrene cooler boxes used to carry food; particularly fish across borders. At first, I could not see anything significant. Further inspection of the burned pattern revealed the resemblance microscopic view of the surface of cassava. This signified the hidden nature of migrant world. Hidden in plain sight only those with the knowledge can recognise the coded micro-world.

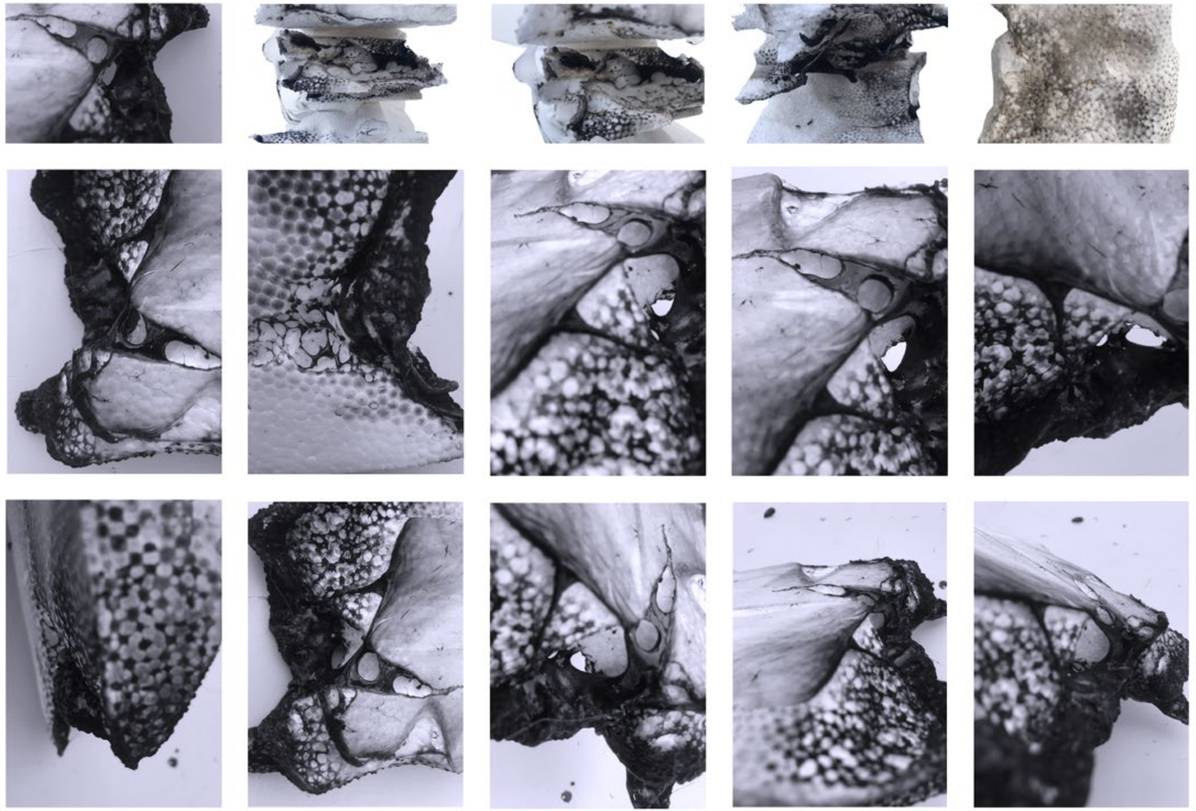


Figure 87 Charette Exploration 03: Final Product (Author2022)



Third Experiment

The third experiment explored the idea of mobility. Each nails represented migrant movement in the city. Moving from one space to another, in the process creating networking system. The red string represented the navigating the city after creating system of networking which is a lot more linear. The act of networking is not a linear process; only over time does it become easier to navigate. This idea of migrant being in ever shifting idea is expressed and realised in the charette.

Figure 88 Charette Exploration 03: Cover Page 3 (Author2022)

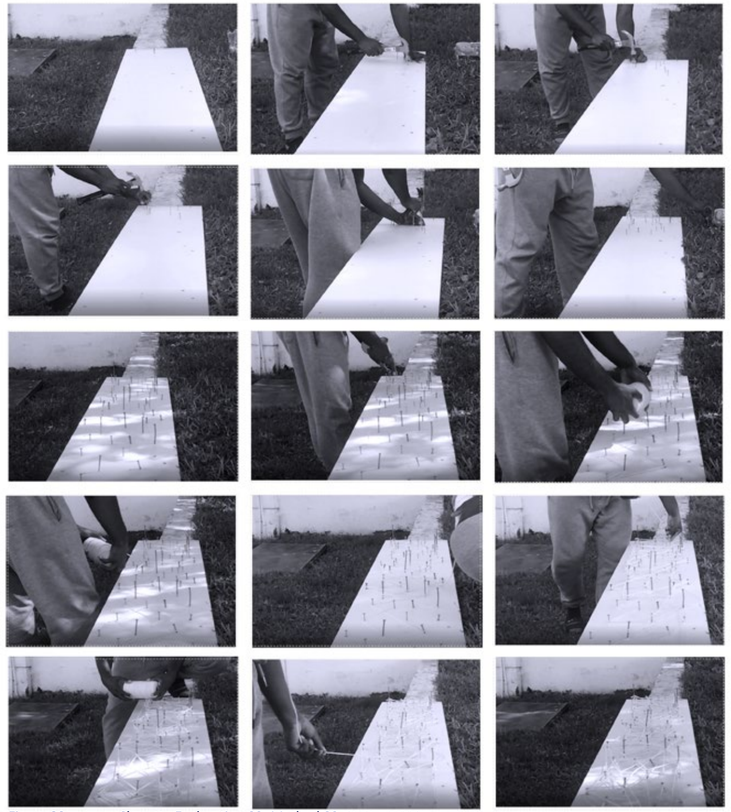


Figure 89 Charette Exploration 03: Method 02 (Author2022)

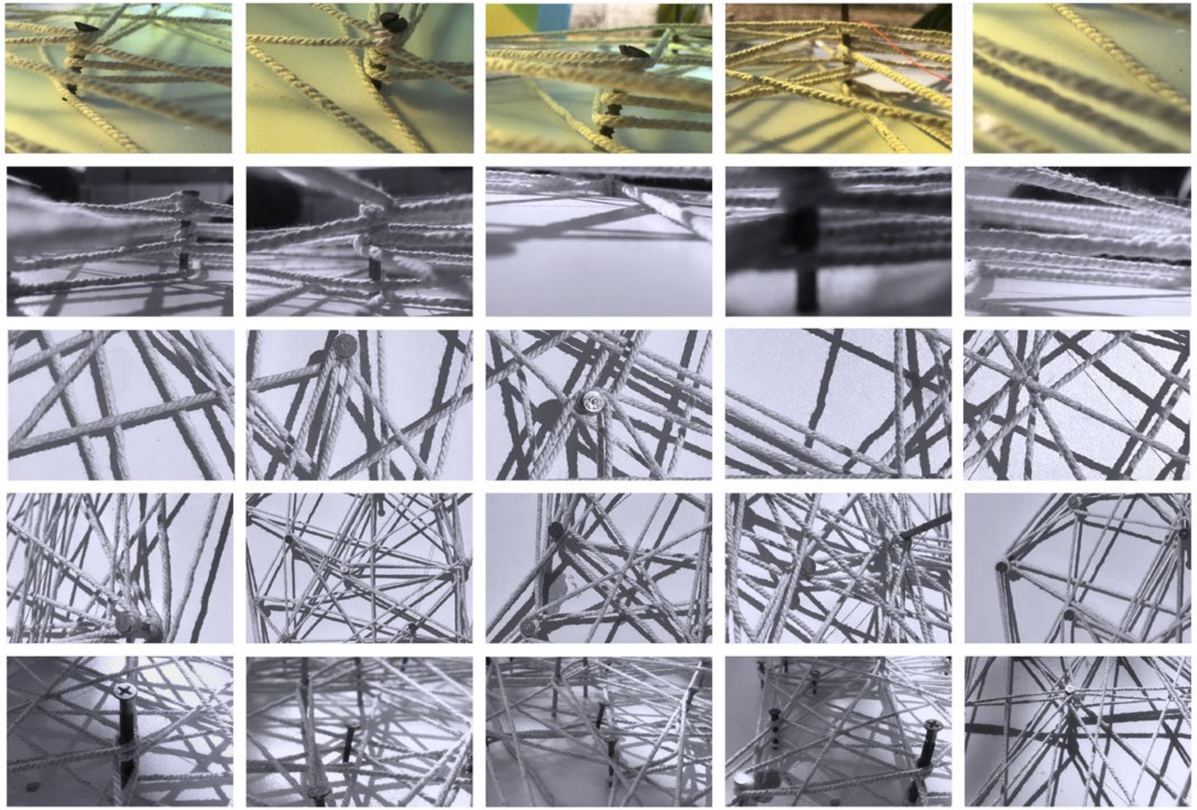


Figure 92 Charette Exploration 03: Final (Author2022)

Programs

The new program responds to the needs to the cassava traders and it serves as a support and an extension of the existing program of the Yeoville Market. The program will compose of three main parts

1. Point of Contact: this component is for traders who serve the everyday pedestrians and the existing traders. It is these traders who will act as the mediators between the urban street and the traders.

2. Educate: this component serves to train and educate the traders with skills such as urban farming methods, introduction of new urban farming technology ect.

3. Innovate: this component serves to aid in furthering the research of cassava. It will focuses producing new products that can be consumed for the public outside of Yeoville and the foreign market.

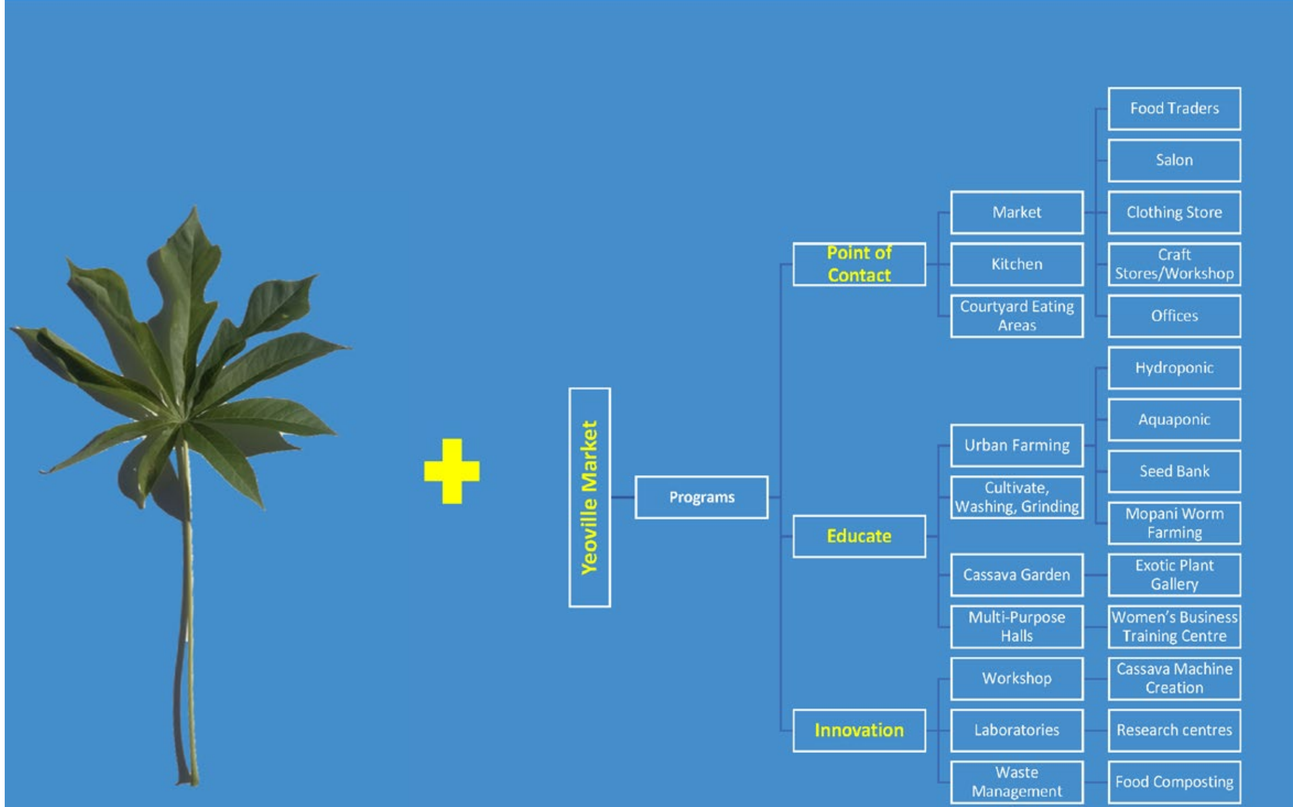


Figure 94 Cassava_program (Author2022)

Architectural Concept

The architecture concept explores the contradiction of exposure and opacity that the Yeoville Market contains. The market requires more porous surfaces that draws in the pedestrians. But the market also requires discreetness to be able to function without drawing attention of the wrong crowd. These concepts were explored in the following way:

The string of networking system created by the third charette exploration was superimposed on the image of the market. Superimposed Charette Exploration 02 (Author2022) The final image shows the porosity that is created within the facade which holds a clue on how to move forward with designing facade.

The second image created shows a tower radiating light. A landmark of sort that announces itself from the urban scape. (Superimposed Charette Exploration 03 (Author2022)) These clues were than used as a architectural strategy.

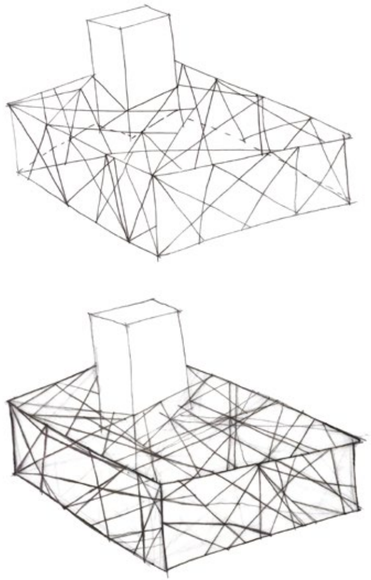


Figure 95 Superimposed Charette Exploration (Author2022)

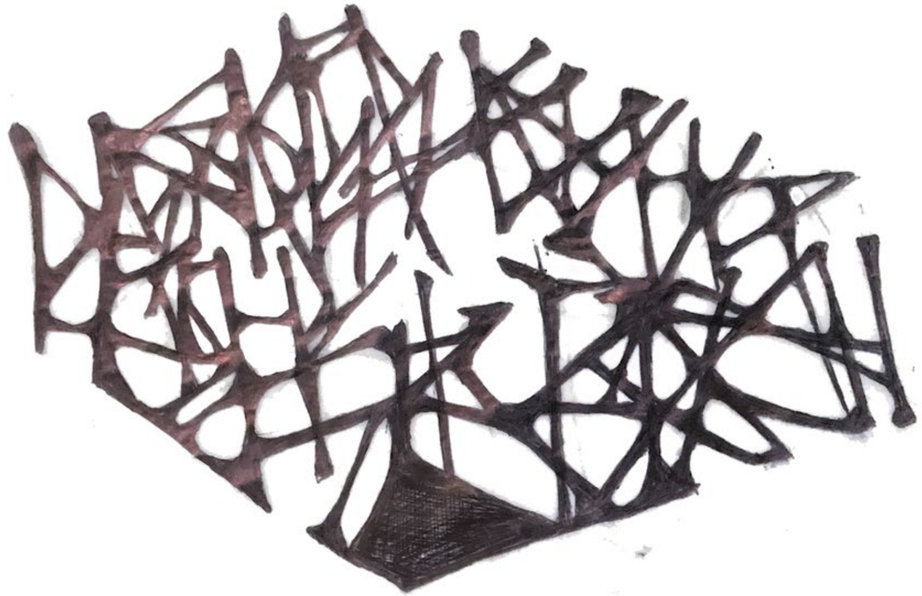


Figure 96 Superimposed Charette Exploration_Porosity (Author2022)

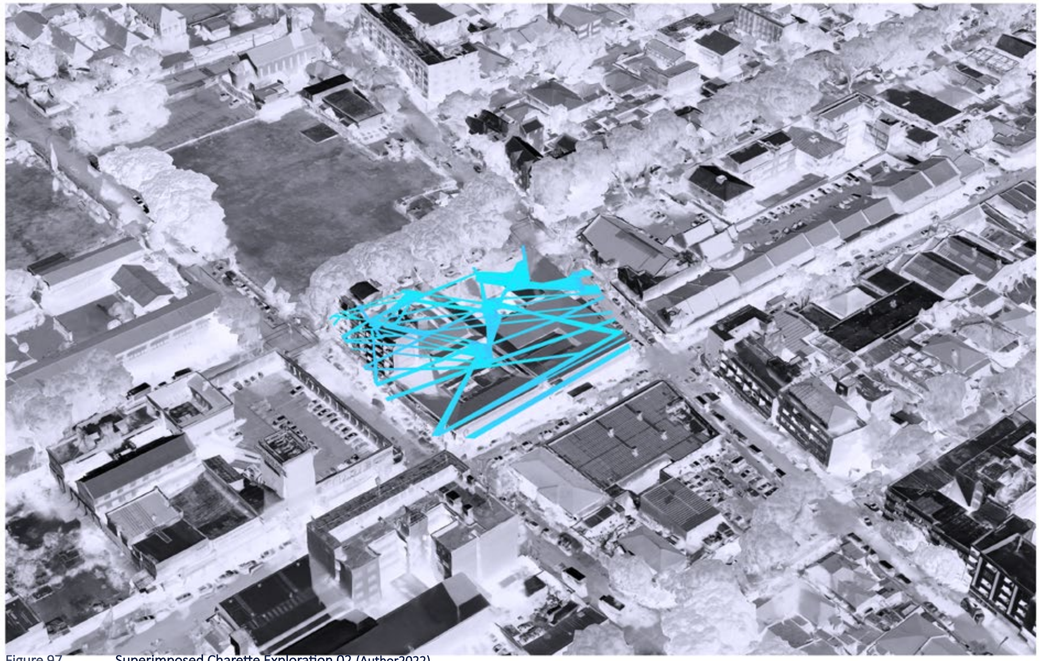


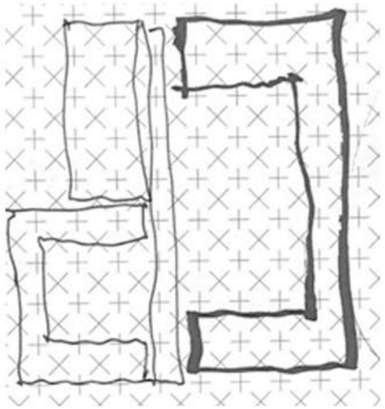
Figure 97 Superimposed Charette Exploration 02 (Author2022)

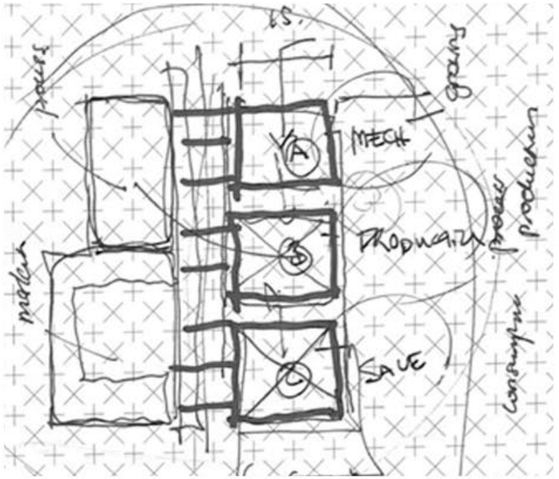


Figure 98 Superimposed Charette Exploration 03 (Author2022)

Design Iteration 01

This design iteration explores the how to spatially translate the concept on the building through programming.





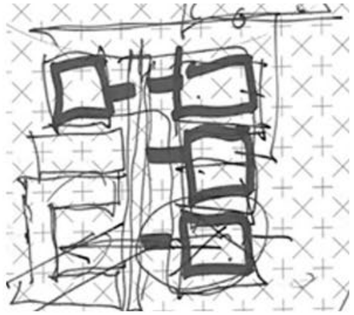


Figure 99 Design Concept_01 (Author2022)

Design Iteration 02

These sketches explores how the general circulation of the building.

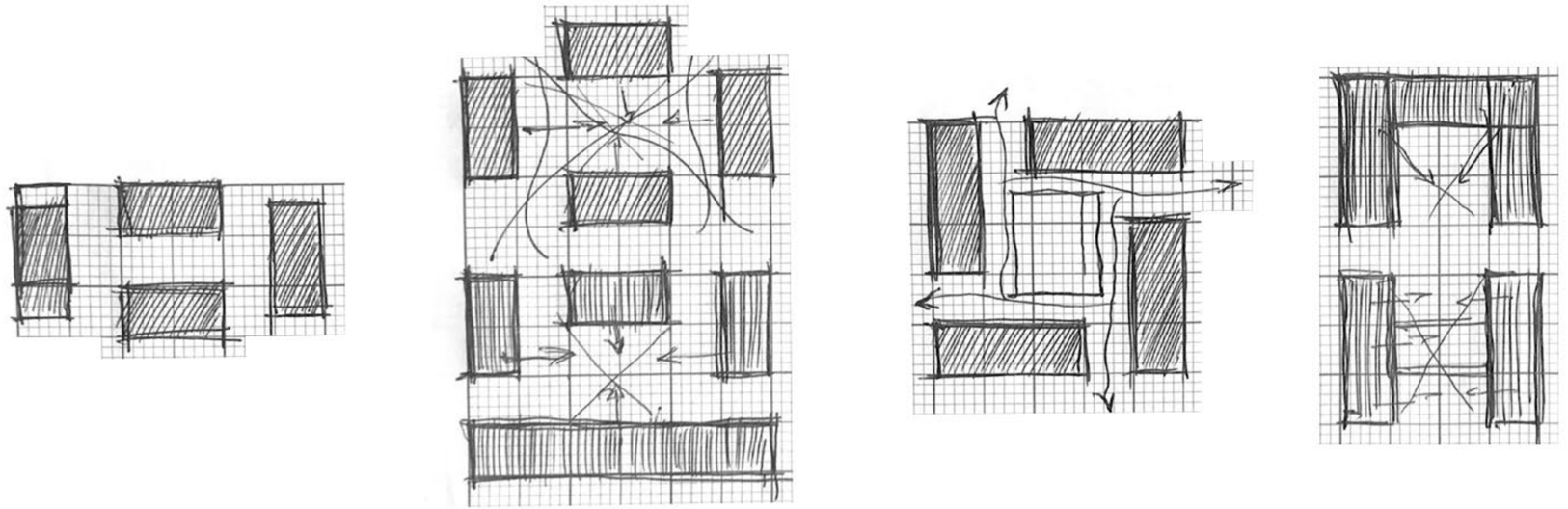


Figure 100 Design Concept_01_Circulation Exploration (Author2022)

Design Iteration 03

These sketches explores the urban connection of the building to the street. How to introduce the building back to the street.

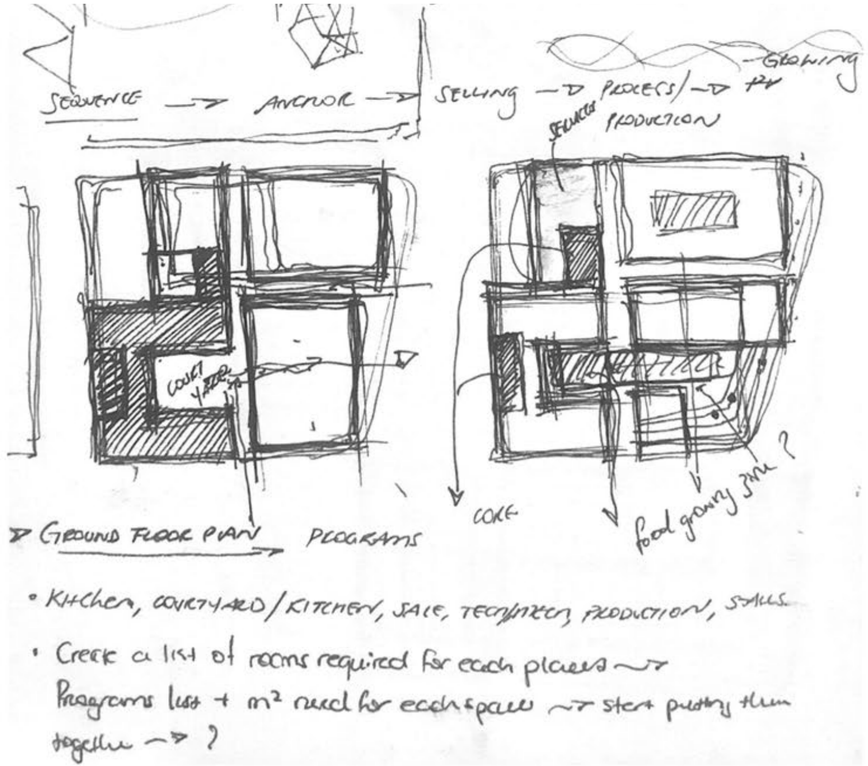
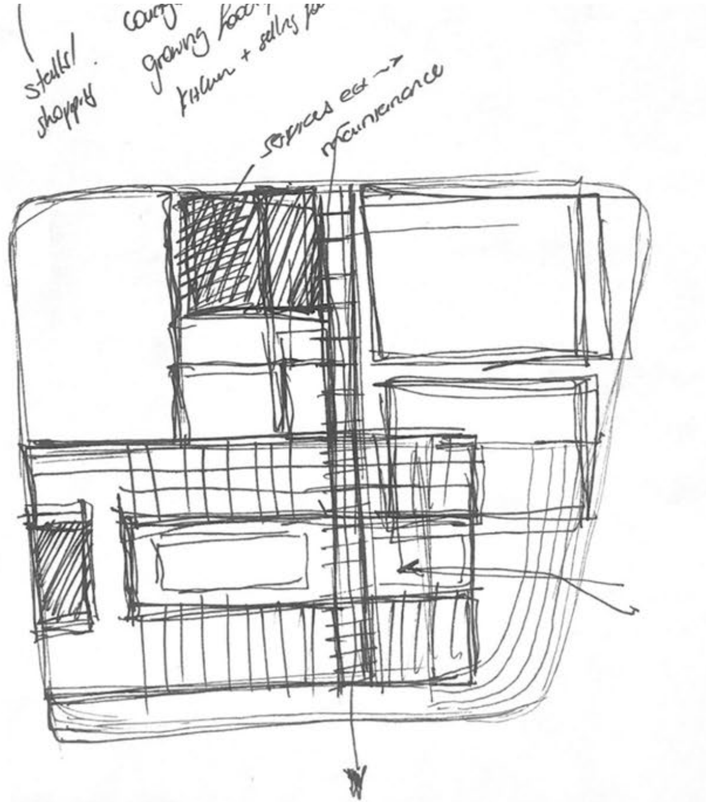


Figure 101 Design Concept_01_urban connection (Author2022)



Design Iteration 04

Further exploring the circulation and the urban connection.

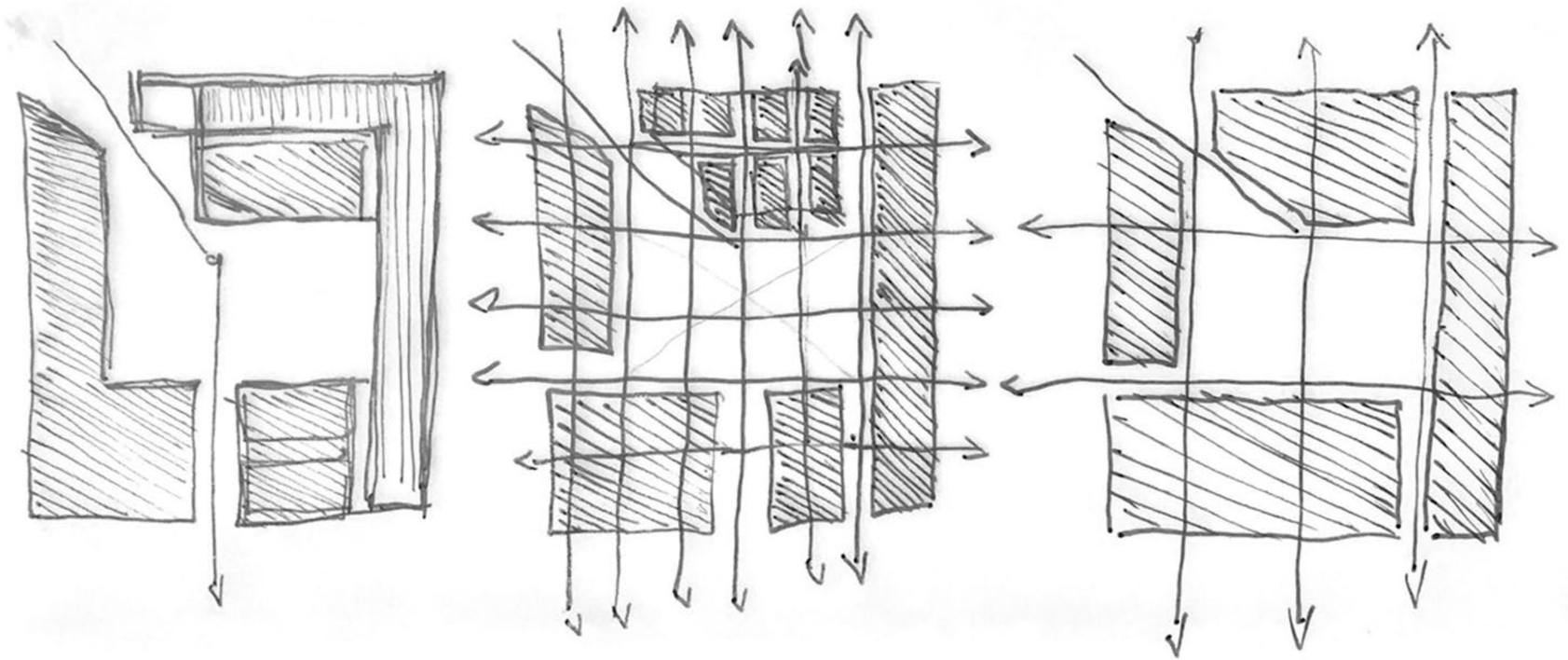


Figure 102 Design Concept_01_Refined Floor Plan (Author2022)

Design Iteration 05

The final iteration shows more defined conceptual plan of the proposed new circulation through the building.

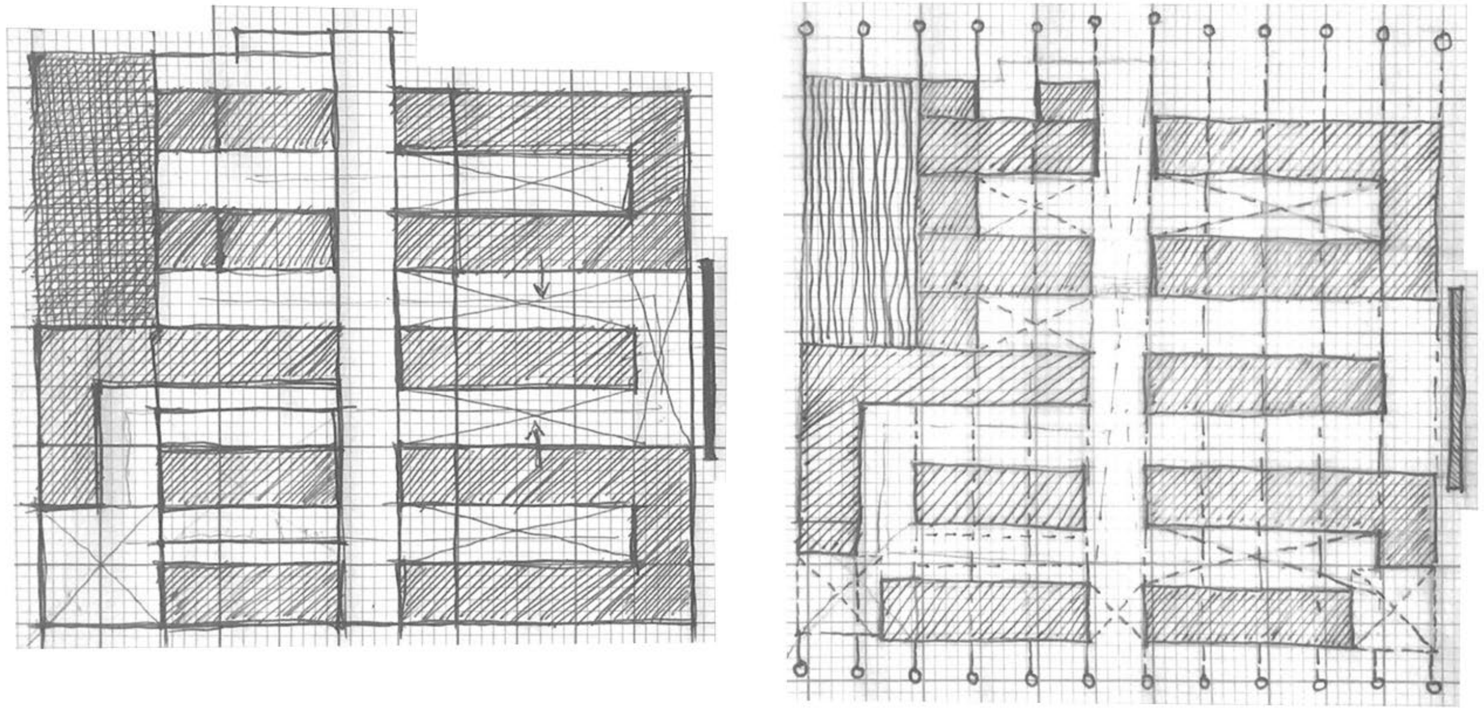
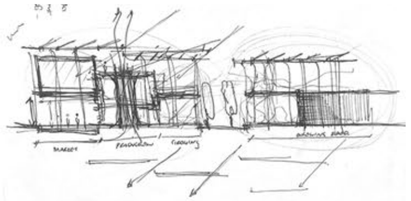
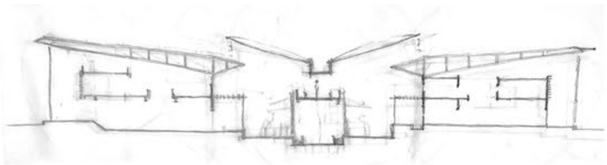
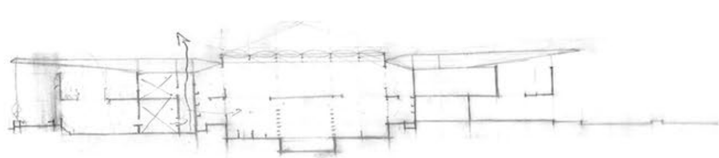


Figure 103 Design Concept_01_Refined Floor Plan_02 (Author2022)







Design Iteration 06

The sketch shows the exploration of volume, space and connection to the street through section. Also potential roof coverings.

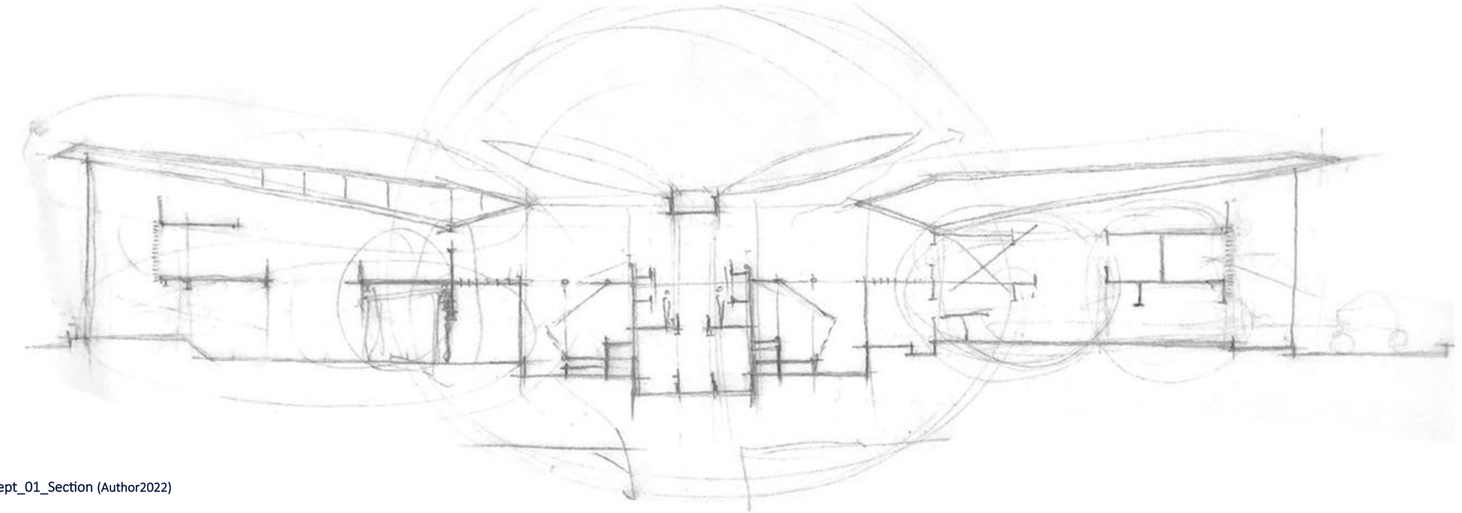


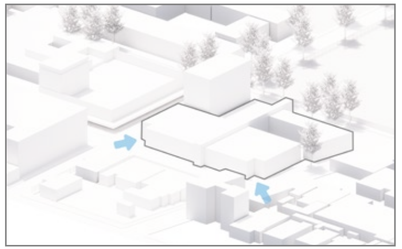
Figure 104 Design Concept_01_Section (Author2022)

Chapter 05

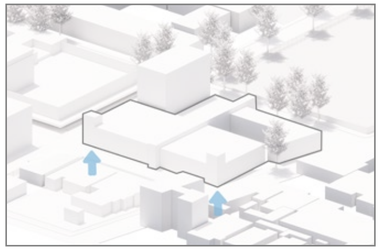
Final Design

Form Development and Programming

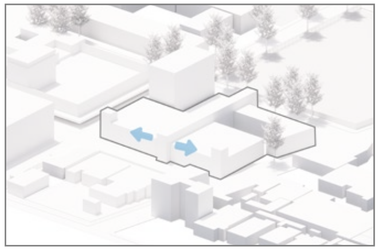
These series of diagram describes the process of the renovation that will be taking place. Than later how the new programs fits into the idea of bringing commutiyt together.



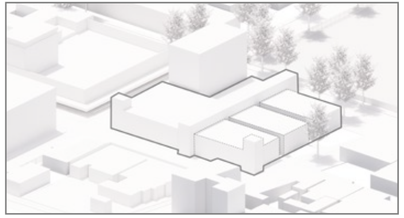
1. New entrances are created from the burnt portion of the market. This creates an opportunity to capture the existing walkway of the pedestrains.



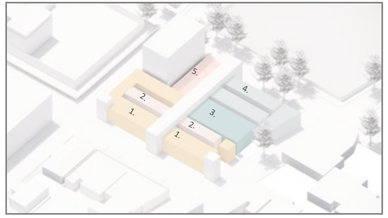
2. Nodes are erected to announce the building. This tower goes back to the concept of the market being the beacon of Yeoville.



3. The width of the existing spine is increased.

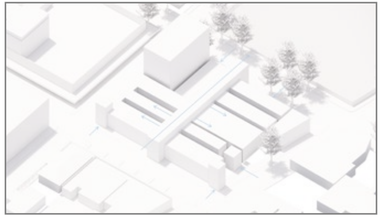


4. One portion of the building is demolished to accomodate the new programmes; Eating, growing and processing



5. 1. Market 2. Eating 3. Growing

4. Production 5. Process



6. Ciriculation in the building.



Corner of Raleigh Street and Bedford Road

Figure 105 Final Design Perspective (Author2022)

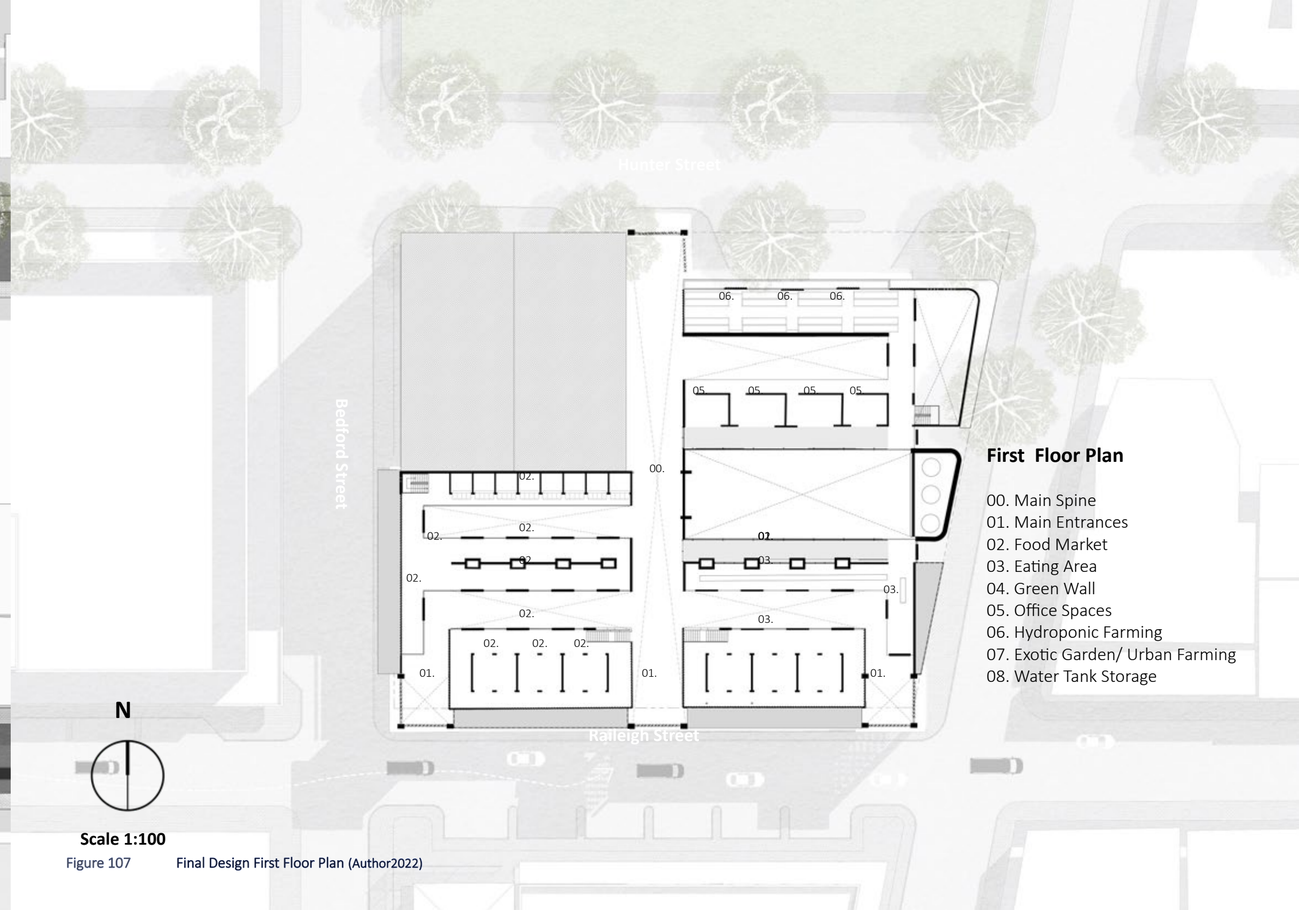


Ground Floor Plan

00. Main Spine
01. Main Entrances
02. Food Market
03. Food Court Yard
04. Kicthen
05. Accessible Ablution
06. Male Ablution
07. Female Ablusion
08. Exotic Garden/ Urban Farming
09. Water Tank Storage
10. Production Room
11. Drying and packaging
12. Collection
13. Storage
14. Cleaning

Scale 1:100

Figure 106 Final Design Ground Floor Plan (Author2022)



First Floor Plan

00. Main Spine
01. Main Entrances
02. Food Market
03. Eating Area
04. Green Wall
05. Office Spaces
06. Hydroponic Farming
07. Exotic Garden/ Urban Farming
08. Water Tank Storage

Scale 1:100

Figure 107 Final Design First Floor Plan (Author2022)



Elevation perspective from Bedford Road

Figure 108 Final Design_Elevation (Author2022)

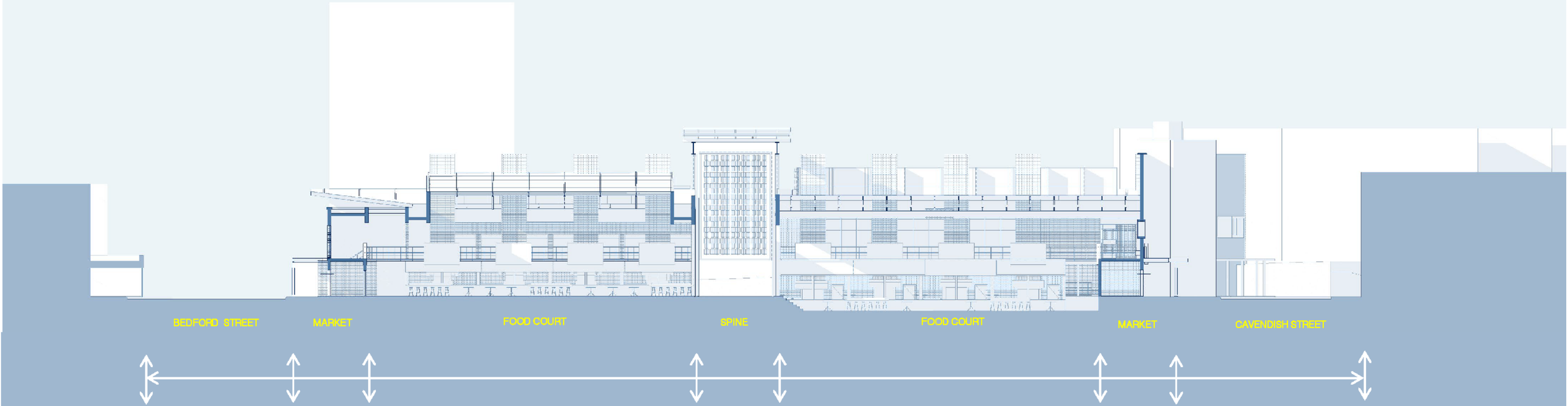
Elevation perspective from Raleigh Street

Figure 109 Final Design_North Elevation (Author2022)



Section through the Food Court

Figure 110 Final Design_Section A-A (Author2022)





Interact and Exchange

Figure 111 Final Design_Interior View_01 (Author2022)

Section through the Garden

Figure 112 Final Design_Section B_B (Author2022)



Flat and east path



Programmed levels with infomation of plants



Plant and restricted mobility



Restrained Interaction



Plant and Interact

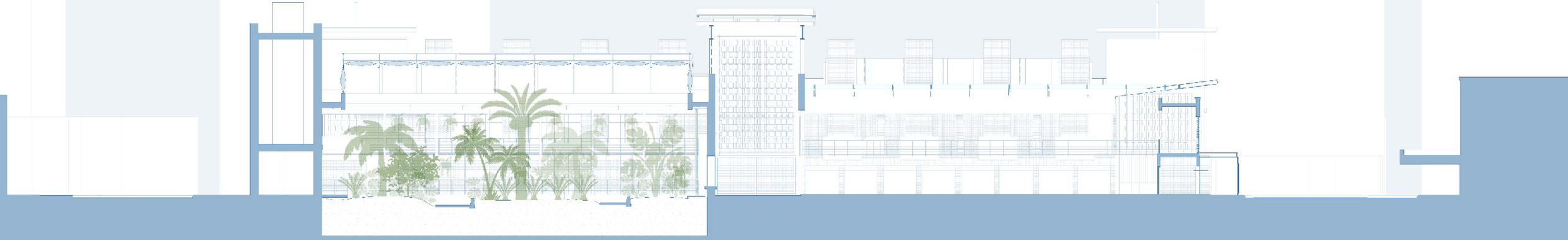




Figure 113 Final Design_Interior View_02 (Author,2022)

Figure 114 Final Design_East Elevation (Author2022)



Section through the Garden

Figure 115 Final Design_Section_C-C (Author2022)

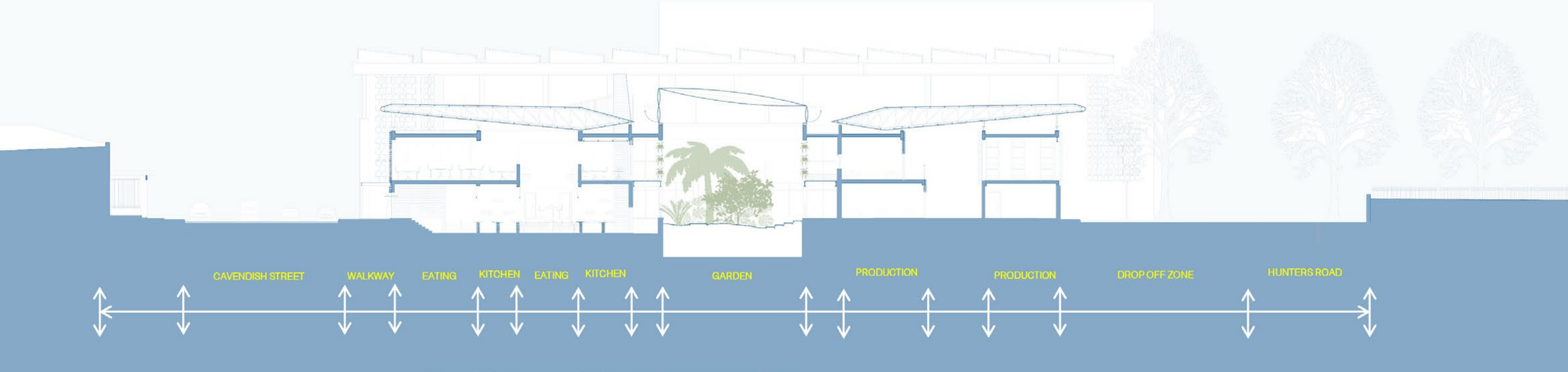




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Figure 106 Final Design Ground Floor Plan (Author2022)

Figure 107 Final Design First Floor Plan (Author2022)

Figure 108 Final Design_Elevation (Author2022)

Figure 109 Final Design_North Elevation (Author2022)

Figure 110 Final Design_Section A-A (Author2022)

Figure 111 Final Design_Interior View_01 (Author2022)

Figure 112 Final Design_Section B_B (Author2022)

Figure 113 Final Design_Interior View_02 (Author2022)

Figure 114 Final Design_East Elevation (Author2022)

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Figure 116 Final Design_Interior View_03(Author2022)

Appendices

Viability Report

Project Overview

Yeoville has been a sanctuary for African immigrants living in South Africa. For the undocumented, who struggle to find a job, providing access to the labour market gives them an opportunity for economic growth. Yeoville Market has served as a port of entry for many years, providing women and men of foreign descent a chance to better their lives through trading.

In addition, the market has the potential to function as a cultural exchange for the community. Originally designed to last 15 years, it has stood the test of time to become one of the iconic landmarks of Yeoville. The proposed precent will serve as part of a tourist attraction to celebrate the riches and diverse profiles of Yeoville, where people from all walks will be able to experience a taste of different parts of Africa.

The proposed objectives are in the form of a percent, continuing the legacy of the market but renovating the existing trading spaces and providing more programs that promote entrepreneurship, community engagement, and growth of the macro-economy.

This project aims to train and develop the entrepreneurial skills of the immigrants focusing on women but not disregarding the male traders. Furthermore, create a platform for immigrants to kick start their life through growing food using various vertical farming methods, and promote a community-engaging multi-cultural environment by designating interactive public spaces, designing a safe distance of exchanging culture through food, and encouraging self-sustaining culture through education and research facilities.

Project Brief

To achieve the project's objectives and aims, the following are proposed to ensure the end goal is achieved.

1. A more controlled access area to ensure security and protection of the women and men working in the facility. Ensuring the safety of the consumers as well.

2. A newly renovated trading space with improved facilities and storage spaces.

3. Various vertical farming methods and areas allow the traders to grow and distribute them throughout the city.

4. The offices to accommodate those wishing to rent out and run their business from Yeoville.

Potential lists of Clients

This project is envisioned to have a client body formed through public and private partnerships compromised of public and private entities already established in the community. Given its proximity to the Yeovil Market, the private entities will make up most of the shareholders. The potential partnership with the NGOs was chosen due to similar aims and objectives aligned with the project.



Department of agriculture, land reform and rural development (DALRRD)

Aims to have equitable access to land, integrated rural development, sustainable agriculture, and food security for all. Its mission is to transform land ownership patterns, implement sustainable livelihoods and innovative sustainable agriculture, promote access to opportunities for women and other vulnerable groups, and integrated rural development. They will form part of the public entity that is funding the project.

The Southern African Development Community (SADC)

is an inter-governmental organization that aims to achieve development, peace and security, and economic growth to alleviate poverty, enhance the standard and quality of life of Southern Africa, and support the social and economic disadvantage through regional integration, built on democratic principles and equitable and sustainable development.

Their objectives are:
Promote and defend peace and security
Promote self-sustaining development based on collective self-reliance and inter-dependence of a member state
Achieve complementarity between national and regional strategies and programmes
Promote and maximize productive employment and utilization of resources of the region
Achieve sustainable utilization of natural resources and adequate protection of the environment
Strengthen and consolidate the long-standing historical, social, and cultural affinities and links among the region's people.

They will form part of the public entity that is funding the project. They were chosen due to their connection with the northern African countries. This could potentially bring in international funders interested in this project.

The African Fertilizer and Agribusiness Partnership (AFAP)

is an independent non-profit organization that aims to achieve ambitious agricultural development goals set in place by African nations and leaders. AFAP adds value to the agriculture inputs and agribusiness value chain by building the capacity and linking African Hub-Agridealers and smallholder farmers to global input and output market companies and promoting the use of high-quality and affordable balance crop nutrition products, partnering with technology and equipment providers, and facilitating trade finance for fixed assets and inventory via the Agribusiness

Partnership Contract (APC)

They were chosen due to their linkage with various agricultural businesses all over the continent that would bring sponsors and funding to the project. They had previously partnered with the Department of Agriculture, Forestry and Fisheries. However, because the agricultural aspect has been moved to DALRRD, it is unclear if the partnership still stands.

Freda Harley Shelter

is an NGO located on the outskirts of Yeoville. It aims to empower, educate, and enhance the intellectual capacity of homeless women and improve their confidence to find employment, start their businesses, and regain integrity within society. They provide services to these women such as career management and guidance, banking classes, computing skills and job-skill training.

They have an established relationship with the women in the community, and their insight into what they require will be a vital part of the project. Education and Feeding Scheme is an NGO that helps combat unemployment by training various skills that enable and enhance income-generating social enterprises through food gardens.

The aim is to develop and protect children and their families by improving access to nutrition, health, early learning, stimulation, and skills development. Mothers as encouraged to grow food in the gardens to help the households bring in food. They were chosen due to their current work with the community, so their insights and collaboration will benefit the not only project, and they will be able to get more funding through this collaboration to keep running their business.

Free to grow (FTG)

is a training organization specializing in designing and presenting life skills programmes focused on entry-level workers, where the most significant need for empowerment and personal transformation existed during that time. The Empower programme aims to teach skills and mindsets needed for these women to see themselves as leaders. They teach, learning to overcome obstacles, staying positive and motivated through tough times, and identifying care goals and action plans to achieve them.

The combination of the proposed public and private entities shown above would greatly benefit the project due to its shared goals and values of community development through encouraging and training marginalized people with entrepreneurship skills.

The site comprised the Yeoville Market and half of the field located north of the market. The land is zoned to be used for Education, meaning there's no requirement to apply for rezoning. But to be sure, a consultation with a town planner will have to be made to ensure that all the zoning and programmes comply. Erf Number 822 cannot be used as part of the proposed site due to its restrictive land use zoning. The current owner is Telkom and has claimed the land use as "special", which means the only land uses as stipulated currently.

Funding, Economic & Social Sustainability:

The funding for construction and equipment needed for the run of the new market will be done through ugh a mixture of public and private funding.

Much of the public funding will be received from the Department of agriculture and rural development, partnered with the South African Development Community as part of the initiative to rejuvenate and rebrand Yeoville as a gastronomic tourist attraction. A similar project was initiated in 2010, but due to a lack of community involvement, it failed to attract anyone outside the community. This new approach uses the existing market and customer base to ensure the project's longevity and expand on it.

Private funding will be received from The African Fertiliser and agribusiness partnership (AFAP), with their connection to the potential international sponsors to ensure that the essential equipment needed allows for the everyday function of the project.

To ensure the social sustainability of the project, the following steps should be followed:

The first stages of the project will focus on renovating the existing market and renting out office spaces to the current suppliers. Currently, these suppliers work either from home or have shopped elsewhere and deliver goods to the traders to sell. Focusing on providing them with an office not just to rent but the opportunity to buy it will showcase their loyalty. The second phase involves attracting new entrepreneurs looking for affordable inner city rent. This new initiative focuses on retaining people in the further per cent to attract more people from outside Yeoville.

Some of the portions of the funding will have to be dedicated to the hiring of private security. This is because the police in the areas are known to harass the market traders, and there is distrust between the two parties.

Impact

This initiative not only aims to be socially and environmentally sustainable but also promotes self-efficiency. The project focuses on the existing infrastructure of the micro economy in the Yeoville market and on Raleigh Street's economic activities. The proposed initiative becomes a physical manifestation of a networking system, providing the traders with the necessary skills, knowledge, and equipment to become successful entrepreneurs outside of Yeoville. The food grown within the market will be distributed throughout the country. They are contributing to the economy of the country. This ensures that the foreign population outside of Yeoville can buy a taste of home in their respectable shops.

Socially this intuition has the potential to bring the community together through growing and providing food to those in need. The food bank will ensure food security and socially bring more diverse individuals into the area.

The project not only aims to provide profits to the markets but invest in the traders themselves to improve because only through growing the skill sets of the workers can any business grow. It also provides the traders with the opportunity to be able to own their own business getting out of Yeoville. Yeoville market is an entry point into the market but should not

Income:

In terms of income generation, the various programmes within the facility will be able to generate income for the facility to function throughout the year. The income and renting of spaces within the facility and the sale made will contribute to the maintenance of the building and paying the security. The payment will also be able to pay for the cleaning staff, technicians and any staff members needed for daily production of the building. A small portion of the food produced will feed the community, and the rest will be grown to be distributed to the shops in the community and Johannesburg.

Cost Estimates:

According to the African Property and Construction cost guideline (which excludes the cost of site infrastructure development, parking any future escalation, loss of interest, professional fees and value added tax) the minimum rate of the neighbourhood centres from 5000m2 – 12 000m2 is R9 000 - R11 600 per m2 for building on land. This means that the total cost of the project (taking the R 11 600m2 as the cost for building on land) = R 113 533 840. The professional architectural fee amounts to R10 856 109.90.

Professional Team:

The appointing of professional team will have to be done in the way that is cost effective. Only appointing them when is necessary. This will be executed according to the JBCC Principal Building Agreement in conjunction with Bill of Quantity (BOQ)

Professionals	Role	When they are needed
Quantity Surveyor	To estimate and control the cost of the construction. Ensures th the budget is met and monitored.	After Stage 4
Town planner	Amending and ensuring all compliance with town planning schemes	Stage 4
Architect	Ensuring that all work is done according to what is drawn by t architect. Appointed through SAIA with the client and all scope of services should be clearly indicated. To reduce cost, they w be appointed also as a principal agent, principal consultant, and project manager.	Stages 1-6 according agreed services that will provided.

Attorney	To assist with any title deed changes that need to give from C of Johannesburg to the project owners.	For as long as needed
Contractor	Executing the construction work done on site.	Stage 5
Sub-constructor	Contractors appointed by the main contractor and princip agent to demolish the old building. A sub-contractor will also be appointed to for the installation any special equipment needed for hydroponic systems.	Before Stage 5
Civil Engineer	Ensuring that all the all information on site is correct and t structural integrity of the structure remains stables.	Stage 3-6
Structural Engineer	Ensuring that all the all information on site is correct and t structural integrity of the structure remains stables.	Stage 3-6
Geotechnical Engineer	To examine the existing soils ensuring the stability a recommending any extra supports needed for the soil to becor stable to build on.	Stage 3-6
Electrical Engineer	Designing and wiring the necessary electrical wires within t building to ensure that there's electricity supply.	Stage 3-6
Health and safety officer	Identifying danger and ensuring safety protocols are followed on site.	Stage 5



Appendix A: GIS Map of Proposed Site

TABLE 4: HEIGHT DEVELOPMENT REQUIREMENTS

(1) Height Zone	(2) Number of storeys	(3)								
		Johannesburg	Sandton	Randburg	Roodepoort	Lenasia	Midrand/Ivory	Werkenville	Edenvale	Peri-Urban / Halfway House / Annexure F / Lethabong / Westonaria / Southern Jhb Region
A	3	0	0	0	0	0	0	0	3	0
		6	2	4	3	1	1	1	4	
		7	3	5		2	2	2	5	
		8	4	6		3	3	3	6	
			5	7		4	4	4	7	
			6	8		5	5	5	8	
			7	9		6	6	6	9	
			8	10		7	7	7	10	
			9	11		8	8	8	11	
			10	12		9	9	9		
			11			10				
B	5	5	1	3	2					
C	As per Clause 30	1		1	1				0	
		2		2					1	
		3							2	
		4								

Annexure B: Height Restriction

TABLE 5: COVERAGE DEVELOPMENT REQUIREMENTS

(1) Height Zone	(2) Dwelling Houses, Dwelling Units, Residential Buildings	(3) Shops, Business Purposes, Institutional-, Educational Facilities	(4) Industrial Purposes	(5) Other Uses
A	50% for one storey 50% for two storeys 40% for three storeys	50%	70%	70%
B	Residential 1: 60% Residential 2: 70% Residential 3: 80%	70%	85%	60%
C	100%	100%	100%	100%

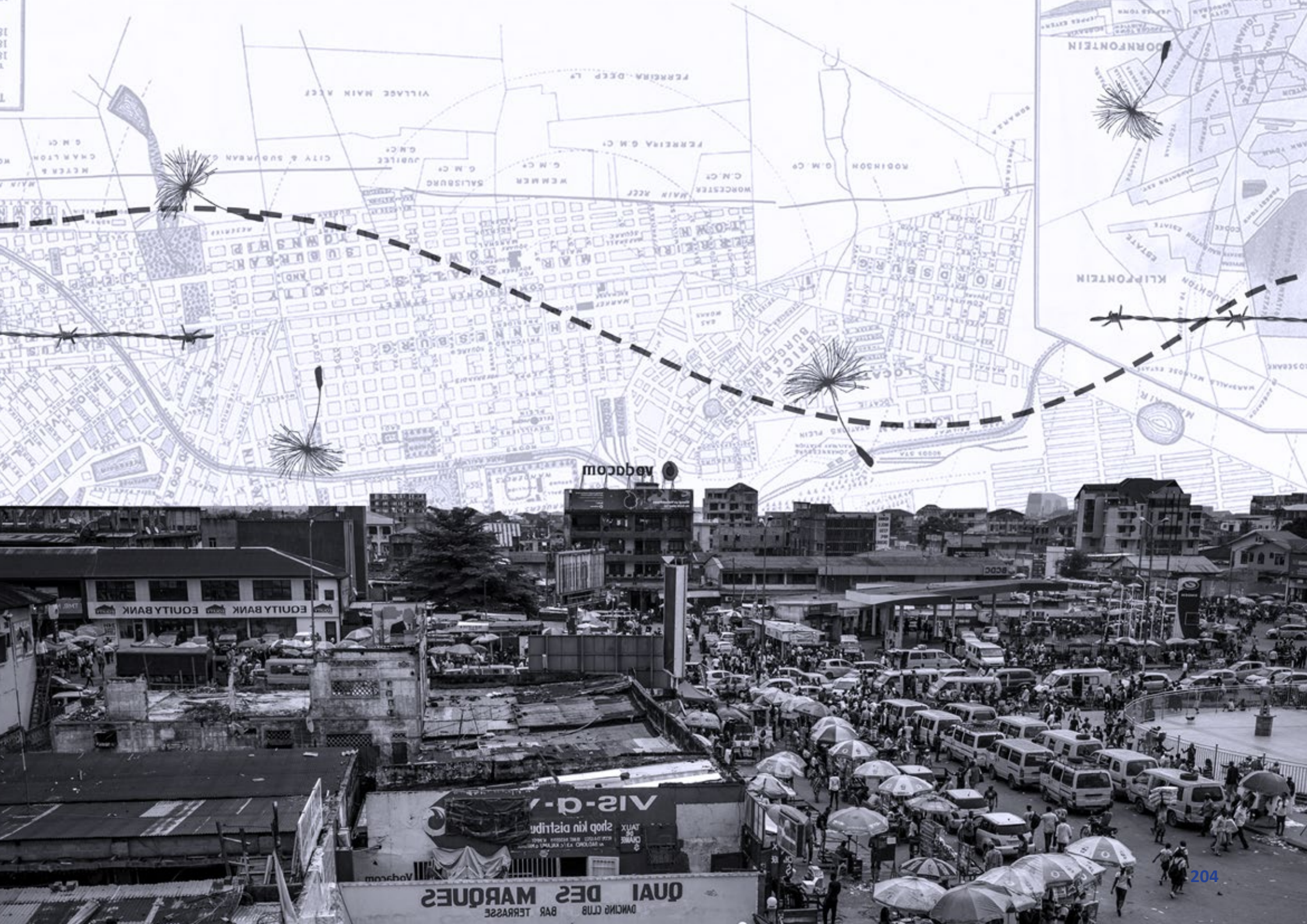
Annexure C Coverage Development requirements

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