

RESEARCH REPORT

Empowering Communities:

The Role of Public Interest Design Architects in Addressing Fundamental Human Needs through Alternative Building Technologies in Melusi

Darren Franciscus

Dr Carin Combrinck (Supervisor)

Department of Architecture

Faculty of Engineering, the Built Environment, and Information Technology

University of Pretoria

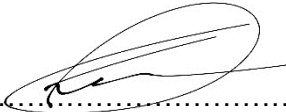
South Africa

DECLARATION OF ORIGINALITY

I declare that the mini-dissertation, Empowering Communities: The Role of Public Interest Design Architects in Addressing Fundamental Human Needs through Alternative Building Technologies in Melusi, which has been submitted in fulfilment of part of the requirements for the module of Design Investigative Treatise (DIT 801), at the University of Pretoria, is my work and has not previously been submitted by me for any degree at the University of Pretoria or any other tertiary institution.

I declare that I obtained the applicable research ethics approval to conduct the research that has been described in this dissertation.

I declare that I have observed the ethical standards required in terms of the University of Pretoria's ethical code for researchers and have followed the policy guidelines for responsible research.

Signature:

Date: 28 June 2024

Acknowledgements

Firstly, I would like to give thanks to my heavenly father, who has graciously supplied me with the necessary strength to undertake my studies and pursue this degree. Furthermore, to my mom, Imelda Franciscus, who has raised me to become the man I am today, supporting every bold choice that has led me to leave Namibia to pursue my studies abroad. Thank you for working tirelessly to ensure that I may undertake my studies to the best of my ability.

Thank you to Lara, Lané, and Louné for undertaking this year with me. Thank you to the Boukunde class of 2024, who have collaborated openly and inspired me to always push my limits in terms of what can be delivered in my work.

In particular, I would like to pay special thanks to my family away from home. Monique, David, Grant, Jeannie, and Lee, you have all made being so far away from my family so much easier and have made Pretoria feel like home. Thank you for your limitless support and constant reassurance.

Thank you to the Namibia University of Science and Technology for introducing me to the deeper world of architecture and establishing the foundations of my normative position on the discipline. Thank you to the Boukunde faculty who have received me with open arms and brought new horizons to my understanding of architecture.

To the people of Melusi, a massive thank you for opening your doors for me to undertake this study. I have felt safe within your home and have learnt so much more about the value of listening. I hope that my work may be a noteworthy token of appreciation for the hospitality you all have shown me.

Finally, a massive thank you must be given to my supervisor Dr Carin Combrinck. You have been an incredible inspiration to me in the way that I view architecture and the way I would one day wish to run my own practice. Your constant reassurance over the past two years lifts has left a mark on me that I struggle to put into words. Thank you for believing in me and challenging me in the ways I undertake my own work.

Abstract

South African cities largely continue to exhibit the enduring scars of apartheid which due to discriminatory housing policies have left stark socio-economic divides in their wake. This is evidenced by the perpetual growth of the national housing backlog, as national supply of low-cost housing has failed to meet the demand of those who need it most. In response to this, government has explored the use of alternative building technologies (ABTs) in the delivery of low-cost housing to meet this growing demand. However, these ABTs have faced low rates of adoption in emerging developments where such solutions have been proposed. Furthermore, national housing policies concerned with the development of informal settlements have yet to acknowledge the role of the architectural profession role in the engagement and upgrading process involving these communities.

Public interest design (PID) looks to provide a theoretical underpinning for architects understanding the needs of a project's end-user to provide work that is socially responsive to its wider environment. Through this understanding of PID, this study applies the human scale development (HSD) framework of Manfred Max-Neef to analysis the needs, satisfiers, and impediments of Melusi's residents surrounding the building technologies present within the settlement. This is done to expand the discussions surrounding ABTs by recognising the different forms of grassroots design practice (GDP) present within the settlement.

This research followed a pragmatic approach through narrative inquiry which featured the use of both quantitative and quantitative data in the form of documented experiences of residents and observations made within the settlement of Melusi. Methods such as surveys and participatory games as research tools formed part of an intensive community engagement process spanning two years alongside a transdisciplinary team of researchers.

Key findings noted the opportunities for architects to operate within informal settlement upgrading policies through PID practice models such as GDP. Additionally, the study noted that the needs of subsistence, creation, and understanding were currently being actualised through Melusi's own forms of localised building technologies. Furthermore, it found that this improved understanding of existent forms of building technologies within the settlement may further expand the definition of ABTs suggesting a modification of the term itself.

Keywords: Human Scale Development | Public Interest Design | Alternative Building Technologies | Informal Settlement Upgrading | Autonomous Housing | Grassroots Design Practice

Table of Contents

- 1 Introduction**
 - 1.1. Background**
 - 1.1.1. History of Informal Settlement Development in South Africa
 - 1.1.2. Research Context | Melusi
 - 1.1.3. Melusi Youth Development Organisation (MYDO)
 - 1.2. Research problem**
 - 1.3. Research questions**
- 2. Literature review/ Theoretical framework**
 - 2.1. Introduction**
 - 2.2. Manifesting Human Scale Development Through Architectural Practice**
 - 2.2.1. A Shift in Economic Perspective
 - 2.2.2. A Matrix of Fundamental Needs and Satisfiers
 - 2.2.3. Approaching HSD Through PID
 - 2.3. Informality as the Solution to the Housing Backlog of South Africa**
 - 2.3.1. The Benefits of Housing by People
 - 2.3.2. Managing the Informal within Formal Systems
 - 2.4. Public Interest Design in South Africa**
 - 2.4.1. Public Interest Design Background & Theory
 - 2.4.2. Public Interest Design in Architectural Practice
 - 2.4.3. Informal Settlement Development Through PID
 - 2.5. Alternative Building Technologies**
 - 2.5.1. Defining Alternative Building Technologies
 - 2.5.2. The Case for Alternative Building Technologies within Informal Settlements
 - 2.5.3. Sustainable Route for the Adoption of ABTs in Melusi
 - 2.5.4. Applying ABTS through PID
- 3. Research methodology**
 - 3.1. Theoretical Perspective**
 - 3.2. Ethical Considerations**
 - 3.3. Sample Size**
 - 3.4. Thematic Data Analysis**
 - 3.5. 2023 Co-Creating Wellness Studio**
 - 3.6. 2024 Co-Creating Wellness Studio (Human Scale Development Matrix)**
- 4. Results**
 - 4.1. 2023 Co-Creating Wellness Data**
 - 4.1.1. The Need for Subsistence
 - 4.1.2. The Need for Creation

4.1.3. The Need for Understanding

4.2. 2024 Co-Creating Wellness Data

4.2.1. The Need for Subsistence

- i. Satisfiers of Subsistence
- ii. Impediments of Subsistence
- iii. Utopia of Subsistence

4.2.2. The Need for Creation

- i. Satisfiers of Creation
- ii. Impediments of Creation
- iii. Utopia of Creation

4.2.3. The Need for Understanding

- i. Satisfiers of Understanding
- ii. Impediments of Understanding
- iii. Utopia of Understanding

5. Discussion

5.1. Introduction

5.2. Human Scale Development in Melusi

- 5.2.1. Need for Subsistence
- 5.2.2. Need for Creation
- 5.2.3. Need for Understanding

5.3. Co-ordination with Public Interest Design

- 5.3.1. Grassroots Design Practice in Melusi
- 5.3.2. Architect's Role in Facilitating Future Development

5.4. Supporting Perspective of Housing by People

5.5. An Update on Alternative Building Technology Understanding

- 5.5.1. A More Appropriate Definition for ABTs in Melusi
- 5.5.2. Building Technologies and Human Scale Development

6. Conclusion

7. References

- i. **Bibliography**
- ii. **List of Figures**

8. Appendices

- i. **Consolidated Matrix of Satisfiers**
- ii. **Consolidated Matrix of Impediments**
- iii. **Consolidated Matrix of Utopia**

1 Introduction and background

1.1 Background

1.1.1. History of Informal Settlement Development in South Africa

South Africa outlines within Section 26 of its constitution that everyone has the right to have access to adequate forms of housing and that it is incumbent on the state, to ensure that the realisation of this right is brought through reasonable legislative measures (Department of Human Settlements 2021). Through the process of rapid urbanisation and a growing young population, the United Nations (2019) deems that the construction of better cities is critical for future generations. Hugo (2023) states that the construction of such cities, however, is not bound to the confines of formality in their development, many of which are often self-built autonomously in the form of informal settlements. Moreover, Pieterse (2011) states that Sub-Saharan Africa may classify 64% of its cities as informal, citing large-scale deficiencies in terms of insecure tenure, poor structural building conditions and limited access to sufficient water and sanitation facilities. This state of informality positions itself as an important conversational node noteworthy for undertaking the future development of cities. Furthermore, this brings to light deeper intrinsic questions regarding how architects and spatial planners alike can engage with such communities.

According to the DHS (2021), South Africa is currently home to over 2600 informal settlements. The focus of this study takes place within the settlement of Melusi, located in the north-western industrial zone of the City of Tshwane (CoT). As an informal settlement that has seen some progress in the process of recognition and formalisation through the CoT municipality. The settlement highlights itself as an appropriate subject for analysis in this study, which aims to advocate for better community-led choices in the upgrading process of informal settlements. As part of this, the current macroeconomic developmental models as cited by Pieterse (2011), shall be called into question. He states that these models often perpetuate the condition of informality within South Africa as they attempt to replace the existing conditions of informality (Pieterse 2011). These views are further reflected by the Human-Scale Development (HSD) Framework outlined by Manfred Max-Neef (1991). This framework changes the views of the macro-economic-based development models by proposing that development within such struggling contexts could greatly benefit from the satisfaction of fundamental human needs as the key metric of success.

Furthermore, for architects and spatial planners, these initiatives and theories can be implemented spatially through the praxis methods and typology of Public Interest Design (PID). Similarly, to the discourse on HSD, PID considers the understanding of fundamental

human needs of the end-users of design proposals and interventions as starting points of great significance (Combrinck 2024). Through meaningful community engagement within the settlement of Melusi, a true representation of such needs will be realised and will inform different methods of approach to satisfy them holistically. Building on the datasets collected through the joint efforts of the Unit for Urban Citizen (UUC) studios of the Department of Architecture at the University of Pretoria (UP) and the Reality Studio of Chalmers University, an intensive needs-finding process has been conducted. This process has uncovered a rich understanding of Melusi's current impediments, satisfiers, and desired conditions for actualizing these needs. The findings will provide future proposals and design interventions with a strong foundation upon which these projects can be built.

In addition, the research into alternative building technologies (ABTs) in this dissertation will be understood according to the definition by Adetoto, Windapo & Pomponi (2022), who describe these as any expertise, materials, skills, or tools that would rather not be deemed as conventional to accelerate the delivery of more affordable and sustainable housing without any compromise in the quality thereof. One of the key issues surrounding the discourse on ABTs, despite their potential to fill South Africa's housing gap, is that their use within the provision of low-cost housing has remained limited, this is because brick-and-mortar constructions remain to be deemed the most desirable by the typical citizen (Botes 2013). This research understands the social conditions surrounding these building technologies to be of great importance when considering how architects can facilitate better design choices on behalf of others (Kim 2018).

1.1.2. Research Context | Melusi

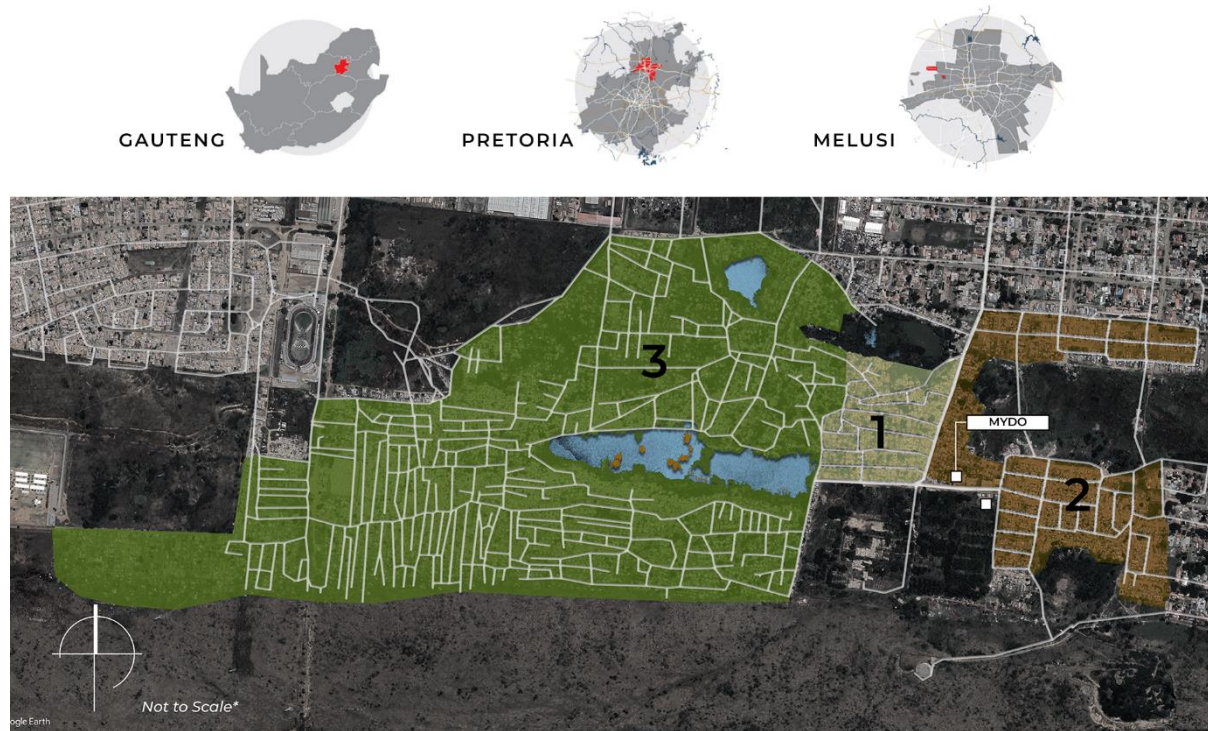


Figure 01: *Image of Melusi and Surrounding Context (Author 2024)*

The research takes place in the informal settlement of Melusi, located in the west of the City of Tshwane. Bordering the neighbourhoods of Clarens and Booyens the settlement lies partially within the Kirkney suburb with the Witwatersberg Ridge framing it toward the south. Established around 2008, the settlement's history and reasons for its formation remain under-documented. Most assumptions regarding its formation speculate that vacant land was the primary reason for its formation.

Melusi has experienced exponential growth since its establishment, currently inhabiting over 27,000 residents (Hugo 2023). The settlement features three regions (Figure 01) which vary in density, access to municipal services, and formalisation. Melusi 2 features the highest level of formalisation, with the highest number of dwellings having access to water and electricity (Unit for Urban Citizenship 2023). The settlement is indicative of many informal settlements around South Africa, with many of the dwellings residents are residing in being constructed from non-conventional materials such as corrugated sheeting and wattle poles.

Moreover, Melusi stands as a testament to the survival strategies of a growing urban population in response to exclusionary practices from the wider housing economy and the growing housing backlog in South Africa.

1.1.2. Melusi Youth Development Organisation (MYDO)



Figure 02: Image of Melusi Youth Development Organisation (UUC 2023)

The Melusi Youth Development Organisation (MYDO) is a registered non-profit organisation founded by Hlakudi Malatjie in 2015. The organisation stands as a hopeful sign of prosperity for the residents of Melusi. MYDO aims to facilitate positive change in Melusi's youth's lives through supportive educational support and personal development programmes. It currently offers four programmes in support of this.

1. Educational Support Programme
2. Feeding Scheme & After-School Care
3. Sports & Arts Programme
4. Youth Empowerment & Entrepreneurship Programme (YEPP)

Through collaborations with the University of Pretoria (UP), MYDO has been a part of various research projects supporting development and community engagement between students and the residents of Melusi. These include projects such as the ongoing Co-creating Wellness (CCW) studios which form part of the *Stitching the City* research project funded by the National Research Foundation (NRF) and the number of co-designed architectural installations (Figure 03) alongside honours students from the UP's Department of Architecture.



Figure 03: *Shading Structure & Tuckshop Built as part of the Co-Design Studio in 2023*
(UUC 2023)

1.1.3. Co-Creating Wellness Studio

The CCW studio forms part of the Unit for Urban Citizenship (UUC) at the UP Department of Architecture. The UUC aims to foster the advancement of civic engagement and participatory development amid the evolving complex nature of African urbanism (University of Pretoria n.d.). Moreover, the unit targets the following aims:

1. Facilitation of transdisciplinary research on urban citizenship.
2. Concentrate on community engagement and enhance social impact through evidence-based, multi-level interventions.
3. To advance the socio-economic and spatial transformation goals of the national development agenda.
4. Implement the UN Sustainable Development Goals.

The studio set itself out to map the existing lived-in conditions and experiences of Melusi residents through a partnership approach between local stakeholders and members of the community. This information gathered offers great input to the development of a shared vision that would in turn place the CoT in a position that understands and can cater for the complex needs and requirements of residents within the settlement (Combrinck 2023). As referred to in the UISP, there exists a pre-feasibility stage that should be undertaken by the CoT as a requirement before an application for funding to be made to the provincial MEC (Combrinck

2023). Therefore, the CCW studio takes up the position of assisting within this phase, resulting in the unblocking of issues that would usually derail or slow down this process (Combrinck 2023).

1.2 Research problem

This research paper aims to expand on the definition proposed by ABTs by acknowledging the existent forms of building technologies made use of by the residents of Melusi. This shall be understood through the guiding lens of PID and the HSD framework to better understand the needs of Melusi's inhabitants to unpack how such building technologies may satisfy their fundamental human needs.

1.3 Research Questions

The study aims to understand the connections between the theoretical discourse surrounding ABT research within the field of PID, ultimately informing how the application of ABTs within informal contexts such as Melusi could in turn satisfy the fundamental basic needs of residents according to the HSD Framework (Max-Neef 1991). Therefore, the main research question underpinning this mini dissertation can be stated as follows:

How can architects working in the Public Interest Design aid in improving the understanding of ABTs in Melusi to satisfy the residents' needs for Subsistence, Creation and Understanding as outlined in the HSD Framework (Max Neef 1991)?

To answer this question, it is important that the following sub-questions can be answered to cover the multi-faceted nature of this research:

1. *What are the links between the theoretical frameworks of Human Scale Development (Max Neef 1991), Alternative Building Technologies, and Housing by People (Turner 1976) when understood through the lens of PID research?*
2. *What current methods of building have been observed within Melusi that could suggest a change in the current understanding of ABTs as a response to the growing housing backlog in South Africa?*
3. *How have the ABTs used by Melusi's residents been able to synergically satisfy the subsistence, creation and understanding needs of residents within Melusi?*

2 Literature Review

2.1. Introduction

South Africa at large has been plagued with an ever-growing housing backlog; this comes as a result of the failures previous attempts had at addressing post-apartheid housing policies (Tissington 2010). Subsequently, this issue has manifested itself across the country's urban fabric through the spread of informal settlements. As has been seen in the case of Melusi.

Despite what may be viewed as an entirely bleak situation concerning the lack of proper housing for those living in informal settlements like Melusi, South Africa has thus formulated a progressive approach to addressing these issues. The *National Housing Code* (2009) of South Africa recognises the prevalence of informal settlements and includes several set-out frameworks and approaches fit for dealing with them (Tissington 2010). Moreover, as part of this the DHS has established the *Breaking New Ground* (BNG) policy as a means to promote the realisation of an integrated society through developing sustainable human settlements and adequate housing for the country's people (Moraba 2013: 10). The *Upgrading Informal Settlement Program* (UISP), is one such approach that aims at intervening within informal settlements (DHS 2021). It makes use of a phased and structured method for the in-situ upgrading process of these settlements and aims to secure tenureship security for residents through a participatory process (Isandla Institute 2017)

These attitudes toward informal settlements echo many of the sentiments outlined by British architect, John F.C. Turner (1976), whose experiences working within Latin American human settlements across Peru formed his theoretical stance on the matter of informality (Awan, Schneider & Till 2011: 202). He suggests that housing is best suited when provided and managed by the end-users that dwell in them (Awan et al. 2011: 202).

In addition, this does not negate the potential benefit that could be brought about through outside intervention. Development of such contexts requires a multi-stakeholder process that begins through a deep understanding of the community needs and how these may be actualised. Max-Neef's (1991) HSD Framework outlines a process in which such needs may be analysed and understood through meaningful community engagement to aid in improving future efforts of development aimed centrally at satisfying what he defines as fundamental basic human needs.

Therefore, as a means of understanding how architects facilitating this development process through the lens of PID can be realised tangibly, the study explored how improving the

understanding ABTs could aid autonomous forms of housing by people in informal settlements. The DHS views the application of ABTs as one way in which the rising housing backlog can be addressed (NHBRC 2020: 1). These are seen as a method of increasing cost efficiency and deliverability of government-subsidised low-income housing without compromising on the quality thereof (NHBRC 2020; SAHIF 2020; Grady, Muzila, O'Neill & Tanner 2019; Botes 2013). The adoption of these ABTs has however faced some difficulties. Beneficiaries of homes employing the use of ABTs view these materials/systems with scepticism, seeing them as inferior to conventional building construction (Botes 2013). In a 2010 review investigating the slow adoption rates of ABTs, the DHS noted that several structural defects had been found in completed structures making use of them and many subsequently had to be demolished due to the poor workmanship of the final product (Botes 2013: 83). These factors have collectively led to a negative perception of ABTs, thereby hindering the large-scale rollout of such technologies in the future (DHS 2010)

Moreover, Grady et al. 2019 note that communities play a central role in the acceptance of ABTs and similarly, the factors influencing the development of informal settlements (Cirolia, Görgens, van Donk, Smit & Drimie 2016). Considering this, this section will further explore how theory concerning HSD, PID praxis and further ABT research connect. Moreover, this will be framed by the backdrop surrounding the development of marginalised contexts much like Melusi to appropriate the research in wider arching discussion in addressing the housing backlog in South Africa.

2.2. Manifesting Human Scale Development Through Architectural Practice

2.2.1. A Shift in the Economic Perspective

Manfred Max Neef's (1991) HSD approach challenges a change in perspective on where the focus of the global economy resides. He writes that the purpose of the economy is oftentimes forgotten stating: *the purpose of the economy is to serve the people and not the people to serve the economy* (Max-Neef 1991: 21). Therefore, what could remedy this misinterpretation of what we understand as the economy could be a change in the wording used to refer to the concepts being discussed here. The discussions surrounding global economic development often conflate themselves with themes of *chrematistics*, which would be its more appropriate definition (Cruz, Stahel & Max-Neef 2009).

To unpack this difference, reference could be made to the distinction Aristotle (1967) makes between the term *oikonomía* (the art of household management) and *khrēmatistiké* (the art of acquisition) (Cruz et al. 2009). Aristotle's classic distinction between *oikonomía* and *chrematistics* highlights a fundamental difference in the theory pertaining to economics (Cruz et al. 2009). *Oikonomía* involves managing household resources to produce goods for self-consumption and improving well-being, encompassing activities like agriculture, crafts, hunting, mining, and even warfare. It also includes discussions on meaning, value, ethics, and aesthetics, focusing on what the author describes as living well (Aristotle 1967). In this framework, the themes of chrematistics, including ideas surrounding the field of commerce, play a secondary role (Cruz et al. 2009). Aristotle (1967) further distinguishes between two types of commerce within chrematistics: one that supports *oikonomía* by exchanging surplus goods for needed ones, and another focused on accumulating wealth through trade (Cruz et al. 2009). He considered the latter, which prioritises money-making over the well-being of households, as *unnatural* and separate from the principles of *oikonomía* (Cruz et al. 2009).

Consequently, in the modern day, the use of the term economics as opposed to chrematistics narrowly defines the range of study, ultimately excluding the humanity at play within discussions surrounding where development should be oriented (Cruz et al. 2009). The HSD approach (Max-Neef 1991) places its main concern back to the economy being at service to its people. First appearing in the Dag Hammarskjöld Foundation (DHF) in 1986, the framework fell in line with Aristotle's (1967) concept of the *oikonomía*, and more specifically *the art of living well*.

2.2.2. A Matrix of Fundamental Needs and Satisfiers

The HSD framework is formed around the concept of actualising the fundamental human needs through the realisation of satisfiers. In doing so, Max-Neef (1991) tabulates a system that features no hierarchical linearities, placing neither's importance over the next. He emphasises the difference between needs and satisfiers, with needs being seen as constants throughout human history and satisfiers taking multiple forms to actualise these needs (Max-Neef 1991: 30-31). The needs are shown in a matrix organising them according to axiological categories of *subsistence, protection, affection, understanding, participation idleness, creation, identity, and freedom*. Furthermore, the matrix includes these needs according to four existential categories as well as listing those as *being, having, doing, and interacting* (Table 01).

HSD MATRIX OF NEEDS & SATISFIERS					
		EXISTENTIAL			
		BEING	HAVING	DOING	INTERACTING
AXIOLOGICAL	SUBSISTENCE	Physical health, mental health, Equilibrium, Sense of humour, Adaptability	Food, Shelter Work	Food, Procreation, Rest, Work	Living Environment, Social Settings
	PROTECTION	Care, Adaptability, Autonomy, Equilibrium, Solidarity	Insurance, Savings, Social Security, Health Systems, Rights Family	Cooperation, Prevention, Caring, Assistance	Living / Social Environment
	AFFECTION	Self-Esteem, Solidarity, Generosity, Receptiveness	Relationships	Making Love, Caring for others, Expressing Emotions	Privacy, Intimacy, Communal Space
	UNDERSTANDING	Critical conscience, Receptiveness, Curiosity	Literature, Teachers, Educational policies	Investigate, Study, Experiment, Educate	Schools, Churches, Universities, Communal Spaces
	PARTICIPATION	Adaptability, Receptiveness, Solidarity	Rights, Responsibilities, Duties	Become Affiliated, Cooperate, Propose	Settings of Participative Interaction, Parties
	IDLENESS	Curiosity, Receptiveness, imagination	Games, Spectacles, Clubs, Parties, Peace of Mind	Daydreaming, Resting, Reflecting	Privacy, Intimacy, Spaces of closeness, Free time
	CREATION	Passion, Determination, Intuition, Imagination	Abilities, Skills, Workings, Objects	Making, Inventing, Designing	Productive and Feedback settings, Workshops
	IDENTITY	Sense of belonging, Consistency, Differentiation	Symbiose, Language, Religion, Habits, Customs	Commitment to Oneself, Getting to know yourself	Social rhythms, Everyday settings
	FREEDOM	Autonomy, Self-Esteem, Determination	Equal rights	Dissent, Choose to be different from, Run risks	Temporal/spatial plasticity

Table 01: *The HSD Matrix of Needs and Satisfiers* (Max-Neef 1991: 33-34)

This understanding of needs moves away from the common example often cited by American psychologist Abraham Maslow (1943) who proposed the self-titled hierarchy of needs placing them in an order where one would need to be realised to fulfil the next. Max-Neef's departure of the prepotency notable within Maslow's work has been received with praise from academics studying the framework (Gasper 2022).

2.2.3. Approaching HSD Needs Through PID

In terms of PID, the literature studied sees an overlap in the theoretical frameworks of both HSD and PID. This concern centres the focus on the needs of those affected by its application, with PID considering the importance of understanding the end user's needs as an important starting point for engagement before any proposals of design interventions can break ground (Combrinck 2024). As stated by Abendroth & Bell (2015), there exists a need to define the public benefits of design based on the needs of individuals and corporations to extend its practice to one hundred percent of the population. Kim (2018) outlines a taxonomy of nine different practice modules of PID. In his description of the models of *design advocacy* and *architect-facilitator*, the latter expresses that architects must be more responsive to the

changing needs of diverse communities to better realise community-centred projects (Kim 2018). *Advocacy design* as described by Kim (2018) sees designers as having the ability meet the needs of people facing crises by representing them through the design of spaces that can satisfy these needs directly.

Community participation is seen as vital to both processes of HSD and PID: Max-Neef (1991: 27) views this as a potential satisfier to the need for *participation* as positioned within the matrix itself. As a part of this, PID includes varying forms of social construction, building opportunities for participation between people within communities (Kim 2018; Bell 2013). In addition, the theory of HSD advocates for the avoidance of top-down decision-making approaches and instead focuses on change being brought about by *the people*. Max-Neef (1991: 8) states that it is not possible for people to actively participate in systems that are organised in such a hierarchy where the decisions flow from the top down. These views are echoed throughout many of the theories surrounding PID praxis. Bottom-up approaches could also be viewed as a form of self-reliance and self-management, as one of the pertinent voices on the subject of everyday life and *the social production of space* from which PID is greatly derived, the author Henri Lefebvre (1991: 342-343) states that power wielded by the top-down state control should be intended to dissolve under the agency of its citizens (Bower 2016).

Furthermore, these theories supporting bottom-up approaches facilitate the empowerment of communities. Max-Neef (1991: 60) highlights how dependence can occur from top-down systems and states that on the contrary, a relationship between the micro and macro is built on self-reliance from the bottom up and can empower individuals and ultimately create nationwide self-reliance.

Anderson (2014) cites the different ways in which PID's theoretical ideas connect space to the empowerment of communities making use of it. The writer asserts that architecture can empower communities when they actively engage in and lead the decision-making processes. (Anderson 2014).

2.2.4. Knowledge Gaps within Human Scale Development Discourse

The literature surrounding HSD does not make direct mention of PID or moreover explicitly include architectural theory within its framework. The discourse does however note *creation* as a fundamental human need which makes the inclusion of design-based activities as satisfiers. Such activities form the foundation of architectural work. In addition to this, Max-Neef (1991) cites themes of infrastructure and environmental conditions as a part of one's

lived-in experiences and factors to consider in the discussion of one's needs. This notes the possible linkage of HSD to wider architectural research. In particular, the needs analysis proposed by the HSD may also be proposed as part of a project's pre-feasibility phase as a relevant tool in the analysis of a project's end-users.

2.3. Informality as the Solution to the Housing Backlog of South Africa

2.3.1 The Benefits of Housing by People

The consensus surrounding the growth of informal settlements is largely perceived as negative by many governments and citizens alike within South Africa and globally (Msimang 2017; Cirolia et al. 2016; Huchzermeyer 2006). Turner (1976) notes that while this may be true when considering the lack of access to basic services and the poor overall well-being of those living in these settlements, there is a counterargument to consider. This concerns the systems underlying the internal networks of self-governance and autonomous methods of providing homes for inhabitants within informal settlements (Turner 1976).

Turner (1976) challenges these views regarding informal settlements in his book *Housing by People*. He proposes the idea of looking at informality as a potential solution to global housing shortages dependent on the larger housing economy being able to provide for the people it is meant to serve (Turner 1976). Bower (2016) writes on Turner's findings, centring the discussion around how the anarchistic housing practices prevalent in informal settlements are evidence of the realisation of Lefvbre's theory surrounding the social production of space. The benefits embodied within these autonomous spaces and forms of housing within the informal highlight the resourcefulness of citizens operating under self-management (Turner 1976). Turner (1976: xxxiv) notes specifically that many communities living below the poverty line in high-income countries (HICs) often fare worse than those in low and middle-income countries (LMICs). This is because those in developing contexts often have the freedom to manoeuvre around bureaucratic systems (Turner 1976: xxxiv). This has been lost by the poor living within the richer countries as they have been deprived of personal autonomy and heavily rely on the systems of welfare available to them (Turner 1976: xxxiv).

Furthermore, Turner (1976) notes that there exists a form of efficiency embedded within the informality of such settlements. In breaking away from the limitations of local and national policies along with inaccessible government subsidies for mass housing. The implementation of which often derails the momentum of community-based action. Therefore, communities can

mobilise themselves and as a result, create the grassroots forms of sustainable societal development which top-down government-led policies may involuntarily upset (Bower 2016).

2.3.2 Managing the Informal within Formal Systems

While these points may hint at informality being an all-encompassing solution to the urban development conundrum and housing backlog, there is still a need to work under the formal systems that ultimately govern these contexts. Through the practice and theory of PID, architects must find a way to justify the service they can offer as a means of bridging the gap between informality and formal bureaucratic systems that ensure the practice is followed through responsibility and following the relevant standards needed. PID can provide a form of activism for those in underserved communities: Moreover, Anderson (2014) states that PID extends the architectural discipline beyond merely designing buildings to encompass the creation of new methods for engaging with the political dynamics that influence theories, practices, academic institutions, policies, and communities.

2.4. Public Interest Design in South Africa

2.4.1 Public Interest Design Background & Theory

Public Interest Design (PID) is fundamentally understood as the architecture of social engagement as described by Bell (2013: 76). It works in the ethical stance that architects have a responsibility to work in the interest of the wider public and social good. This frames PID as a social process and less so as architecture, which is concerned with the production of formal objects (Ferdous & Bell 2020: 85). This also expands on architecture in terms of more dispersed interests as opposed to the limited interests of a particular individual or group (Ferdous & Bell 2020: 85). Moreover, PID originates from the theoretical roots of Lefebvre's (1991) concept of *the right to the city*, in which he argued that the residents of the city have the right to produce, reproduce and make use of space. However, he also claims that the obstructions caused by private, individual, and corporate interests prevent this bottom-up process from being realised (Ferdous & Bell 2020: 86).

In addition, De Certeau (1984) contributed to the theory of PID through his work in understanding the importance of *the everyday*. He unpacks this concept by describing how normal, ordinary practices manoeuvre around and through structures set in place by established formal social powers (Anderson 2014). Stemming through this, Chase, Crawford

& Kaliski (2008) cites Lefebvre, defining the relationship of *the everyday* with the idea of public space, describing this as the connective tissue that binds together daily life (Anderson 2014).

These theories that have been summarised, point to the importance of a participatory process needed to understand these concepts in real-world contexts. This is done through meaningful community engagement practices that provide participants with varying degrees of agency as well as a sense of ownership of the spaces they inhabit, offering authorship of its development. Awan Schneider & Till (2011) present relevant global examples of architects and spatial planners who have explored different ways of creating what they call spatial agency in their book entitled *Spatial Agency: Other Ways of Doing Architecture*. The book delineates itself from conventional architectural literature within its introduction, framing what is conventionally understood in the term *architectural* and lining up its definition of the term *spatial agency*. Key takeaways include agency's description as the ability of an individual to act as an independent party away from the constraints of societal structures which organise the realms of their existence (Awan et al. 2011: 30). The authors go on to describe the effects that these social powers have had on the way architects operate, limiting them to the role of technical facilitators whose decisions are effectively controlled by others (Awan et al. 2011: 30). The examples presented show various forms of PID that have been realised throughout history and point to how architects may facilitate such endeavours in the South African context.

2.4.2 Public Interest Design in Architectural Practice

The architectural profession often struggles to justify its importance for the broader public good. However, architects, with their specialised abstract knowledge and training in strategic areas of responsibility, hold a central role in society (Sverrisdóttir & Mathiesen 2014). Osman (2015) writes that this proposes the potential for architects to offer their spatial, technical, and social expertise to the service of the wider public. Unfortunately, the industry has remained relatively isolated and elitist (Osman 2015). The culture surrounding architectural work may be partly to blame for this, as the profession has mainly been concerned with the production of static objects, with awards, publications and reviews reflecting this (Awan et al. 2011: 27-28).

Hence, as architects are seen almost exclusively as experts in design, aesthetics and form of the final project have dominated the discussion around architectural work and as a result have become somewhat of a security blanket for architects as these aspects fall greatly within their control (Awan et al. 2011). PID however, removes this blanket, and requires architects to focus on the more volatile aspects of the building (Awan et al. 2011: 27). These include factors such

as its production, potential temporality and the project's existence in society and nature (Awan et al. 2011: 27).

PID calls for a user-centred approach to design, which Osman (2015) states sits in direct opposition to the privileged role architects embody as designers. This is seen as highly problematic and irrelevant within the complex, politically polarised contexts of informal settlements (Osman 2015). Combrinck (2015: 3–4) posits that the lack of the architectural profession's presence within the work taking place in informal settlements is due to the inability architects have shown to meaningfully engaging with such contexts as this fundamentally challenges the constructs of professional architectural service. There has been a rallying cry for designers to begin serving what can be described as *the 98% without architects* (Bell 2015: 12). In a chapter discussing the state of PID, Bell (2015) emphasises the importance of aligning a mission and establishing standardised guidelines to formalise PID as a viable discipline and practice, which is crucial for the ethical implementation of its work. In the case of South Africa, this process has already begun and can be seen in the current identification of work for the architectural profession (South Africa. Architectural Profession Act 44 of 2000). It states that it is the responsibility of the architect to consider the urban and social impact of their built interventions (South Africa. Architectural Profession Act 44 of 2000). This extends beyond the physical building as far as it is concerned with environmental, cultural, and social value (South Africa. Architectural Profession Act 44 of 2000).

Kim (2018) lists nine categories of PID (Figure 04) but insists that these are to serve only as a conceptual taxonomy of what could be defined within PID Praxis. In the context of this paper, the following have been deemed the most relevant for further analysis in the context of Melusi:

- **Advocacy Design**
- **Social Construction**
- **Grassroots Design Practice** (Kim 2018) / **Grounded Architectural Practice** (Perold, Donaldson & Devisch 2019)

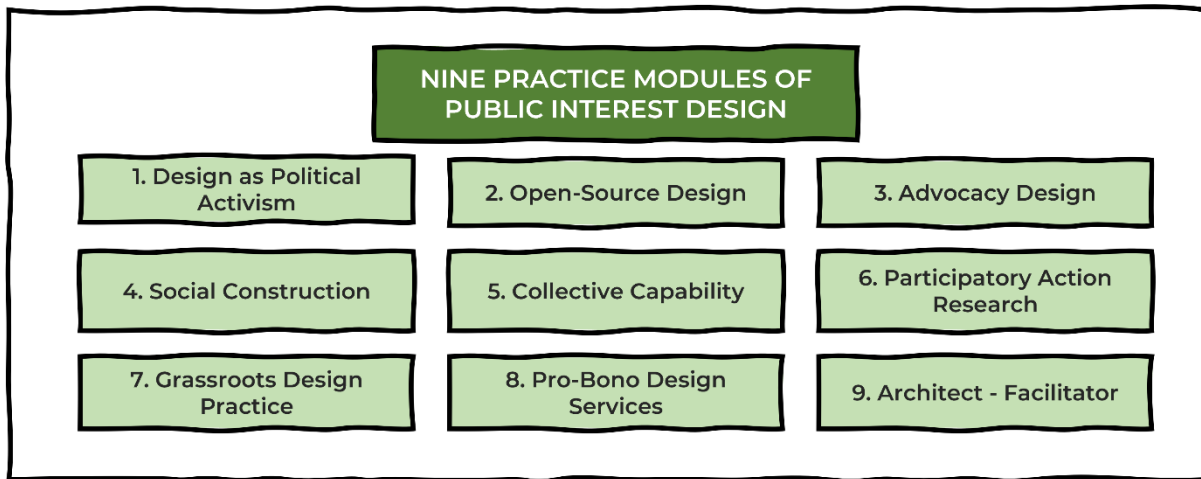


Figure 04: *Nine Practice Modules of PID* (Kim 2018)

Advocacy Design

This approach focuses on addressing humanitarian crises worldwide by addressing the urgent needs in such dire circumstances (Kim 2018). The architectural profession can position itself in a role of advocacy for building and spatial-based solutions to the problems presented by such conditions. As these issues are raised, however, this does not place the architects or relevant spatial professionals as the ultimate authority on each decision made going forward. For advocacy to be achieved, the voices of the end-users must be brought forward to build an authentic state of consciousness that manifests in a responsive built environment (Bennett & Combrinck 2016). This should therefore succeed in amplifying the needs and voices of communities the resulting designs and interventions set out to advocate for.

Social Construction

Kim (2018) discusses social construction as the process of *social building*, which involves the creation of spaces and opportunities for social interaction. The skills designers and spatial practitioners acquired through their experiences designing complex construction processes allow them to assist the participants within such communities in collective decision-making and social responsiveness (Kim 2018). These concepts could inform how spaces designed around achieving a specific goal could also engage the communities at large to act by said goal.

Grassroots Design Practice / Grounded Architectural Practice

Informal settlements have been placed in a theoretical lens that fails to acknowledge the agency, skills, endurance, and effort that account for the livelihood strategies of the urban population (Perold et al. 2019). Where the term *Grassroots Design Practice* is described by Kim (2018) as an effort led by a small team of non-profit organisations engaging in efforts of revitalisation. Grounded architectural practice (GAP) expands on the specificities and benefits of an architectural lens within these efforts (Perold et al. 2019). Fundamentally the contexts of informality suffer from a lack of access to many tools such as funding and are as a result hamstrung in how many projects can see their realisation. However, Aravena (2015) states that what we can learn from architecture is that through a scarcity of means, there exists the opportunity to amplify what is available as opposed to complaining about what may be missing.

Furthermore, Murray (2008: 33) describes the state of informal settlements as *incubators for inventive survival strategies* echoing the sentiments referenced by Turner (1976) in his reasoning for viewing these settlements as a potential solution to urban development issues in LMICs. GAP occupies the territory where the boundaries of the formal and informal have been removed (Perold et al. 2019). Combrinck (2015) states that it is within this context, that relying on the technical and theoretical skills of the architectural profession in design fosters a deeper appreciation and empathy, which helps in addressing problems from a different perspective. Fundamentally, GAP allows the architectural profession to effect meaningful transformation by integrating practice within the constantly evolving, complex, and dynamic systems of informal urbanism (Perold et al. 2019). This setting enables the exploration of the highly improvisational and generative everyday practices of the urban majority (Pieterse 2008; Kakembo & Van Niekerk 2014).

2.4.3. Informal Settlement Development through PID

Although PID has yet to be formally recognized as an architectural praxis in South Africa, the work done by architects in informal settlements indicates the possibilities for such praxis in the future (Oberholster, Combrinck & Schonfeldt 2023). Fortunately, several notable examples in South Africa have incorporated PID's theoretical foundations, demonstrating its potential to become a significant part of the broader architectural industry. According to Oberholster, Combrinck, and Schönfeldt (2023: 110-111), architects have had opportunities to engage meaningfully in various projects that have been able to contribute to the upgrading processes of informal settlements since 2004. However, the role architects have had in such projects remains poorly articulated and recognised. Combrinck & Bennet (2016) suggest that one reason for this issue may be the lack of recognition the architectural profession receives within

national housing policies developed after 1994. Despite this, these examples of architectural work highlight how the profession can aid in the Upgrading of Informal Settlements Programme (UISP) outlined as part of these policies.



Figure 05: *Table House Concept by Jo Noero (Noero 2016)*

Notable examples include the works of Jo Noero and Carin Smuts, whose projects within informal settlements demonstrate the inherent value of architects operating within PID. Jo Noero, a Western Cape-based architect, has challenged conventional mass housing approaches by involving NGOs and local communities in developing his firm's Table House concept (Melvin 2017; Oberholster et al. 2023). This mobilisation of NGOs through architects and researchers is mirrored in the UUC's work in Melusi, where MYDO has played a key role in the ongoing community engagement processes between students and residents. Through their involvement, the construction of several co-design projects within the settlement has been made possible. Noero states his underlying design philosophy on his website, where he emphasises that anything designed must also be done beautifully. He further echoes the sentiments outlined in the concept of *the everyday* as explored by De Certeau (1984), as he believes in exploring the transformational potential extraordinary works of architecture possess in enhancing everyday life (Noero 2017).

Furthermore, the work of Carin Smuts shows the value in fully understanding the needs of both client and end-user through an engaged and participative process. Smuts (2010) does note however that participation alone as a social process is not enough and must be underscored by the creation of a tangible object. Reflecting on what Awan et al. (2011: 109) state on participation providing a sense of ownership, this can be understood through the

provision of something created by the collective action of a larger group. CS Studio's practice has found that through its participatory processes and the investigation of local conditions, the solutions found in rural vernacular architecture in response to local issues can be closely related to work in urban informal settlements (Smuts 2010).

Reflecting on what has been seen in the work of these architects, this may stand as evidence of what Bennet & Combrinck (2016: 307) describe as the architect's ability to make use of their vast array of skills in reimagining the often messy and complex nature of informal settlements. This stands as a testament to the social responsibility of architects that PID places as its cornerstone (Anderson 2014; Ferdous & Bell 2020; Karim 2018; Kim 2018) and how architects may exercise this responsibility in the social production of space (Bennet & Combrinck 2016).

2.5. Alternative Building Technologies

This section uncovers the arguments surrounding ABTs use in the development of low-income housing, what is meant by the term *alternative*, and their relevance in the discourse surrounding informal settlement development. Moreover, as described in its more widely accepted definition, this section looks at opportunities in which the recognition of existing forms of building taking place in informal contexts may be further considered as part of ABT research.

2.5.1. Defining Alternative Building Technologies

The discussion surrounding ABTs in South Africa centres around responding to the growing housing backlog in South Africa through the mass provision of homes making use of cheaper, better-quality materials that can deliver homes more efficiently (Botes 2013; Grady et al. 2019; NHBRC 2020; SAHIF 2020). Considering the usage of words such as *alternative*, *better*, *cheaper*, as well as the term *more efficient*, it is therefore implied that the solution is external. Furthermore, this definition fails to recognise the importance of considering the existing solutions made use of by residents within informal settlements who have fulfilled their own need for shelter through autonomous forms of construction.

The term *technology* considers the development of different methods, materials, and techniques used within the application of ABTs. As Louw (2021: xi) describes, the term *technology* may be context-specific, and should therefore be avoided being conflated with terms such as *contemporary* or *high-tech* and *low-tech*. This is because what may qualify as any of these terms in one place may not be reflected in another (Louw 2021).

This research therefore proposes the word *appropriate* as more suitable for the term ABT moving forward within this study, as this more fitting way of describing the contextual understanding of the existent and applicable forms of construction that will be discussed.

2.5.1. The Case for Alternative Building Technologies within Informal Settlements

Much of the construction taking place in informal settlements, while inventive, makes use of sub-par building materials that are often in perpetual need of repair. Melusi is typical to many informal settlements, whose building fabric is largely made up of corrugated sheeting houses and masonry structures (Hugo 2023). Mabuya & Scholes (2020) as cited in Hugo (2023: 57) claim that the state of a building greatly increases an inhabitant's exposure to health risks, with material choice affecting their risk concerning heat stress and vulnerability to other natural elements (Mabuya & Scholes 2020). This highlights the need for alternative measures of the building to be explored within the settlement.

ABTs as a part of the wider discussion surrounding the provision of low-income housing, offer residents with more efficient, cheaper and better-quality materials and methods for construction (South African Housing and Infrastructure Fund 2020). However, the adoption of ABTs has not seen widespread mobilisation, Sexwale (2010) commented that between 1994 and 2010, out of the 1.5 million units of housing, 17,000 units made use of ABTs in their construction. This accounts for only 0.68% of the output of homes in the formal housing supply and highlights that ABTs have not contributed significantly to the supply of housing in South Africa.

Furthermore, ABTs have also faced acute scepticism from beneficiaries of such housing projects as they are often viewed as being inferior to conventional methods of construction (Grady et al. 2019; Botes 2013). A study by the DHS (2010) confirmed this same point on the negative perception of ABTs among beneficiaries.

2.5.2. Sustainable Route for the Adoption of ABTs in Melusi

Sustainability is at the forefront of much of the debate concerning current conventional building technologies. Where this term is often used to describe *greener* and more *eco-friendly* building technologies, it must also be understood in terms of the socio-economic bases of such phenomena. As the term goes by many definitions in various schools of thought, the definition of sustainable construction proposed by Charles Kibert in 1994 (Du Plessis 2005: 4) will be

used to understand its application to ABTs. Kibert (Du Plessis 2005: 5) states the following in his definition (Du Plessis 2005: 5):

Sustainable construction is the creation and responsible management of a healthy built environment based on resource-efficient and ecological principles.

Retro Innovation

To address the negative perceptions of ABTs and sustainability implement such materials within Melusi's built fabric, knowledge surrounding the existing conditions on site as well as local knowledge of residents must be consulted. This would point to the most viable ABTs that could be selected for use within Melusi. The theory on ABT research and the benefit of local traditional knowledge is cited by Galmarini, Costa & Chiesi (2022). They define traditional knowledge as practical and normative wisdom about the ecological, socio-economic, and cultural environment, inherently systematic and experimental, created and passed down by experienced individuals (Galmarini et al. 2022). When combined with sustainable forms of design, they coined the term *retro-innovation*, a rekindling of vernacular building traditions with contemporary architectural methodologies (Galmarini et al. 2022). This respect being paid to existing knowledge bases can further mitigate the rejection of outside interventions common among communities living within informal settlements.

Regional Revitalization

Technology is rooted in the past, dominates the present and extends to the future, this quote by the architect Mies Van der Rohe is referenced by Wu, Wei & Peng (2019) in an article detailing the importance of understanding what has come before to suggest where the future evolution of building technology may be directed over time. Through a comprehensive analysis of the development of Chinese building technology, the authors (Wu et al. 2019) uncover the key points that have assisted in the progression from one form of building technology to the next. The article is written to find a pathway for the implementation of more contemporary building technologies to achieve what it calls *regional revitalisation*.

The article cites various historical architectural projects throughout China that point to how building technology has been implemented in the country over time. This methodology can be extended into how the existing building vernacular of Melusi could be studied to suggest the next possible steps intended in terms of the building technology used in the settlement, via ABTs.

The following scenarios were uncovered as key points for the development of building technologies over time:

Factors Influencing the Development of Building Technologies		
Cause	Effect	Example
i) Experience level of labourers in working with new Material.	As labourers became more experienced in building techniques, newer technology was developed.	Ancestral builders (21st Century BC) moved from nest structures to ground and dry-column buildings.
ii) Economic & Cultural Stability	Craftsmen could leverage lessons learnt in practice and develop new technologies.	(2nd Century BC - Late 18th Century) Technologies centring around wooden beam structures came into realisation
iii) Foreign Influence	Newer technologies can be developed in the international community and implemented via trade events.	Post-1840 Opium War, the introduction of Western trade posts brought the introduction of Western-based building techniques such as brick load-bearing structures with wooden roof trusses.
iv) Financial Limitations	Expensive costs of newer conventional building technologies can hold back development.	After the introduction of brick-and-mortar load-bearing structures, many China residents found implementing these was too expensive. Thus, most buildings still made use of wooden beam structures.

<p>v) Governmental Support</p>	<p>Governments can assist in advocating support of new building technologies through policies and influence how quickly these may be adopted by the local building industry.</p>	<p>The Chinese government showed support for the development of steel and reinforced concrete structures in 1949 and allowed for such.</p> <p>Note: As support for this new technology was garnered amongst the public, wooden beam structures began to fade in use.</p>
---------------------------------------	--	---

Table 02: *Factors influencing Evolution of Building Technology Throughout history in China* (Wu et al. 2019)

2.5.3. Applying ABTs through PID

The methods of application for ABTs in Melusi are viewed in terms of the degrees of agency it would provide for the settlement's residents while in working to facilitate the satisfaction of their HSD needs of subsistence, creation and understanding. This encompasses a working relationship between the architect and the end-user through the practice modules of PID as defined by Kim (2018) and Perold et al. (2019).

As stated by Awan et al. (2011), architects are recognised according to their analytic, aesthetic, and technical knowledge and skill sets in designing the built environment. This knowledge places the architect in the privileged position to advocate for the implementation of an appropriate ABT within a given context. This action therefore aligns closely with the practice module of *Advocacy Design* as described by Kim (2018). Moreover, Perold et al (2019), describe in their breakdown of GAP, an example of architects utilising sandbags (which could be seen as an ABT) in an informal settlement upgrading project.

The case in the latter-mentioned example features the construction of a neighbourhood centre in the informal settlement of Lotus Park in the Western Cape. Led by a non-profit organisation aiming to alleviate violence through urban upgrading projects, an in-house architectural team

was tasked to design a neighbourhood alongside community members of Lotus Park, an informal settlement located on a city-owned dumping site for the surrounding residential areas.

By using locals as labourers in the construction process of a sandbag wall featured in a new neighbourhood centre that was built for residents of the Lotus Park informal settlement, Perold et al. (2019) noted several considerations in employing GAP as a mode of PID practice within such conditions. The project's construction period of eight months gave an employment opportunity to the locals. As mentioned by Botes (2013: XX) this is an important factor to include in the implementation of ABTs due to the fact many living within informal settlements are unemployed.

2.5.4. Knowledge Gaps

Although Max-Neef (1991: 36) cites self-build housing systems, (which may be theorised as a form of ABTs) a framework for the analysis of end-user needs has not been referenced within the literature surrounding ABTs in South Africa as well as globally. The HSD therefore may act as an insightful method that may be applied within the pre-feasibility phases of projects involving the provision of low-cost housing.

In addition, limited attention in research has been given to PID praxis within ABT research. This calls attention to how the benefits of PID praxis have not been valued within other spheres of the building industry. However, one can note that the intrinsic values of PID praxis emphasise the importance of understanding the existing systems of knowledge and social frameworks within societies. As Galmarini et al. (2022) & Wu et al. (2019) all state, that these factors play important roles in the evolution of local forms of building technology.

3 Research methodology

3.1. Theoretical Perspective

This dissertation follows the mixed methods of data collection and analysis found within the pragmatic paradigm and is therefore qualitative (Du Toit 2014). It seeks to better understand the unique lived experiences of Melusi's residents through a strong ethnographic approach (Groat & Wang 2013: 223–224) along with meaningful community engagement (Hamdi 2010: 87–103). This is essential to uncover the resident's fundamental needs (Max-Neef 1991) and inform socially responsible ways of addressing them. Additionally, the data collection process featured an extensive narrative inquiry and observational study taking place within Melusi across two years as a part of both the 2023 and 2024 CCW studios.

Furthermore, the research methods followed strong ethical guidelines and featured observational studies, participatory games, surveys, and an extensive thematic analysis of literature on the relevant themes of the study.

3.2. Ethical Considerations

The ethical considerations have formed a vital part of each phase of the research process. Emphasis was placed on the preservation of the confidentiality and informed consent of all participants. These have all been done with strict adherence to the ethical guidelines of the University of Pretoria. The study took place with the approval of Ethics Clearance under the reference number EBIT/15/2022, approved by the EBIT Ethics Committee (Combrinck 2024). All participants were granted clarity on the research objectives, procedures, and risks before their consent was given for the capturing of data. Furthermore, the ethical guidelines that were set out were strictly adhered to throughout the project to protect the rights and personal well-being of all participants.

3.3 Sample Size

The sample size of the data collected in Melusi was limited to those present in the settlement between the early morning and afternoon hours between Monday to Friday. As a result, many of the views and answers received may not form a holistic image of Melusi's entire population. Thereby, many of those working and studying outside of the settlement during these hours could not have their viewpoints heard. However, this would not affect the physical observations that would form a part of this research.

In 2023, the research group had been split into 3 groups documenting different areas of Melusi (Figure 06) through a door-to-door approach. By making use of the Survey 123™ tool, the 357 data points could be geo-located and offered rich insight into the spatial relationship of the data being collected. Each data point is made up of a participant who answered a series of questions designed through a survey which aimed at uncovering the needs of a particular household and the different methods each makes use of to satisfy them.

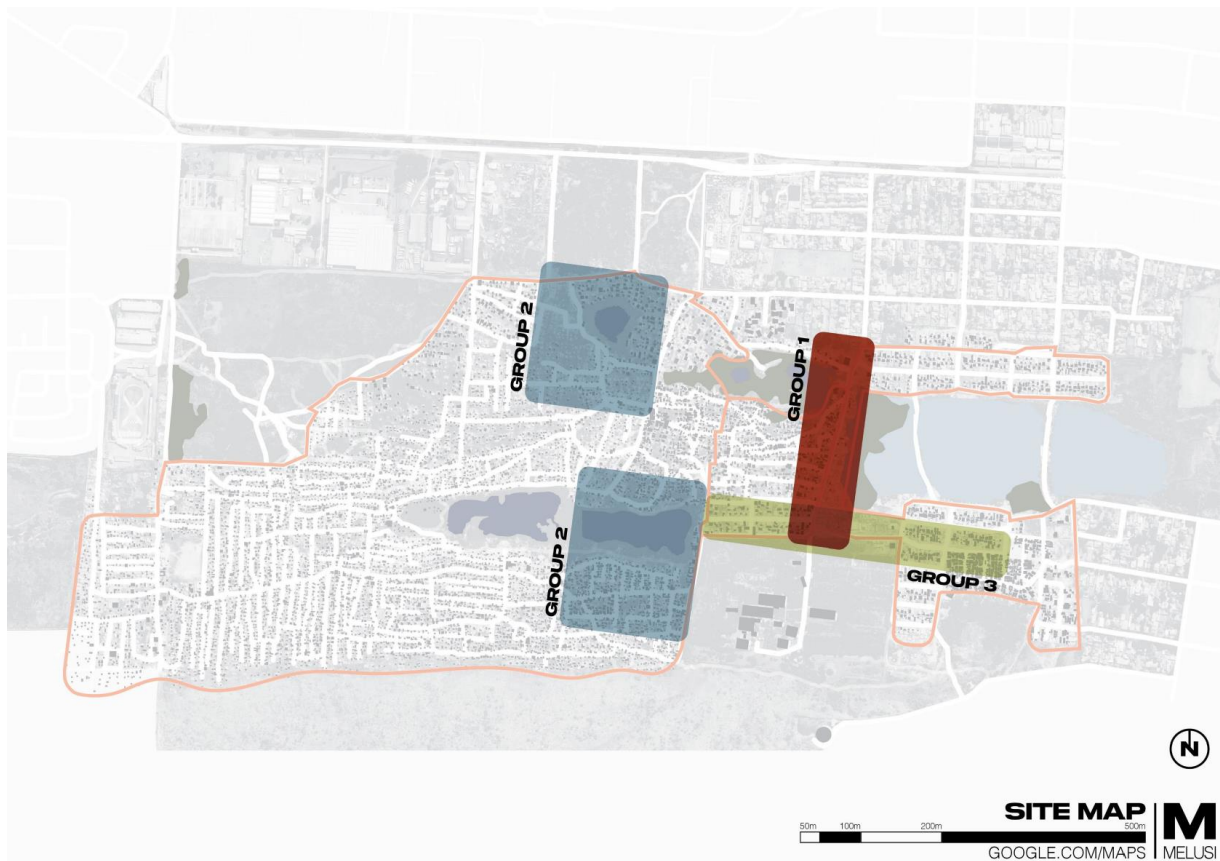


Figure 06: Map of Melusi showing areas covered by CCW Survey in 2023 (UUC, 2023)

3.4. Thematic Data Analysis

To find links across the various themes associated with the topics discussed in this dissertation, literature was coded using Atlas TI™ following the framework of reflexive thematic analysis (TA) set out by Braun & Clarke (2006). This method featured a fluid interpretation of the six phases of TA that have been outlined within the framework.

Phase One: Data Familiarisation

Initially, literature was collected through both general online searches as well keyword-focused searches through Google Scholar™. Various sources were found through these searches and further sources were derived from the references noted by the authors. This phase allowed for an overall familiarisation of the aspects concerning the research study (Braun & Clarke 2006: 16-17).

Here, the decision was made to progress with the latter-mentioned phase of generating themes for the study. This was justified as the literature concerning each theme remained

rather isolated within various thematic lenses in architectural discourse. Academic articles were therefore organised according to these themes. The initial themes were generated inductively and are stated as follows:

1. **Public Interest Design**
2. **Alternative Building Technology Research**
3. **Human Scale Development**
4. **Informal Settlement Development**
5. **Housing by People**

Phase Two: Generation of Initial Codes

Following the familiarisation of the literature, initial codes were generated through an inductive approach which was set out by setting each theme and uncovering a set number of key aspects noted within the literature. Additionally, specific care was taken as to name codes with terms that remained consistent with the research question. The following diagram illustrates how each code along with its subcodes was organised:



Figure 07: Organisation of themes, codes and sub-codes used in Thematic Analysis (Author 2024)

This phase featured the coding of 33 documents which featured 460 quotations and uncovered 229 codes and sub-codes which have been organised according to the themes generated in phase one.

Phase Three: Generation of Themes

As the process developed, the initially generated themes remained as they became more justified for the further study of this research.

Phase Four: Revision of Themes:

In reviewing the themes following the generation of codes and sub-codes, the various aspects within each theme could be studied and overlapping aspects were identified. This allowed for a better understanding of the hierarchy of each theme as it was related to the research question and ensured that the study remained focused on its set aims and objectives.

Phase Five: Definition of Themes:

As this phase was carried out before the generation of codes and was later confirmed through the biased nature of this approach, definitions for each were easily clarified in the following phase.

Phase Six: Capturing of Findings:

Finally, the coding done through Atlas TI™ was essential in organising the expansive nature of the findings. Here the co-occurrence analysis and code-document analysis tools within the software were able to identify the frequency of codes across the different themes of data.

3.5. 2023 Co-Creating Wellness Studio

As soon as the resident community was made familiar with the methodologies and intentions of the research project, a working relationship was established between the community and the research team to form a rhythm of engagement and commitments so that the relevant deliverables were able to be negotiated (Combrinck 2023: 3). Following the agreement of the required protocols, the requisite data was captured with the use of GIS software as outlined in the ukodoba methodology (Combrinck 2023: 3).

i. Phase One:

Students familiarised themselves with the relevant datasets and literature on informal settlement upgrading, made available through a shared Google Drive. Thereafter, group summaries were prepared using images, sketches, and mind maps with substantiated

conclusions. Following this, each group made their positions clear on the potential role of the architectural profession in UISP/Humanitarian architecture.

ii. Phase Two:

Site introductions were conducted on-site, with mandatory attendance before any site visits. Students collaborated with the NRF research team, a group of research interns, and the Chalmers Reality Studio from Sweden.

iii. Phase Three:

Students integrated site observations through the practice of sketching with existing datasets to document spatial and visual understanding, photographs including the faces of residents was prohibited in this phase due to the ethical considerations mentioned earlier. Here, students engaged with community leadership and resident volunteers, facilitated by local NGOs and research partners. Furthermore, the documentation of existing conditions formed part of the exploratory process, using appreciative inquiry and asset-based community development approaches (Hamdi 2010: 219).

iv. Phase Four:

Students then captured geospatial data, developed shapefiles, and stored the data on a shared Google Drive.

v. Phase Five

Workshop summaries and conclusions led to a presentation of findings at a stakeholder presentation facilitated at MYDO. Students developed exhibition material with clear conclusions and research significance, highlighting themes for future development to support community action plans. Critical thought was able to identify potential development opportunities, informing innovative shifts in the architectural profession's role in urban integration. Furthermore, all engagement processes were documented, participation recorded, and all evidence of theoretical grounding and research approaches were presented.



Figure 08: *Stakeholder Presentation of 2023 at MYDO (UUC 2023)*

3.6. 2024 Co-Creating Wellness Studio (Human-Scale Development Matrix)

i. Preparations

As part of the preparations for the 2024 CCW studio, five master's students from the University of Pretoria's Department of Architecture were assigned to design games. These games aimed to engage community members and gather their responses to questions. The collected data would later be used to develop a matrix of satisfiers, impediments, and utopia for Melusi in line with the HSD framework (Max-Neef 1991). A set of guiding questions was developed through a series of workshops involving the master's students, senior researchers, a group of honours students, and several interns assigned to assist with the research's data collection process. Such questions generated more open-ended responses, which allowed for more authentic data to be captured from respondents. The selection of these questions was conducted using the digital collaboration platform Miro™, where the questions were posted on a board accessible to the research team.

Each master's student developed one game, each aimed at facilitating conversation with residents in Melusi. The games selected were as follows:

vi. Playing game:

This game made use of elements stemming from basic ball games such as football and netball to stimulate conversation between researchers and residents.

vii. Building Blocks Game:

Made use of the block stacking game Jenga™ as a format, incorporating questions scribed onto the blocks themselves to stimulate conversation and generate responses.

viii. Drawing Game:

Participants expressed needs, satisfiers, and impediments through illustrations.

ix. HSD Matrix Board Game:

Following a structured board game approach built on the HSD Matrix, the game focused on highlighting the needs of participants.

x. Making Game:

Allowed participants to build models of clay and play dough to express ideas and needs through prompts from the collection of questions gathered.

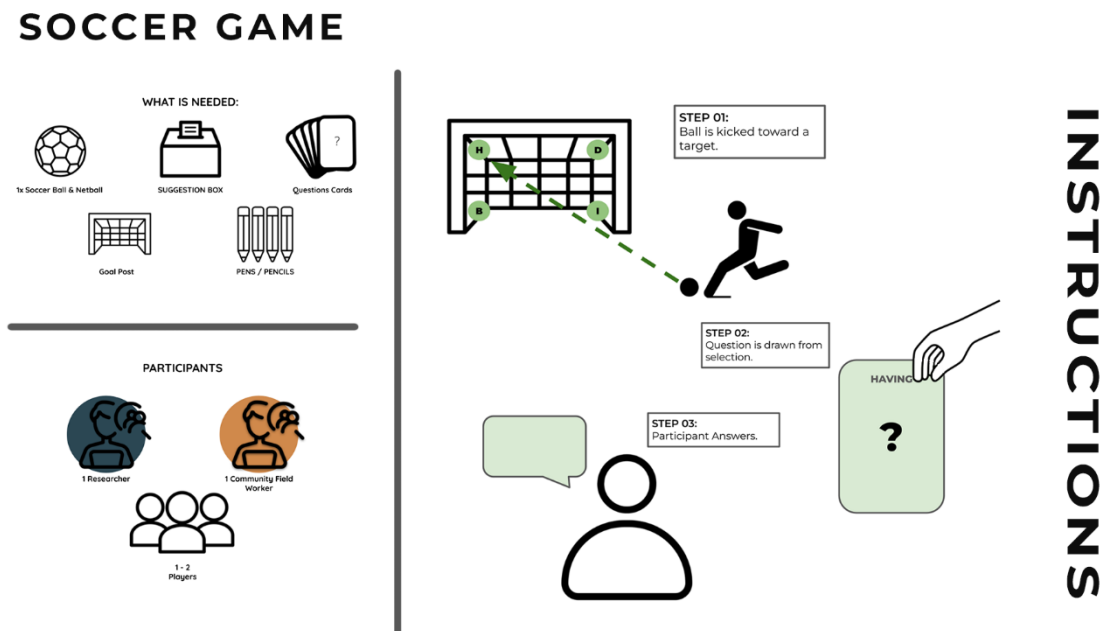


Figure 10: Soccer Game Poster and Instructions (Author 2024)

ii. Trial Runs

Before fieldwork in Melusi commenced, a day was set aside for a trial run of the games developed. The trial run of these games was held at the community hall in Melusi and was facilitated by MYDO. Here, the interns assigned to the research project along with the

community leaders acted as both the operators of the game as well as participants. The trial run was vital in uncovering flaws in the data collection process and allowed researchers to assess the ease of understanding of the games. The playing game was amended following the trial runs. It was noted that the connection and motivation behind kicking the ball were unclear in answering the questions. A change was made where targets placed around the goal post were used to select the questions participants were made to answer (Figure 10). Four targets representing the existential categories of being, having, doing, and interacting were used to prompt questions for respondents. Feedback on the new format proved positive as these stimulated better responses while the process was seen as far more enjoyable for participants.

iii. Data Collection (Fieldwork)

The fieldwork in Melusi took place over three days at 5 different stations within Melusi (Figure 11). Each station was facilitated by one master's student, two honours students, two research interns, two community field researchers and supervised by one senior researcher. The placement of groups at stations was done randomly and each day would focus on a separate element of the HSD matrix, one day was dedicated to satisfiers, the next impediments and the last focused on the utopian matrix. This process ensured that the data collected was thorough and intensive and generated an authentic representation of the resident's needs.

GIS software enabled researchers to capture spatial data following the *Ukodoba* method, which provided a structural framework guiding the creation, collection, and management of fine-grained spatial data.

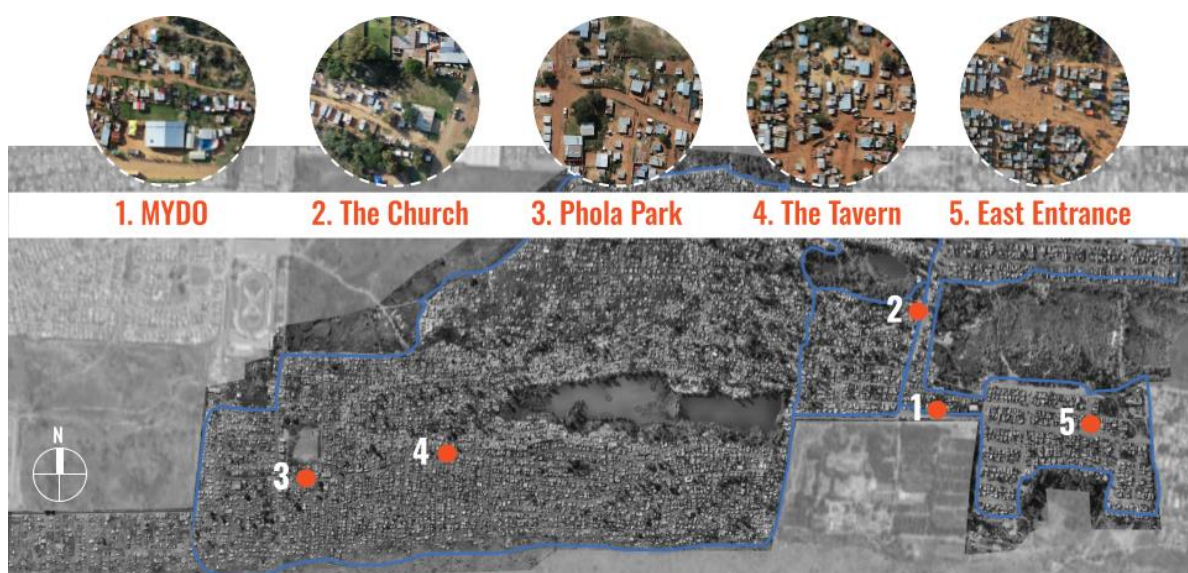


Figure 11: *Locations of Stations placed throughout Melusi (UUC 2024)*

iv. Consolidation of Data

Following the data capture of respondents, intensive data analysis was followed to consolidate the different responses of participants into three separate matrices for satisfiers, impediments, and utopia. This was conducted by the conducted by the honours students and research interns collaboratively through the Miro™ platform. The most common responses made up the entries into the final matrices reflecting a complete view of Melusi's needs.

4. Results

4.1. 2023 Co-Creating Wellness 2023 Data

The findings from the CCW studio's engagements with Melusi in 2023 allowed researchers to capture the on-site physical evidence of how Melusi's residents have satisfied their needs. As this data was not captured with the HSD Framework in mind at the time, reference will be made to the examples given by Max Neef (1991: 32) on satisfiers for the needs matrix to place these findings in a more appropriate lens for further discussion. Therefore, this section unpacks these observations according to the satisfiers and impediments relating to the needs of *subsistence, creation and understanding*. These findings collected by the *2023 Knowledge Exchange and Skills and Business* groups bring attention to relevant examples of Melusi residents satisfying these needs with close relation to activities based on local construction methods.

Therefore, results from the specific questions of the dataset gathered for the CCW studio's efforts call out both impediments and residents' responses to them. These findings also note the other needs stimulated through the satisfaction of those mentioned, highlighting the presence and capability of these findings to act as synergic satisfiers (Gasper 2022; Max-Neef 1991).

Moreover, these results were assessed alongside the findings of 2024's CCW studio, where the impediments, satisfiers and utopia matrices have been consolidated to analyse the most pressing needs of residents in Melusi. The combination of this allows for a deeper understanding of existent needs, satisfiers, and impediments in within the settlement.

In addition, the observations made about prevalent building methods in Melusi point to the existing knowledge of building technologies present in the settlement. These observations act as evidence of the materials that are currently being used in Melusi, allowing for an increased awareness of Melusi’s building vernacular.

I. The Need for Subsistence:

i. Agriculture

Need Satisfied: Subsistence

Other Needs Stimulated: Creation, Participation, Identity

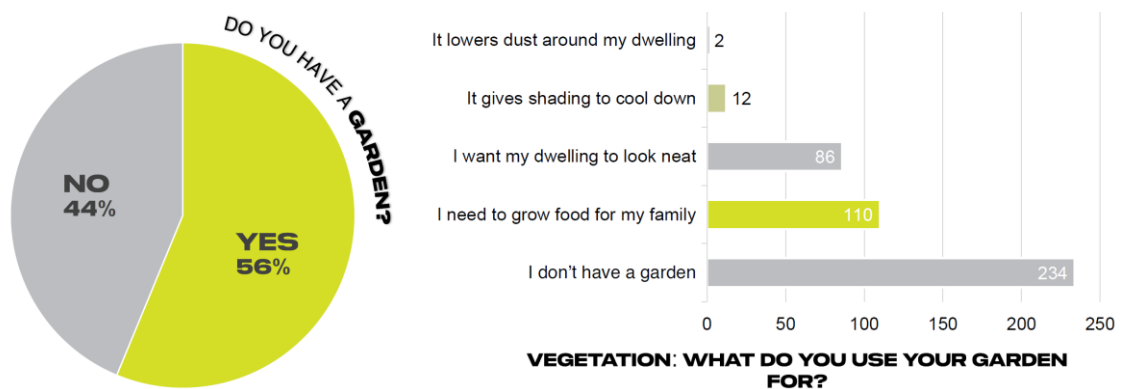


Figure 12: Survey 123™ Data Regarding Use of Gardens by Melusi Residents (UUC 2023)

As a part of the data collected through the Survey 123™ platform, it was noted by the *Knowledge Exchange* group that 56% of Melusi’s residents had responded “yes” to having a garden with 110 respondents noting that their reason for doing so was to grow food for their family (UUC 2023). Therefore, this data shows that the need for *subsistence* is being satisfied through the growth of food through the gardens present in dwellings around the settlement.

Physical Evidence



Figure 13: Use of reclaimed materials for small-scale subsistence farming in Melusi (UUC 2023)

Physical observations made on site found that residents had made use of reclaimed materials such as old tyres and wooden pallets to do small-scale subsistence farming in and around their dwellings. The knowledge exchange group also found that these activities presented an opportunity for knowledge exchange on small-scale poultry farming and the sustainability thereof (UUC 2023). This form of knowledge exchange could therefore stimulate the satisfaction of the needs of understanding as well as participation within the settlement (UUC 2023).

ii. Selling Goods & Services

Need Satisfied: Subsistence

Other Needs Stimulated: Creation, Participation, Identity

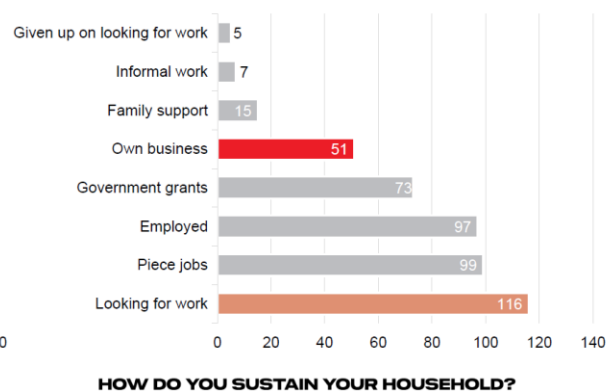
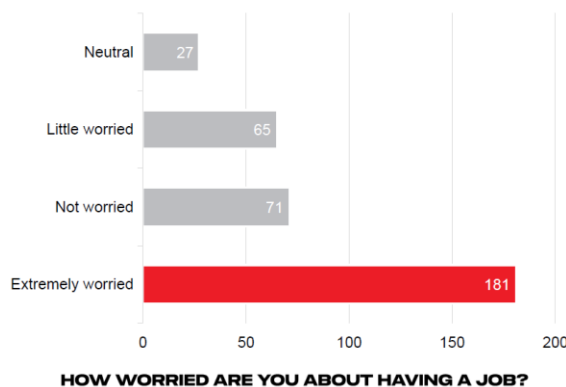


Figure 14: Survey 123™ Data on Employment in Melusi (UUC 2023)

Much like other informal settlements around South Africa, Melusi deals with widespread unemployment among residents. Many respondents claimed to be extremely worried about having a job and were in search of work (Figure 14). Aside from this, one positive statistic from this data was the number of residents running their own businesses. One example was noted by the *Skills and Business* group, where a Melusi resident produced hand-made mudbricks and ran his own hardware store selling them (Figure 15). This resident also mentioned that in addition to the sale of his bricks, he would earn money through the construction of dwellings for other residents in Melusi.



Figure 15: Survey 123™ Data on Employment in Melusi (UUC 2023)

II. The Need for Creation:

i. Innovative Use of Building Materials

Needs Satisfied: Creation

Other Needs Satisfied: Subsistence, Identity,

The residents of Melusi make innovative use of reclaimed materials to decorate their homes and produce craft items such as furniture (Figure 16) which they can sell to earn an income to feed their families. Throughout the fieldwork in 2023, many examples of various forms of craft had been observed in Melusi where residents had made use of such materials. These activities could thereby also act as satisfiers for the needs of subsistence and identity.

Physical Evidence



Figure 16: *Evidence of Craft in Melusi through Innovative Use of Repurposed Materials (UUC 2023)*

III. The Need for Understanding:

i. Sharing of Knowledge on Building Solutions

Need Satisfied: Understanding

Other Needs Stimulated: Participation, Creation

Respondents in Melusi have stated that dealing with heavy rain and flooding is an issue faced by many throughout the settlement. Moreover, many have stated that they deal with many of these issues themselves in the repair and maintenance of their dwellings. Interestingly, it was also mentioned that a small percentage of residents receive assistance from their neighbours in dealing with these issues (Figure 19).

The *knowledge exchange* group pointed out a specific example that emphasised the possibility that the need for understanding concerning building methods might not be met through knowledge exchange in the settlement. Knowledge regarding waterproofing methods has not been shared equally amongst residents, where some residents have made no attempts to waterproof their dwellings, while others have employed a range of solutions such as the use of plastic bags and reused gutters for roofs (Figure 17).

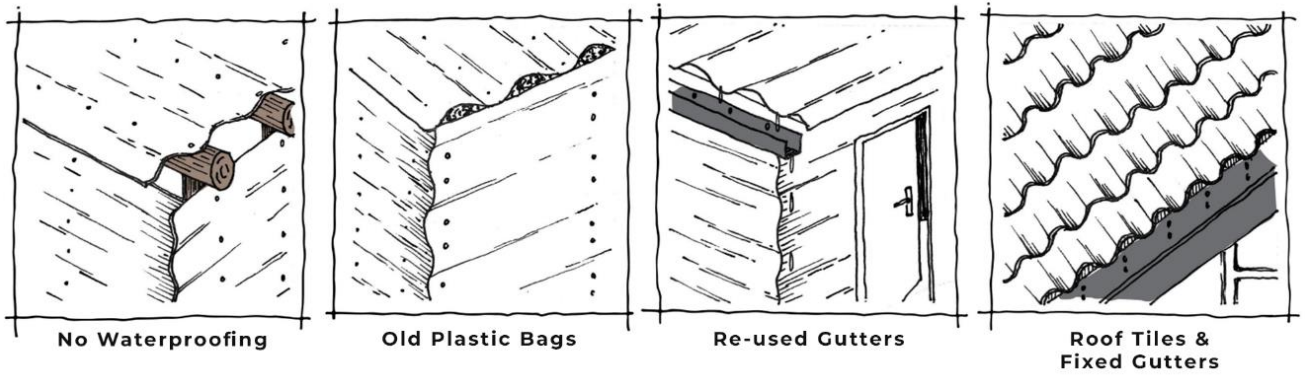


Figure 17: Sketches of Observations made on waterproofing methods used by Melusi Residents (UUC 2023)

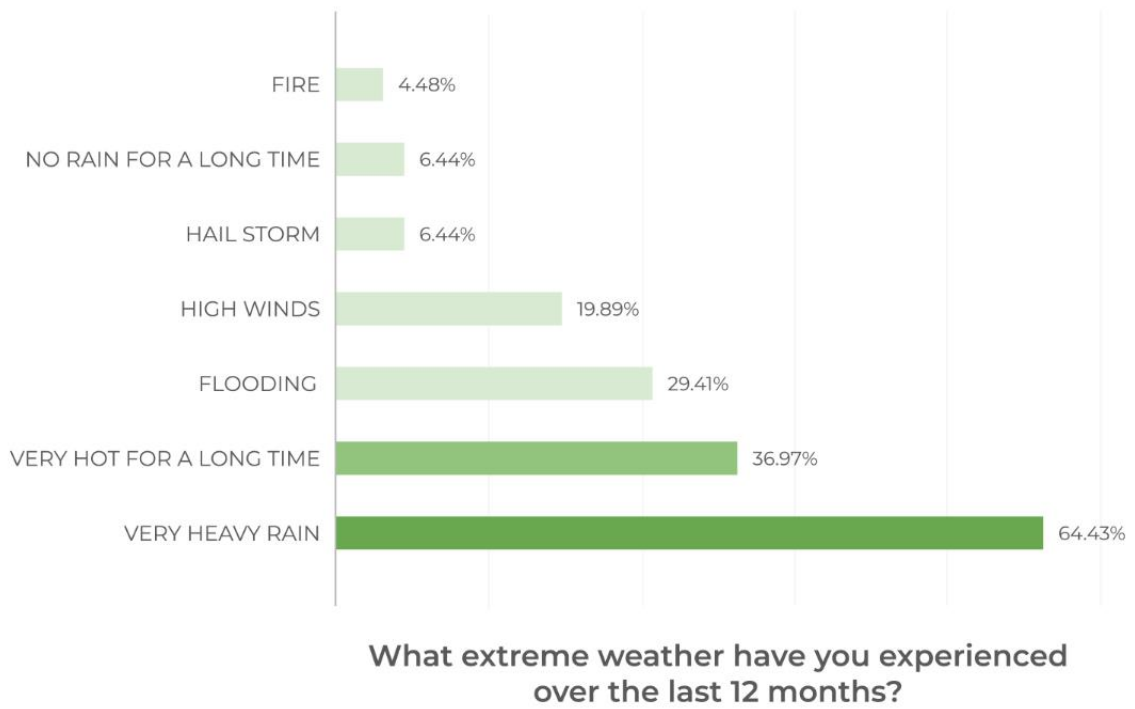
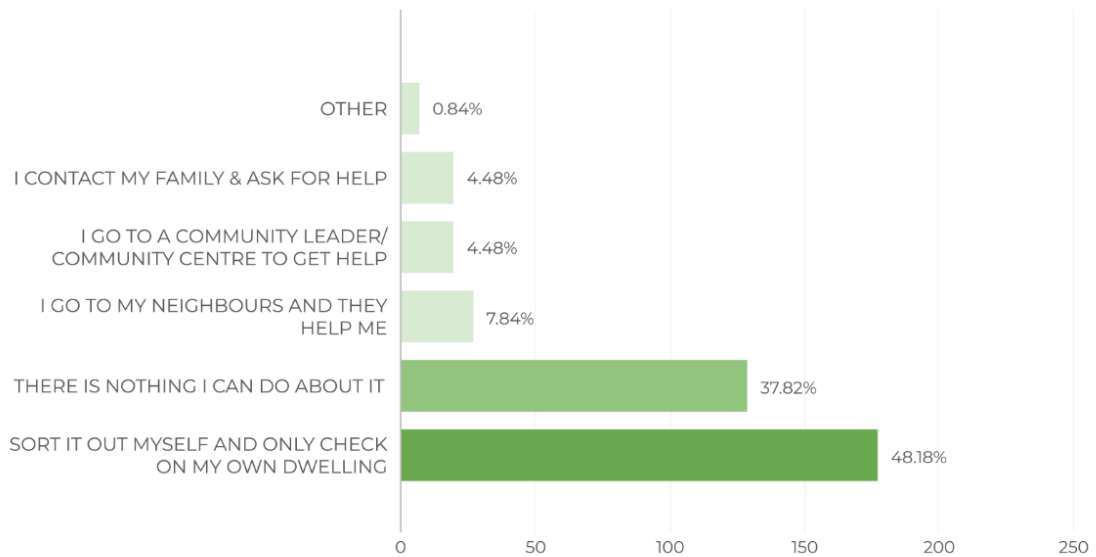


Figure 18: Survey 123™ Responses to Extreme Weather Faced by Melusi Residents in the Past 12 Months (UUC 2023)



WHAT HAVE YOU DONE WHEN THESE EVENTS OCCUR?

Answered: 333 Skipped: 24

Figure 19: Survey 123™ Responses to What Have Residents Done When These Events Have Occurred (UUC 2023)

Physical Observations

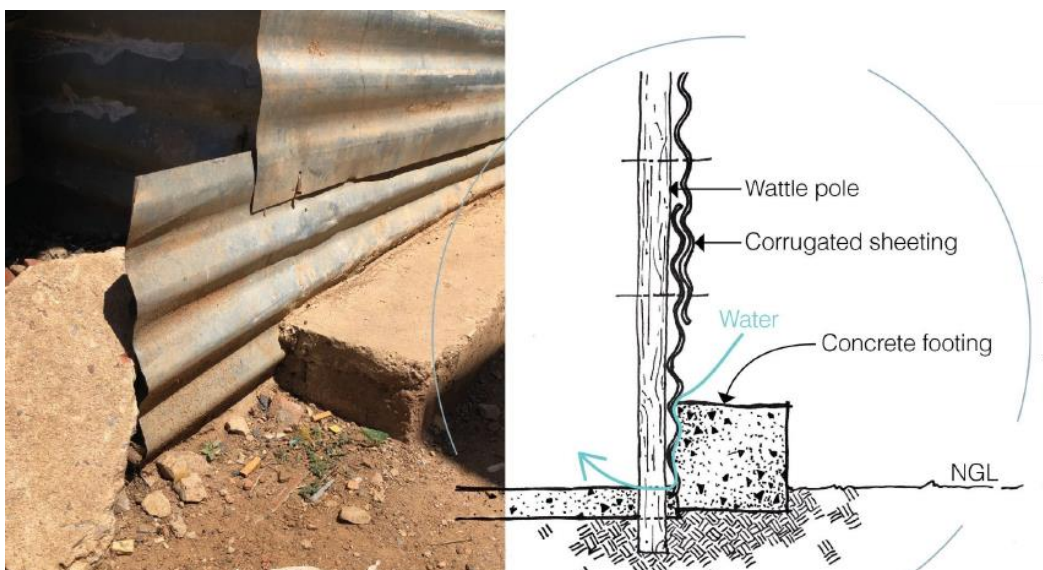


Figure 20: Waterproofing Detail from Dwelling in Melusi (UUC 2023)

This gap in knowledge among residents in Melusi presents an opportunity for the need for *understanding* to be satisfied through the exchange of information on how to build better and more structurally sound dwellings. Here building technologies could be described as one such potential satisfier for this need as described by the *knowledge exchange* group (UUC 2023).

Material Observations

The data collected in Melusi also looked at the current building materials most used throughout the settlement (Figure 21). By and large, the vast majority of Melusi dwellings use corrugated sheeting as the primary building material, with most building frames consisting of timber and wattle poles (UUC 2023). Respondents stated that most buy these materials from local suppliers and hardware stores. Some have also said they salvage building materials from nearby demolition and dumping sites.

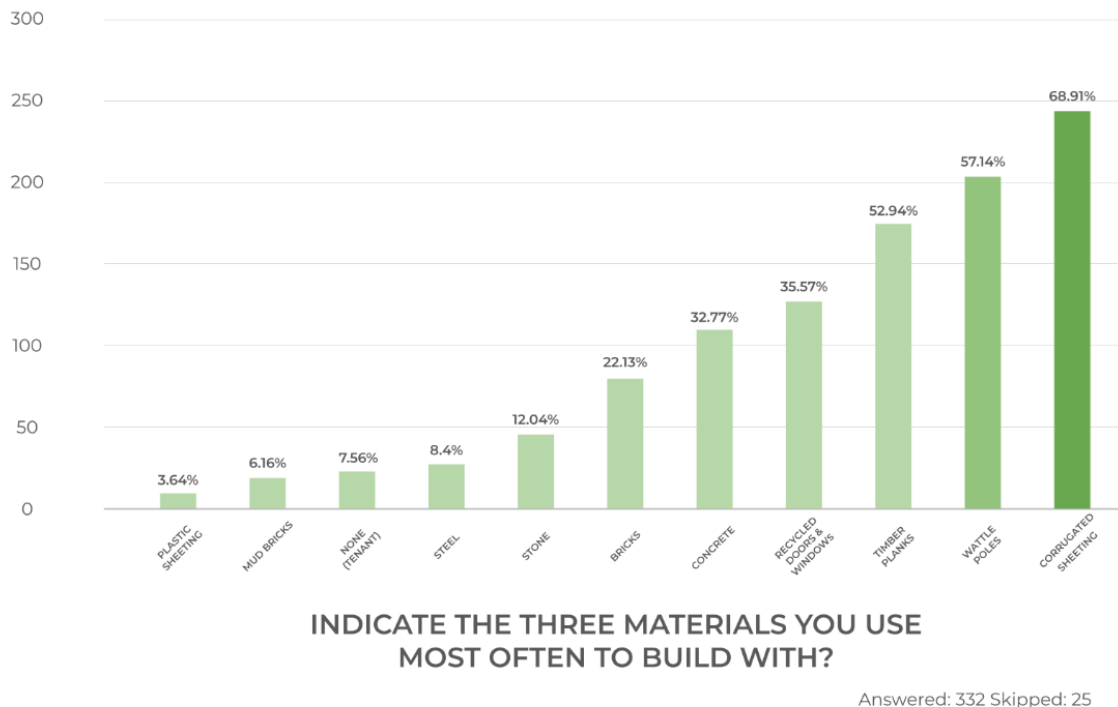


Figure 21: Graph Showing Most Widely Used Building Materials Throughout Melusi (UUC 2023)

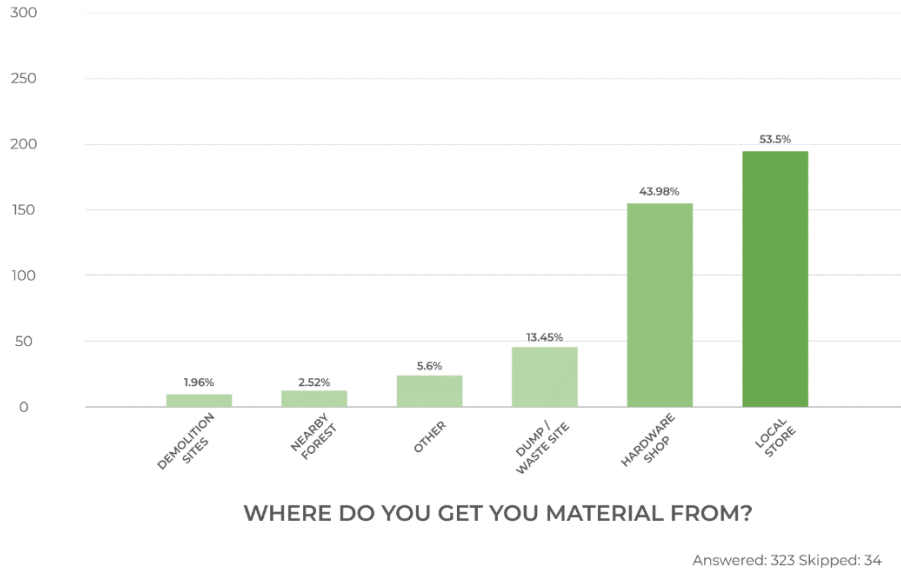


Figure 22: Graph Showing where Building Materials are Sourced. (UUC 2023)

Moreover, it was observed that residents have used different methods of affixing structures and cladding of dwellings. Most responded that nails were the most used form of affixing structural connections. These differing methods show that some make use of connections that are not as structurally sound or as cost-effective as others (Figure 17). This variety of materials and methods showed that knowledge exchange around building technology is already taking place in Melusi although at a smaller scale (UUC 2023).

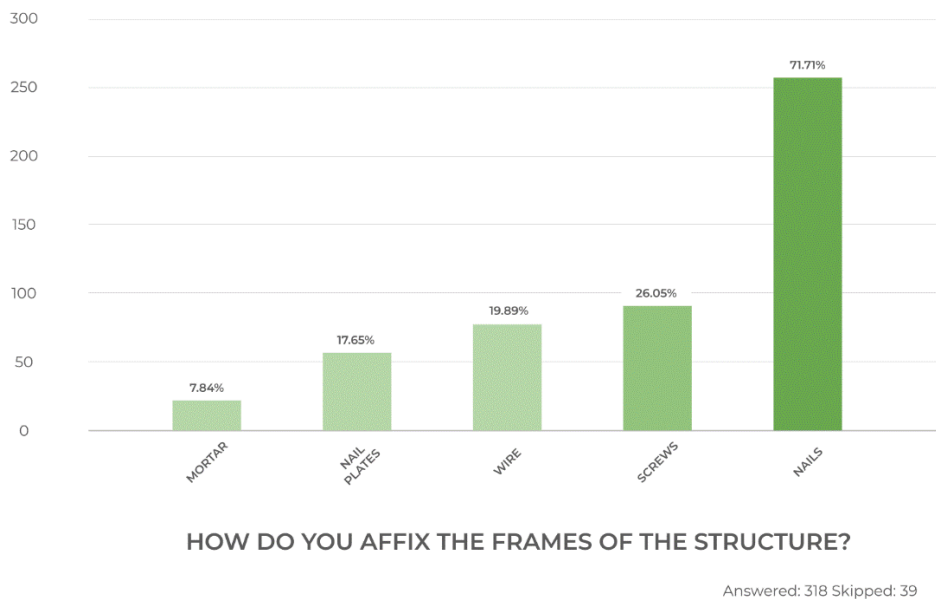


Figure 23: Graph Showing where Building Materials are Sourced. (UUC 2023)

4.2. 2024 Co-Creating Wellness Data

I. The Need for Subsistence

Satisfiers of Subsistence in Melusi:

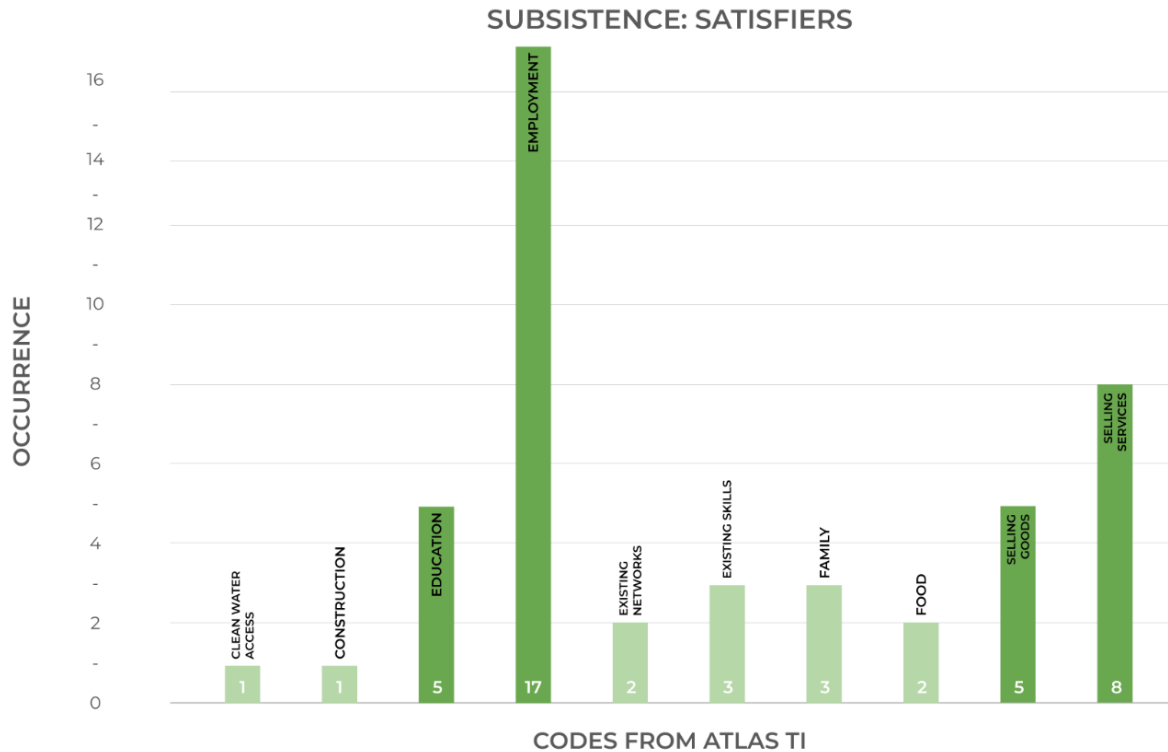


Figure 24: Subsistence Satisfiers Coded through Atlas Ti™ (Author 2024; UUC 2024)

Overall, the most prevalent means of satisfying this need for subsistence was **employment**, as the income generated allowed residents to purchase food for their households. According to the 2023 CCW data, many residents were self-employed and ran businesses within Melusi. These businesses primarily **sold goods and services**, with services being slightly more prevalent. While only a **few residents identified construction as a key satisfier** for this need, the data indicated that employment in the construction industry was however present in the settlement, with some residents involved in building homes and structures within Melusi (see below).

Impediments of Subsistence in Melusi:

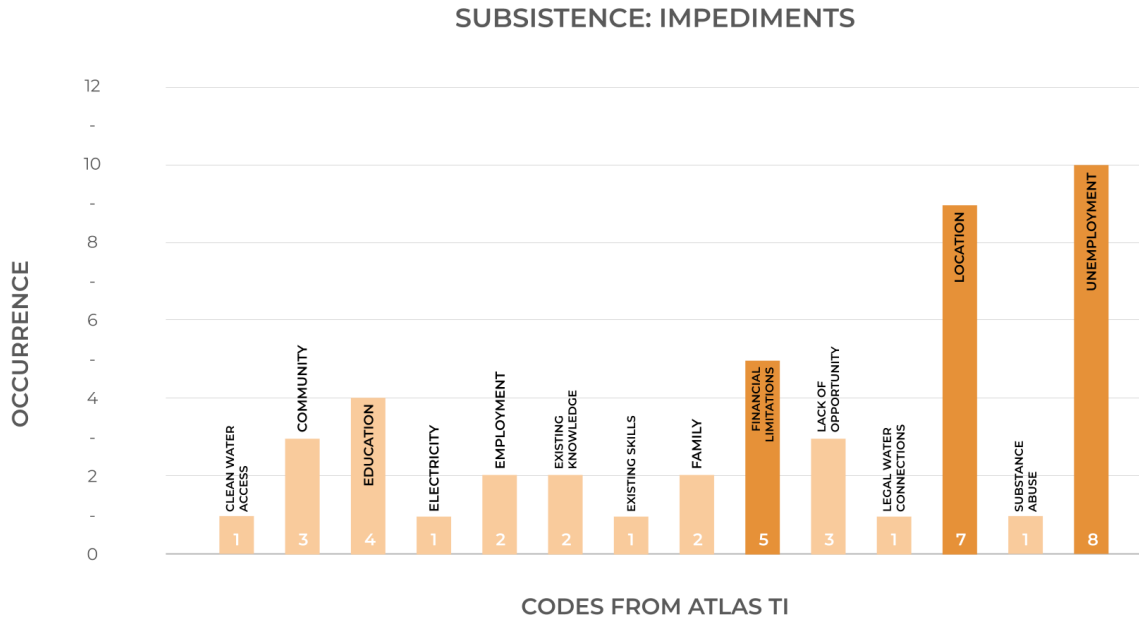


Figure 25: Subsistence Impediments Coded through Atlas Ti™ (Author 2024; UUC 2024)

The challenges related to subsistence identified by residents of Melusi underscore the impact of unemployment, which has exacerbated financial constraints within the settlement. Additionally, residents have observed that the geographic location of Melusi poses significant barriers to fulfilling this need, citing its adverse effects on local job opportunities within both the settlement and its vicinity.

Utopia of Subsistence in Melusi:

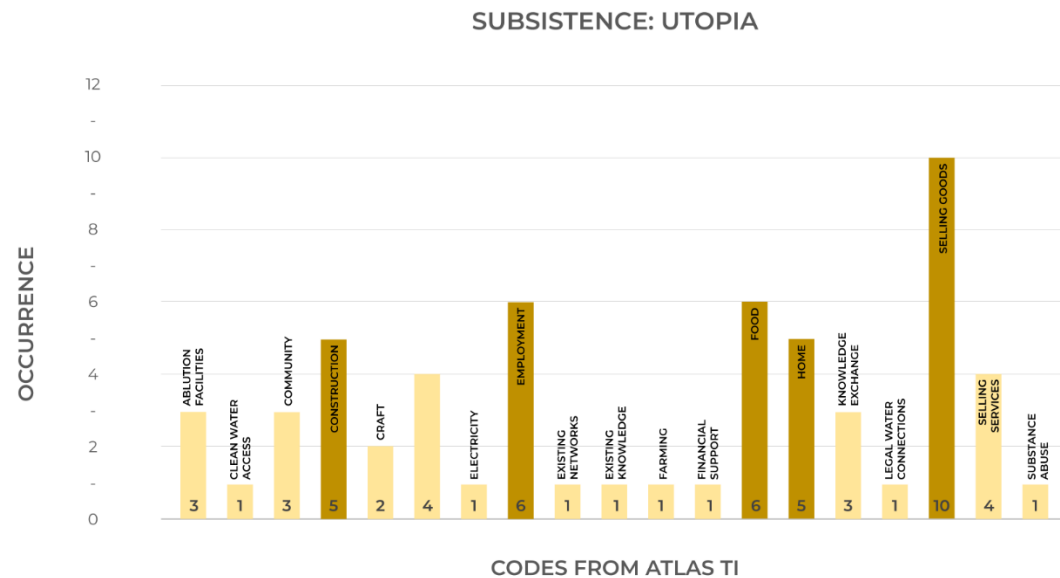


Figure 26: *Subsistence Utopia Coded through Atlas Ti™ (Author 2024; UUC 2024)*

The majority of respondents noted that they would wish to **sell goods** of their own to satisfy their need for subsistence. Furthermore, many claimed the desire for access to **food** and **better living conditions** as utopian conditions for the future of the settlement. Importantly, **construction** in various forms was noted by respondents as they wished to have more opportunities to work within the industry based on their existing skills and knowledge concerning the building of dwellings. They noted that this would act as a viable source of income for them as they saw **employment** opportunities for this activity within Melusi.

II. The Need for Creation

i. Satisfiers of Creation in Melusi:



Figure 27: *Creation Satisfiers Coded through Atlas Ti™ (Author 2024; UUC 2024)*

Participants in Melusi noted that activities involving **construction and entrepreneurship** were the most prevalent satisfiers for the need for creation. Interestingly, many responses

noted that **gardening, farming, and nature** played a role in satisfying this need as well. This data could be evidenced through 2023 CCW data as well with the prevalence of gardens observed throughout the settlement making use of innovative usage of reclaimed materials. In this sense, referring to the satisfiers of the need for subsistence, it can be understood that construction as well as farming for food could be seen as a synergic satisfier in this respect.

ii. Impediments of Creation in Melusi:



Figure 28: *Creation Impediments Coded through Atlas Ti™* (Author 2024; UUC 2024)

Residents mentioned that **financial limitations** are the primary barrier to fulfilling their creative needs within Melusi. Additionally, many residents reported **feeling shy and having personal insecurities** about expressing themselves through artistic creations. Concerns about construction were not mentioned as a barrier, thereby eliminating it as a potential inhibiting satisfier. Factors related to the location of Melusi were highlighted in responses, as many spaces and opportunities for satisfying this need were unavailable in the settlement. In many cases, financial limitations prevented residents from affording transportation to areas where such activities were available.

iii. Utopia of Creation in Melusi:

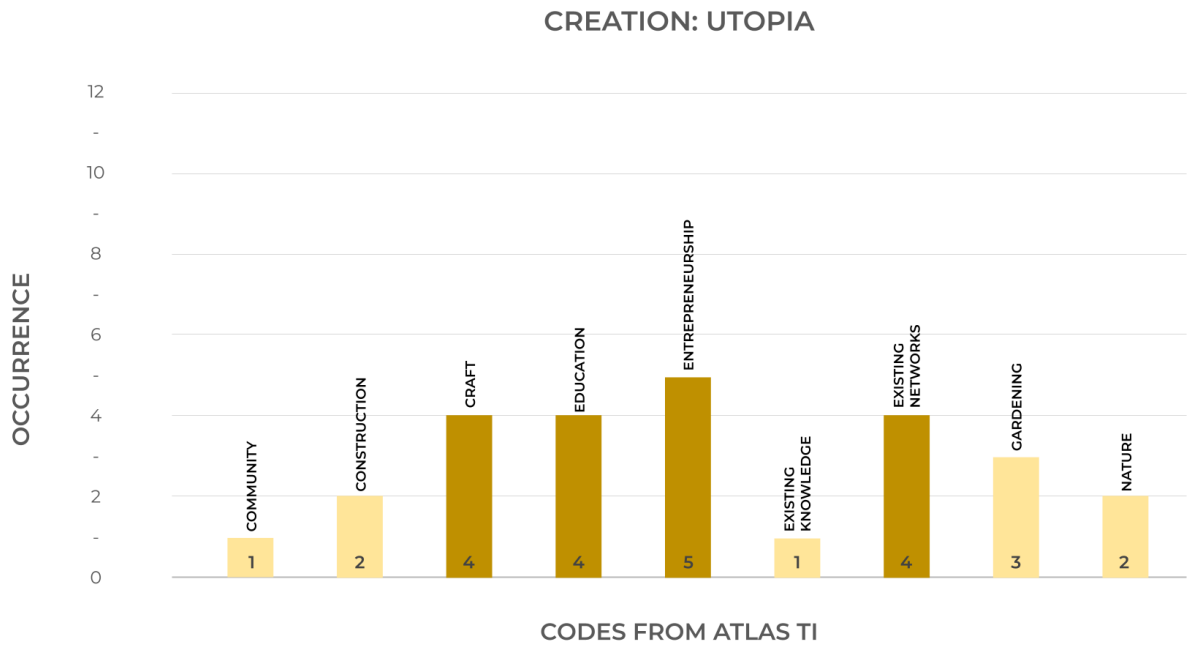


Figure 29: *Creation Utopia Coded through Atlas Ti™* (Author 2024; UUC 2024)

The utopian vision for satisfying Melusi residents' need for creation highlighted the potential for **entrepreneurial endeavours through the selling of craft goods and services**. Residents also noted that this need could be met by participating in the **design and construction** of their homes. Furthermore, the role of **MYDO** emerged in residents' visions of a more developed Melusi, with the centre ideally hosting various craft and creative workshops for the community. These findings underscore the importance of support from local stakeholders, as these familiar entities possess an established network within the community. Additionally, there were notable overlaps between construction and craft, as residents expressed a desire for design and artistic input in the building of their dwellings.

II. The Need for Understanding

Satisfiers of Understanding in Melusi:



Figure 30: *Understanding Satisfiers Coded through Atlas Ti™* (Author 2024; UUC 2024)

The consolidated matrix showed that most residents had cited **community, employment, existing networks, knowledge exchange, and technology** as the most pertinent satisfiers for the need for understanding in Melusi (Figure 30). Many residents claimed that MYDO was a key satisfier in this aspect as they were categorised under the existing networks. Their offering of workshops teaches different community members valuable skills which ready them for employment and connect residents with outside residents that may aid in offering additional educational programmes that satisfy this need.

Impediments of Understanding in Melusi:

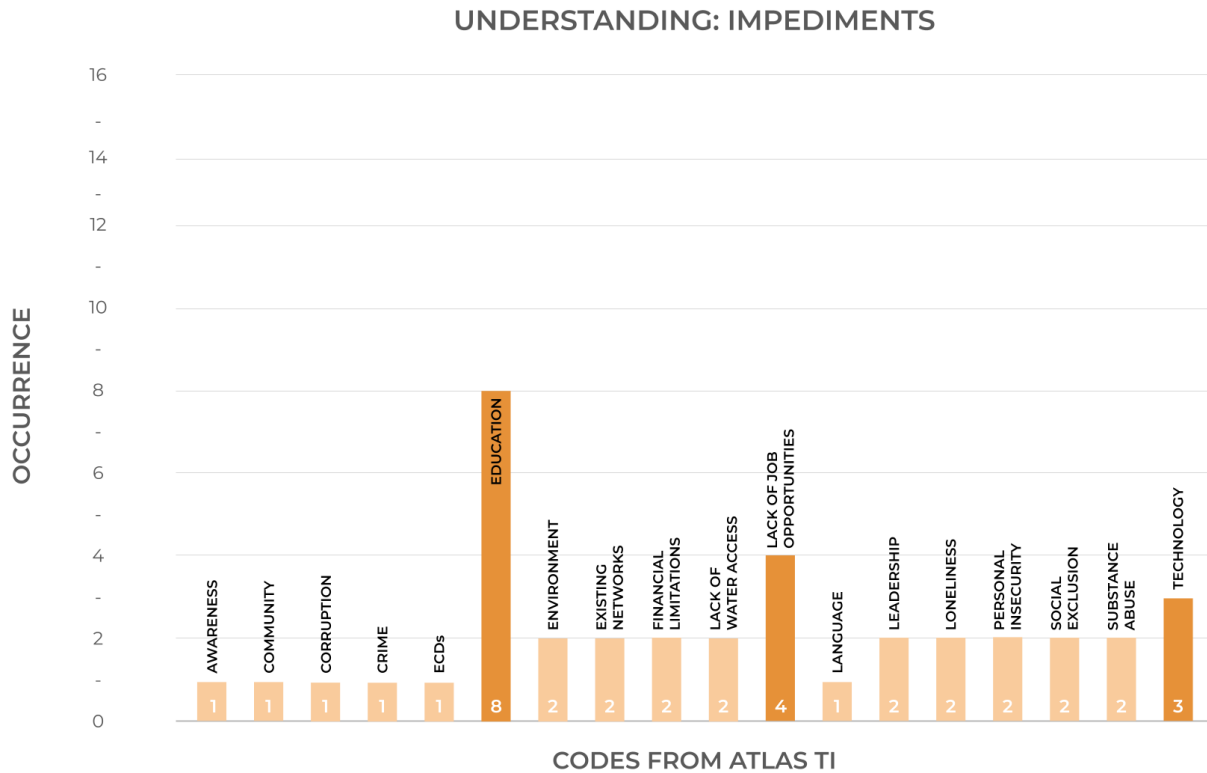


Figure 31: *Understanding Impediments Coded through Atlas Ti™* (Author 2024; UUC 2024)

Data collected for the impediments to the need for *understanding* showed many cited the **lack of educational opportunities** as the largest impediment to satisfying this need. Coupled with complaints regarding the **lack of job opportunities**, this data highlights the importance of self-reliance in creating opportunities through a bottom-up approach rather than relying on outside factors. Moreover, residents complained that **inaccessibility to technology** such as laptops, phones, and wi-fi limited their abilities to apply for jobs and source information for applying to universities and other tertiary education centres.

Utopia of Understanding in Melusi:

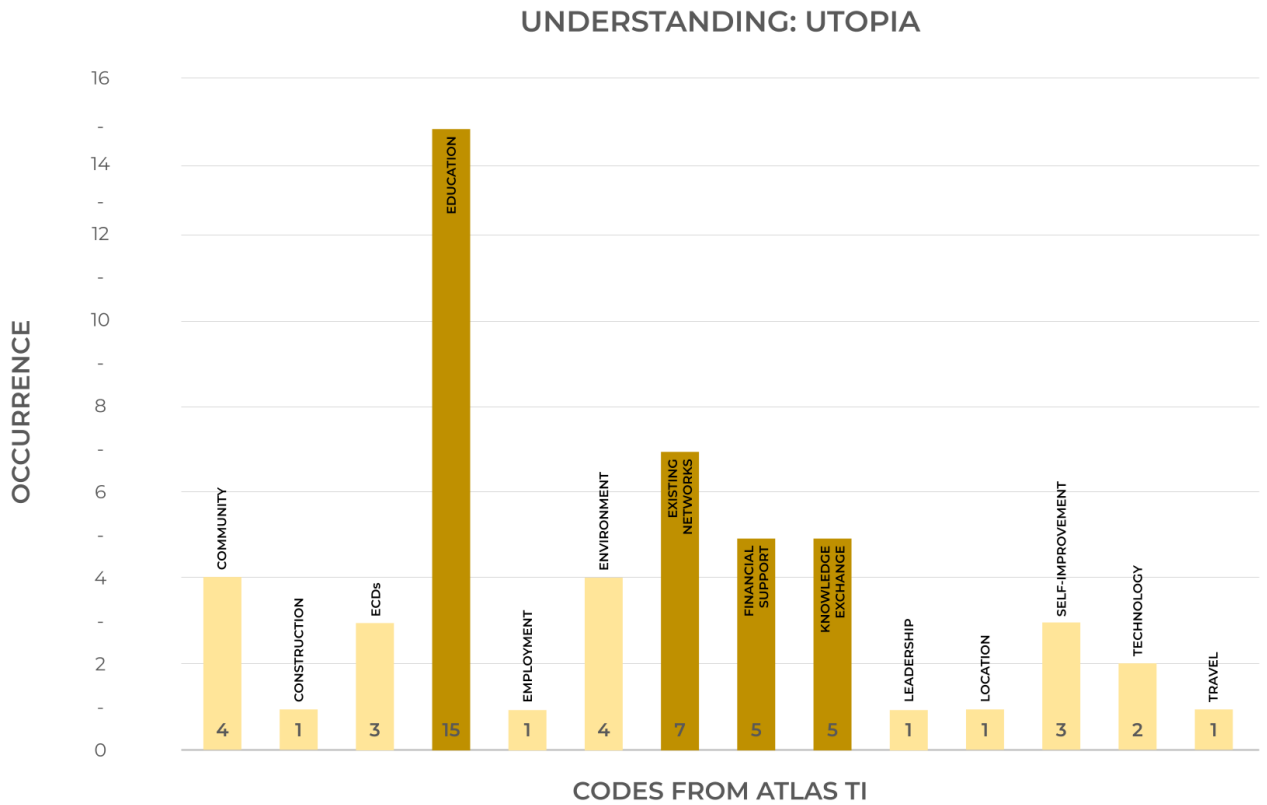


Figure 32: *Understanding Utopia Coded through Atlas Ti™* (Author 2024; UUC 2024)

Melusi’s residents yearn for an **increase in educational facilities** within the settlement for both children and adults. Much of the responses given centred around the expansion of MYDO’s facilities and offerings. In addition to this, the financial struggles of residents could again be visible in these responses as many responses asked for **additional financial support** or free educational programmes to be offered. Building on the 2023 CCW data, **the desire and potential for future knowledge exchange** between residents could once again be evidenced through the data captured.

5 Discussion

5.1. Introduction

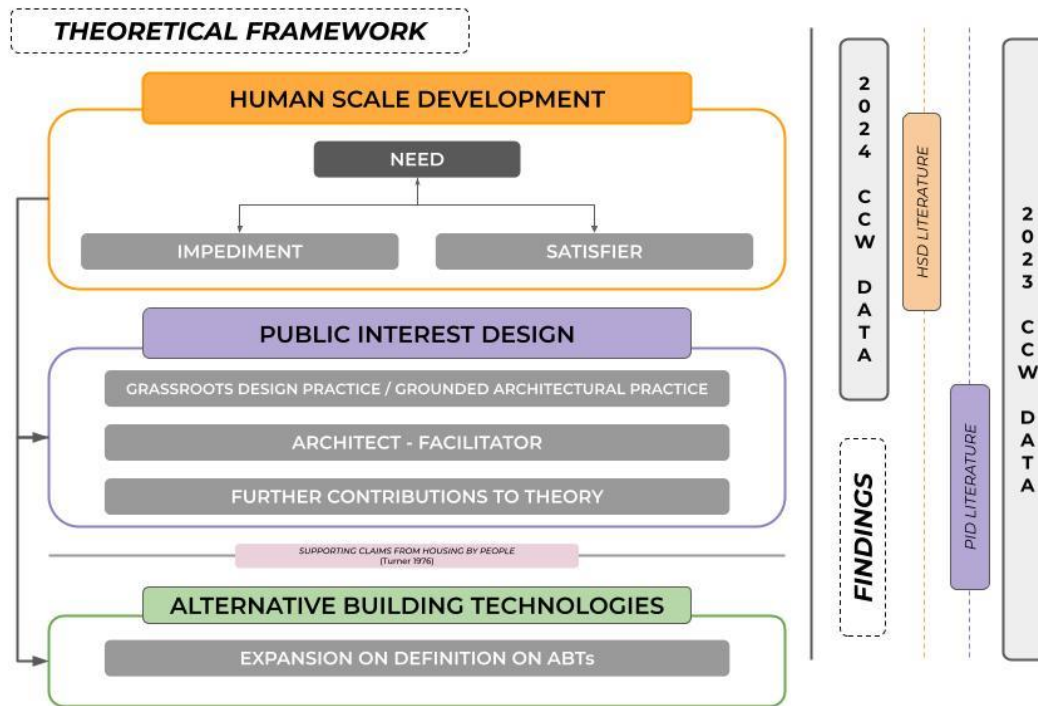


Figure 33: Discussion Narrative Framework (Author 2024)

This section will follow the framework detailed above to unpack the findings that this research has brought to light (Figure 32). Melusi has shown that through the innovative use of salvaged materials and varying survival strategies, the needs of subsistence, creation and understanding have been able to be satisfied through the implementation of the settlement's existing forms of appropriate building technologies. However, this does call into question the limitations of ABTs current definition in terms of its purpose to provide adequate forms of housing for those living in such contexts. Lessons in ABTs have been learnt through assessing how Melusi residents have constructed their own homes and how architects could find a place in assisting the future development of Melusi through understanding what currently takes place in this regard. Furthermore, in doing so operating through appropriate models of PID that ensure the bottom-up process takes precedence.

Moreover, the use of the HSD framework has established a baseline for understanding the residents' most pressing fundamental needs and how existing networks, goods, and activities may satisfy them. The observations noted in Melusi have provided evidence of the responses

to the questions proposed. This has uncovered the possibility of existing building technologies and their supporting systems to act as synergic satisfiers for the needs of subsistence, creation, and understanding.

In addition, the current building solutions made by residents of Melusi in maintaining their dwellings call attention to existing forms of GDP and could further support the notion of future PID-led approaches forming part of future development strategies in Melusi. As Kim (2018) describes, GDP can build alliances by sharing limited resources and further involve architects in the work of realising new design interventions. The possibility of this is further supported by the views of Awan et al. (2011), who state that such grassroots action builds a strong foundation for socially responsible baselines for design practices.

5.2. Human Scale Development in Melusi

The findings in Melusi from the 2023 and 2024 datasets were able to provide a clear picture of the most pressing needs residents have and show the real-world manifestations of these needs. The coded data of the consolidated HSD matrices brought to light the needs of subsistence, creation and understanding, along with the current satisfiers and impediments associated with each of them. Many of the satisfiers for these needs drew strong links back to the supporting systems surrounding existing forms of building technologies used within the settlement. The 2023 CCW data showed the tangible real-world manifestations of Melusi's residents self-reliantly satisfying many of these needs. The 2024 data served as further substantiating evidence that the methods of building and maintaining their dwellings were synergically satisfying the needs mentioned above.

As Max-Neef (1991: 36) states, self-managed production and self-build housing programs alike satisfy the need for subsistence while also stimulating the needs of understanding, creation, participation, identity and freedom. In the case of Melusi, physical observations made on the dwellings confirmed that such activities are already taking place within the settlement. Therefore, this section will further assess how each of these needs is being satisfied in Melusi and link these findings with the current discourse surrounding them in the literature on PID, reflections from Turner's (1976) *Housing by People* and finally how this contributes to a more holistic and improved understanding of ABTs made use of in Melusi.

However, these findings also note the risk of these activities taking the form of inhibiting satisfiers, impacting the satisfaction and actualisation of other needs. There have been

notable overlaps in elements appearing in both matrices of impediments and satisfiers highlighting caution which needs to be taken in future development plans.

5.2.1. Need for Subsistence

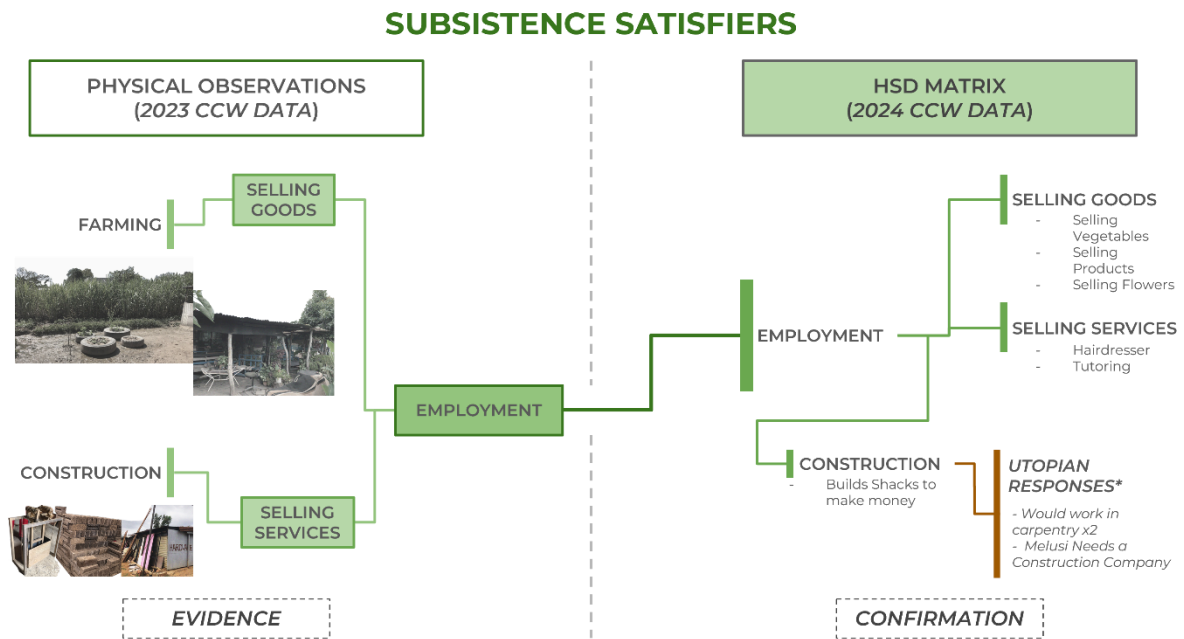


Figure 34: Combined Observations and Findings for Subsistence Satisfiers in Melusi (Author 2024)

The data on satisfiers and impediments for subsistence highlight a direct inverse between the two categories. Residents note that financial limitations, the location of Melusi, and widespread unemployment are the key obstacles faced in satisfying this need. The literature of Max-Neef (1991: 76) suggests that local efforts on a micro-scale could be the solution to the issues mentioned above. Max-Neef (1991: 76) claims that fostering a sense of self-reliance among smaller communities must stem from bottom-up approaches.

The results (UUC 2023; UUC 2024) demonstrate the effects an over-reliance on external macroeconomic systems can have on marginalised smaller communities. Considering this, Max-Neef (1991: 76-77) recommends a set of key actions in response. Firstly, strengthening local organisations to operate independently, and resisting top-down (external) control may decentralise resources, encourage local participation and drive development forward from the ground upwards (Max-Neef 1991:76-77). This in turn creates localised job opportunities that respond to both issues of unemployment and the restrictions that Melusi’s location places on its residents in having such opportunities available to them.

Concerning the financial limitations found in Melusi, Max Neef's (1991: 76-84) unpacking of the concepts of non-conventional resources provides recommendations for alleviating this concern. While the recommendation for supporting local organisations may be an answer to creating localised job opportunities, financing needs to come from somewhere, thus alternative financing methods for development and essentially the payment of employees' wages must be explored. Methods include the decentralisation of financial institutions and, in plain terms the formation of local banks supporting community initiatives (Max-Neef 1991: 83). This would encourage local circulation of finances and cooperative forms of operation among residents of the community (Max-Neef 1991: 81-84).

Moreover, the findings from the 2023 and 2024 datasets substantiate the abovementioned concepts as similar activities are already taking shape in Melusi. The brickmaker and his hardware store (Figure 34) is a strong example of residents crafting their opportunities for employment and facilitating job opportunities for others. The various examples of subsistence farming (Figure 34) reflect the assertiveness and ingenuity of residents in providing their self-reliant food sources. Survey responses regarding Melusi residents' willingness to run businesses in groups and those self-employed operating their own businesses highlight the potential for communal solidarity and possible future collaboration on development goals.

Furthermore, the Utopian matrix (Figure 34) points out that the construction industry within Melusi could take up a key role in this aspect as it can provide additional employment opportunities through selling goods and services as has been observed in Melusi.



Figure 35: HSD Need for Subsistence 2024 Findings on Satisfiers and Impediments in Melusi (Author 2024)

5.2.2. Need for Creation

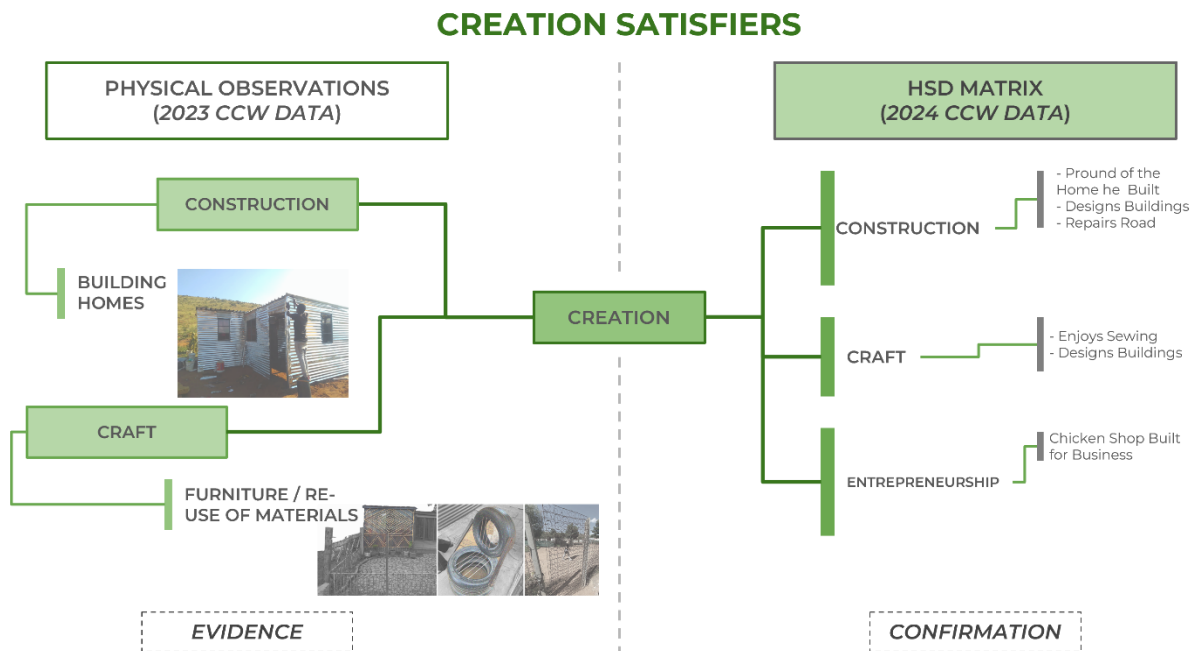


Figure 36: Combined Observations and Findings for Creation Satisfiers in Melusi (Author 2024)

The findings on Melusi residents' need for creation show that many respondents have noted construction, craft, and entrepreneurship as the current most prevalent satisfiers of this need. Similarly, as with subsistence, financial limitations and Melusi's location are cited as the main impediments to satisfying this need. This marks the prospect of a synergic satisfier being utilised in response to both needs. In line with this, Gasper (2022) noted that synergic satisfiers could form the baseline for sustainable development approaches. One example of a synergic satisfier is outlined by Max-Neef (1991: 32) in the form of self-build housing systems, operating as a key satisfier for creation he notes that this activity would also stimulate the need for participation and understanding among residents.

In addition, self-build housing systems could see an upturn in employment within Melusi, once again satisfying the need for subsistence. Another notable impediment mentioned by the respondents was that many felt fear and personal insecurity in expressing themselves creatively. Max-Neef (1991: 77) recommends that a re-evaluation of work and capital could be

proposed. This would work by recognising it as more than productive output alone and could foster creativity, communal identity, and solidarity among residents (Max-Neef 1991: 77).

The expression of Melusi’s creative outputs observed in the 2023 data is evidence of the satisfiers noted in 2024 by the CCW studio. The innovative usage of reclaimed materials in the settlement again reinforces the idea of maximising the potential construction and crafts industry within Melusi.

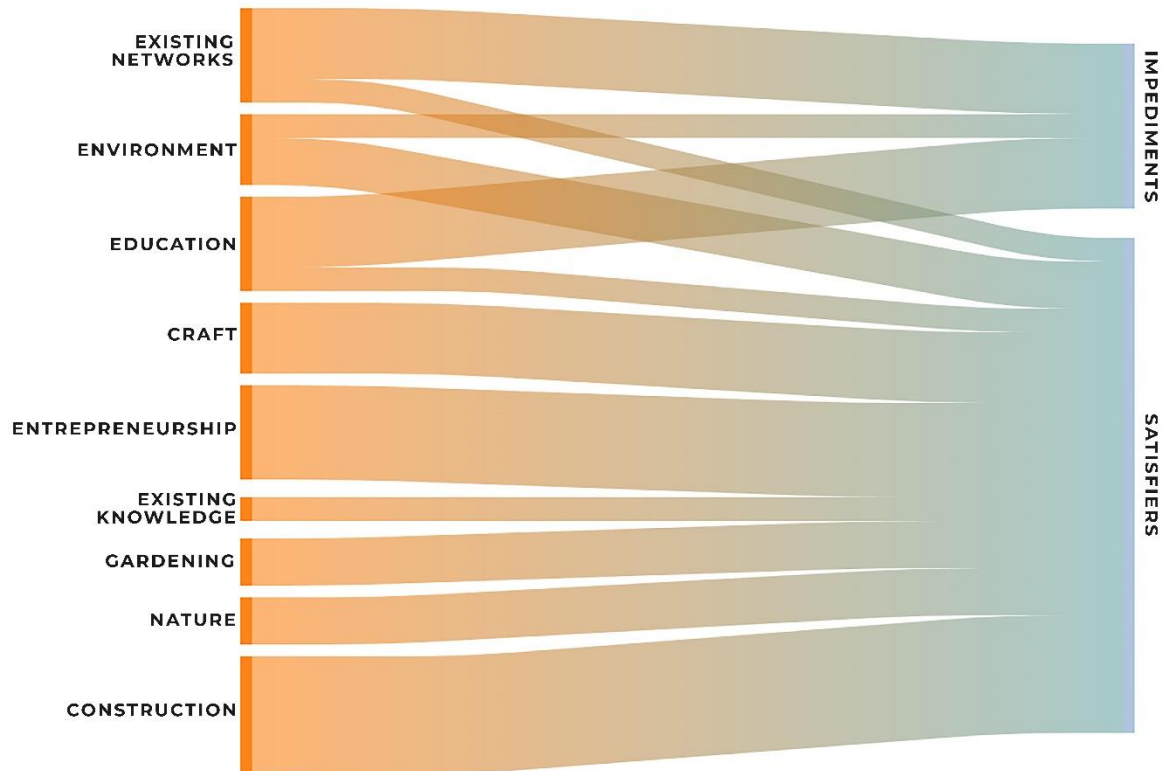


Figure 37: HSD Need for Creation 2024 Findings on Satisfiers and Impediments in Melusi (Author 2024)

5.2.3. Need for Understanding

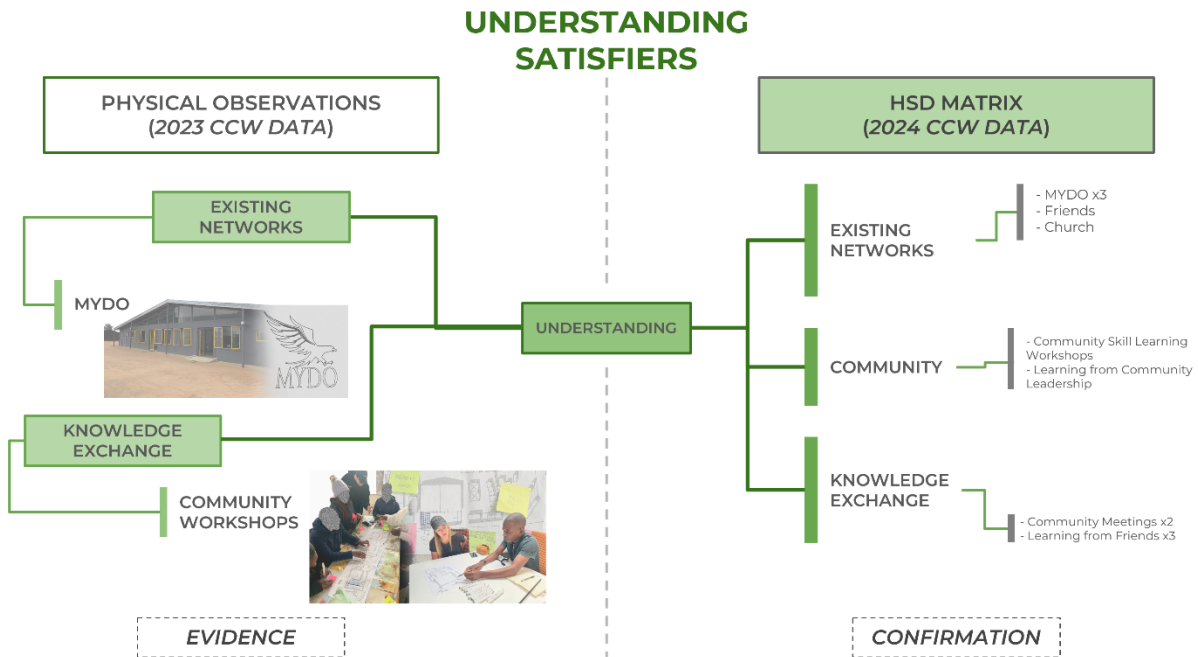


Figure 38: Combined Observations and Findings for Understanding Satisfiers in Melusi (Author 2024)

The 2023 CCW data found a high potential for knowledge exchange among Melusi residents. These findings were confirmed once again in the dataset following the 2024 fieldwork, with many residents claiming different forms of knowledge exchange satisfying the need for understanding among themselves. Opportunities for knowledge exchange have been found concerning small-scale subsistence farming, waterproofing methods of dwellings (Figure 17), and existing skills in business and entrepreneurship (UUC 2023).

A positive reflection is made on knowledge itself as a non-conventional resource, Max Neef (1991: 79) describes its ability as such to accumulate beyond itself, especially in the case of practical knowledge generated by the community. Viewed in these instances in Melusi, the literature suggests that this exchange of knowledge and therefore its expansion also increases the potentiality of the resources themselves (Max-Neef 1991: 79). Hence, the use cases of such materials used in Melusi are further expanded as seen in the different examples mentioned (Figure 38).

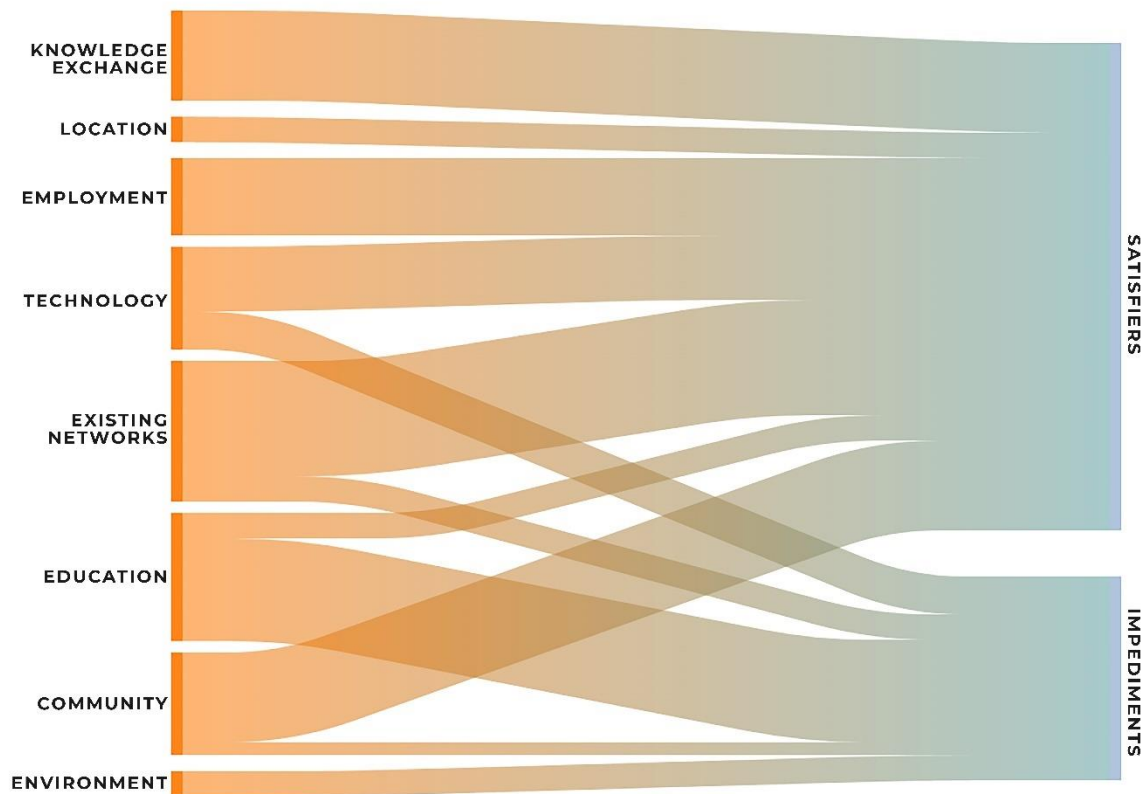


Figure 39: *HSD Need for Understanding 2024 Findings on Satisfiers and Impediments in Melusi (Author 2024)*

5.3. Co-ordination with Public Interest Design

The definition of PID clarified in this paper underscores the importance of understanding human needs as the logical starting point for socially responsible design interventions. Henceforth, the findings concerning the HSD needs of subsistence, creation and understanding stand as a viable root for future design recommendations that may take place within Melusi. The existing conditions as studied and analysed within the settlement can therefore also argue for the role of Melusi's residents as end-users and architectural clients to be framed in a new light. In line with the observations made about how residents have retrofitted self-produced forms of building technology within their homes, they can be placed in the role of experts alongside architectural professionals within the design phase of future interventions. As stated by Stappers, Sanders, Sleeswijk Visser & van der Lugt (2005) they are experts of their own experience and can therefore add immense value to that of future spatial interventions taking place in the context they understand best.

This section outlines the results of what has been understood concerning Melusi's needs and how they have satisfied them with relevant recommendations for subsequent PID methodologies and praxis. Furthermore, based on the understanding of formal architectural practice in South Africa outlined in this paper, recommendations can be made as to how architects may be able to assist in the future development of informal settlements like Melusi.

5.3.1. Grassroots Design Practice in Melusi

The findings and observations made in Melusi concerning the methods of building and resultant forms of knowledge exchange taking place among residents showcase existent Forms of GDP highlighting the opportunity for the future practice of GAP within the settlement. As stated by Kim (2018) and observed in Melusi residents' self-reliant building methods, GDP's sharing of knowledge resources fosters community alliances and results in the construction of smaller-scale projects. Moreover, findings on the willingness of residents to assist neighbours with the repairs of dwellings also stand as evidence of grassroots efforts ability in what Awan et al. (2011) have described as a foundation for stronger physical, environmental, and socially responsible design practices.

MYDO and its role within the community may in this respect also play an extended role in the praxis and understanding of GDP. The analysed matrix responses for understanding spotlight MYDO as an important player in knowledge exchange and community support. This potential is underpinned by Kim (2018) who states that GDP is often led by local non-profit organisations aiming at revitalisation efforts within their communities. Furthermore, Perold et al. (2019) make an example of a similar instance of this occurring. The authors mention the VPUU as having had the ability to facilitate GAP around Lotus Park in the Western Cape allowing a positive developmental change in the area (Perold et al 2019: 104-105). MYDO's ongoing engagement alongside the UUC has in a similar sense facilitated the building of small-scale collaborative projects to break ground in Melusi (Figure 40).

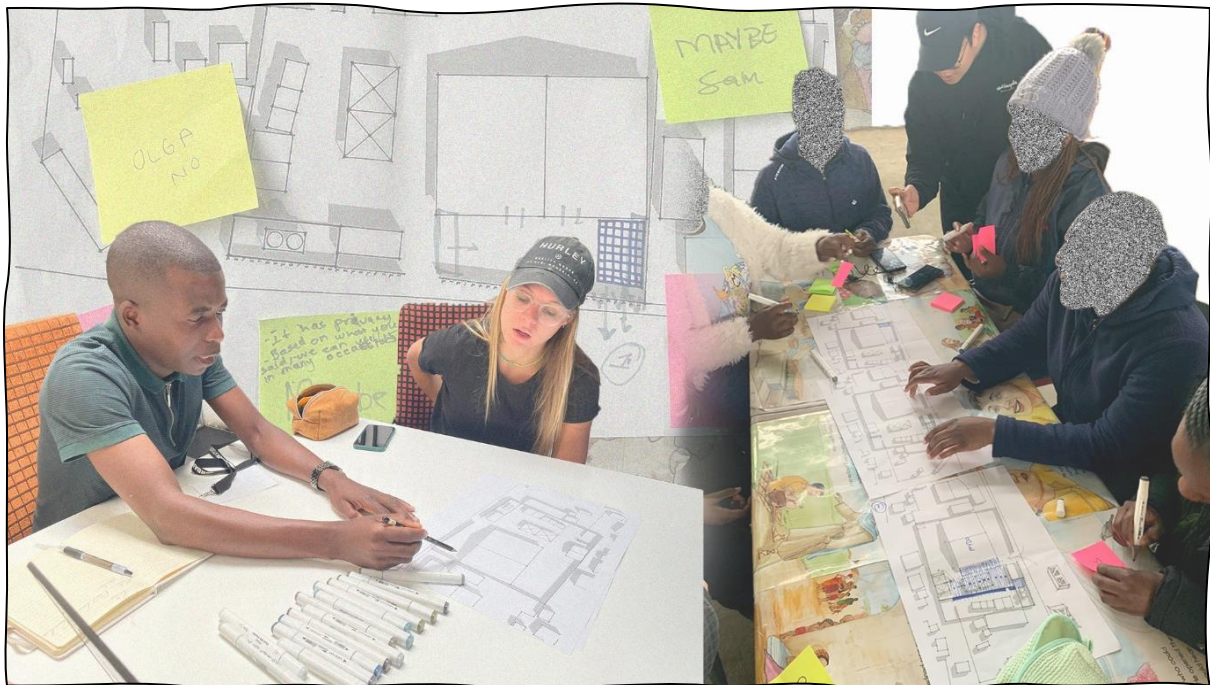


Figure 40: Collage of Work between UUC and MYDO (Author 2024; UUC 2023)

Furthermore, the strength and extent of the findings which have been made possible by the collaboration of MYDO and its role in mobilising residents, highlight the capacity of this enhanced responsibility. The data uncovered by both CCW studios have also pointed to a need for more work to be done in Melusi that can be done through a more critical lens reflecting the needs of the residents. In line with this, Oldfield, Parnell & Mabin (2004: 294) recall the importance of such morally engaged work and its rooting in a critical reconstruction of alternative practice taking place in the existing social and political reality the context itself engages with.

Subsequently, considering this, architects and spatial planners have shown in Melusi the variability and scale grassroots actions may allow them. In line with Kim's (2018) description of this, these findings show a promising area of collaboration between architects and grassroots groups.

5.4. Supporting Perspective of Housing by People

The *knowledge exchange group* from the 2023 CCW studio concluded with a hopeful and positive outlook on the potential formation and articulation of knowledge exchange systems within Melusi (UUC 2023). This hopefulness and positivity set in the background of a context such as Melusi, points to the benefits of the bottom-up approaches found necessary in the

development of informal settlements. Reflecting the literature of Turner (1976), these findings support the claims made concerning the efficiency of informality in moving forward autonomously in response to the many problems faced by those living in poverty.

As noted in the findings on residents making repairs on their dwellings because of damage caused by weather and other external elements, the data showed most of these repairs were handled by residents themselves. This is one example of the wider discussion surrounding why the perpetual state of new emerging informal settlements may be the most appropriate solution in response to the housing backlog faced in South Africa at large. These findings are reflected in Bower's (2016: 86) explanation of the resultant conditions within these informal spaces which feature systems of self-reliance, organisation, and the collaboration of people. These collaborative survival strategies have resulted in the maintenance of streets and the connection of rudimentary services like electricity (although in some cases illegal) which may be deemed as necessary and justifiable methods of producing socially sustainable communities.

Furthermore, the existence and expansion of Melusi can be seen as a testament to the response of the legal and economic absence informality possesses in the production of sustainable social conditions. These findings stand in line with the views reflected in the literature despite much of the land on which Melusi has been built having been acquired through illegal squatting or informal purchase (Bower 2016: 86).

5.5. An Update on Alternative Building Technology Understanding

As has been presented through the findings, through both what the residents of Melusi see as their most pressing current needs and the responses made in the form of innovative building solutions, an improved understanding of ABTs can be proposed in the case of Melusi. This section unpacks the findings through the lens of the current proposition made by ABTs in South Africa as a response to the growing housing backlog as a means of supplying homes more quickly and cost-effectively.

5.5.1. A More Appropriate Definition for ABTs in Melusi

The current definition of ABTs includes any expertise, skills, knowledge, equipment, or machinery that are not considered conventional, used in the delivery of affordable housing to accelerate the process without compromising the long-term quality of the finished product (Adetooto et al. 2022; NHBRC 2020; SAHIF 2020; Botes 2013). These form a generalised

view of conditions surrounding the application of such technologies in the delivery of low-income housing as a one-size-fits-all approach. As a result of this, projects making use of ABTs have not seen widespread adoption in affordable housing projects (Botes 2013: 25).

Moreover, the definition of ABTs used by both government and scholars has been limited to this understanding. It fails to recognise the autonomous forms of housing construction visible in many informal settlements around South Africa. Therefore, an extension of this definition should respect what has been done by those providing their own self-built forms of housing in a wider housing economy that has failed to cater for them. As the findings in Melusi suggest, most homes in the settlement have been constructed using corrugated sheeting and wattle poles these could be argued for as a cheaper *alternative* to the brick-mortar dwellings deemed to be conventional. Considering the concepts of *retro-innovation* (Galmarini et al. 2022) and *regional revitalisation* (Wu et al. 2019) understood in the evolution of building technologies, this study of the existing practices in Melusi highlights the benefits of remaining contextual in building on what has preceded by appreciating the local knowledge of Melusi's residents.

The term *alternative*, in this case, may therefore be seen as problematic as it suggests looking elsewhere for the solution. Since what may be deemed as an alternative in one place could be conventional in another, research on building technologies within marginalised settings such as Melusi must remain contextual to best understand logical steps forward in the development of technologies going forward. This is supported by Wu et al. (2019) who noted the importance of considering the local experience level of workers working with newer materials. This is especially vital in Melusi as the data notes many repairs are undertaken by residents themselves. This would suggest that the introduction of new foreign technologies could disrupt these knowledge systems, and subsequently impact other factors surrounding this activity.

5.5.2. Building Technology and Human Scale Development

The change in understanding surrounding ABTs aims to look at the deeper underlying systems that function because of how people currently construct their homes. By aimlessly suggesting new materials to be used in the construction of more affordable housing, there is a potential risk of building technologies becoming an inhibiting satisfier of needs as described by Max-Neef (1991: 35). As he explains, these satisfiers generally oversatisfy one need and negatively impact the satisfaction of other needs. As the findings have shown, construction satisfies the needs of subsistence, creation and understanding. In suggesting high-tech materials and

techniques that exclude the end-user from the construction process there is a risk affecting the latter two.

The framework of HSD holds key understandings concerning the societal conditions surrounding activities and economic goods (Max-Neef 1991) in Melusi. In this sense, construction and its related elements have been considered satisfiers and part of the utopian vision of Melusi's ideal future development. Through this understanding of what currently exists in Melusi, a clear positive view of the effects of the industry surrounding local building technologies can be understood. Siphika (2023) reflects this, describing the potential construction, particularly with ABTs. He states that construction with ABTs can provide the local community with employment opportunities (Siphika 2023). This is reflected by Botes (2013) as well as an important societal requirement ABTs must address when being implemented from external sources.

Furthermore, the findings in Melusi have noted connections between employment satisfying the need for subsistence and construction being one such activity employing the settlement's residents. This substantiates the claim made by Botes (2013), who notes that if one were to consider the implementation of fully prefabricated forms of ABTs it may result in less local labour needed for the construction phase of the projects. Considering this, the data can confirm the risk of such ABTs acting as an inhibiting satisfier, as these would limit job opportunities in such instances.

Considering this, the findings can note that Melusi's existing relationship with building technologies positively highlights the possibilities of future industry. Examples such as the craftsman selling his hand-made bricks and selling them at his hardware store (and the various examples of neighbours assisting one another in the construction and repair of their dwellings reflect this nature. Finally, as supported in the literature such grassroots actions have wide-ranging positive impacts on not only the development of a more sustainable socio-economic state of the settlement but may also offer a richer understanding of how building technology may evolve within Melusi.

6 Conclusion

6.1. Introduction

This section will summarise the findings of this dissertation in terms of the data analysed in Melusi. Furthermore, it will also unpack how these findings contribute to the wider discourse surrounding both PID and research exploring how building technologies may respond to the

development of informal settlements. Moreover, the key findings of this section will also be reviewed in terms of the aims set out for this study, and through weighing these up against the limitations this research was subject to, make recommendations for further research on what has been uncovered.

6.2. Summary of Key Findings

This dissertation has explored the relationship between the theoretical framework of HSD and where PID praxis may act as a viable response to actualising the needs of residents in the informal settlement of Melusi. Through the analysis of the responses given by the residents of the settlement through the community engagement processes, a strong understanding of the existing physical conditions and fundamental needs could be achieved. Following this, the data could be analysed to uncover the connections between existing activities concerning the building methods used in the construction of dwellings and how the supportive systems of these activities act as satisfiers to the needs of subsistence, creation, and understanding. This found that there are strong existing local knowledge systems that have the possibility of facilitating a sustainable foundation for the development of the settlement's building technology and construction industries.

By focusing this development through bottom-up strategies informed by both the HSD framework and lessons learnt from PID praxis, community members may be empowered through an increase in levels of self-reliance. This underscores the necessity of evolving what is currently meant by the term ABTs in which the word *alternative* may be problematic. This is because the word implies that what is better manifests itself from external sources and is bestowed upon such contexts through top-down methods of application. Therefore, the risk of upsetting local knowledge systems and curtailing the development of existing building practices becomes evident. Moreover, when considering these implications ABTs may realise themselves as inhibiting satisfiers within Melusi if implemented incorrectly.

Furthermore, the findings of this dissertation can therefore suggest that the improved understanding of existing building practices in Melusi can form a viable starting point for the development of future contextualised forms of building materials, practices, and techniques.

6.3. Contributions to Overall Discourse on PID and Building Technology Research

This research has therefore enriched the broader discussion on PID by employing the HSD framework to articulate end-users' needs more effectively. Furthermore, this research connects the HSD framework to an architectural grounding by understanding how the needs, satisfiers, and impediments analysed can inform future PID praxis. Moreover, by concentrating on the existing building technologies in Melusi, this study emphasises the importance of understanding the risks and sensitivities that must be considered when introducing new forms of ABTs in similar marginalised contexts.

Therefore, this study offers an expansion to the existing definition of ABTs accepted by both governments and scholars alike. In doing so, the suggestion is made that priority should be placed on centring development around bottom-up community-led industries surrounding existent building technologies. This underscores the necessity of contextualising the development of appropriate building technology that takes note of the local knowledge systems on building materials and assembly techniques.

Finally, the findings in this report can further note the relevance of the involvement of the architectural profession in the upgrading process of informal settlements.

6.4. Research Limitations

It should be noted, however, that the study has been subject to several limitations that unfortunately limit the generalisation of the findings. Due to the time of day set out for the fieldwork that formed part of both 2023 and 2024 CCW studios, the dataset was unable to capture responses of residents who worked and studied outside of the settlement. Furthermore, this study could only form an understanding based on the relatively small sample size of Melusi residents who responded to the surveys and participated in the games used to gather responses for the HSD matrix. As a result, this research does not accurately reflect the conditions of the various levels of development and infrastructure present in other informal settlements in South Africa.

Additionally, due to the time constraints and the scope of data collection being confined to Melusi, this research cannot definitively present a comprehensive view of ABTs usage in South African informal settlements.

However, it may be noted that consistency in the physical observations made from 2023's dataset was reflected in the consolidated matrices highlighting the value and applicability of the data in answering the research question. Despite the limitations faced, the specificity of the research aims ensured that the research questions outlined could be investigated thoroughly.

6.5. Recommendations for Further Study

As a recommendation for further studies, research analysing the self-built forms of housing in a broader range of informal settlements could be conducted. This approach would help achieve a more general understanding of appropriate building technologies that can build upon the existing technologies established by locals. Furthermore, since this research has covered various aspects of daily life within the settlement of Melusi, a more transdisciplinary approach could be beneficial. Max-Neef (1991: 38) notes the importance of this in the HSD framework due to the complexity of the issues present within the discussion. This approach would help form a better understanding of the necessary considerations needed in the development of such sensitive and marginalized contexts.

In conclusion, this dissertation has examined how architects working in PID can enhance the understanding of ABTs in Melusi to meet residents' needs for subsistence, creation, and understanding. Ultimately, it shifts the conversation towards maximizing existing resources rather than proposing alternative building technologies. By engaging with the community in Melusi, the study uncovered significant local knowledge systems that can foster sustainable development in building technology and construction. The findings suggest that leveraging bottom-up strategies informed by the HSD framework and PID practices can empower community members and increase their self-reliance, challenging the notion of ABTs as solely external solutions and highlighting the risks of disrupting local practices.

However, the study's scope and time constraints limit the generalisability of its findings. The research has primarily reflected conditions in Melusi, and further studies across more informal settlements have been recommended for a more comprehensive understanding. A transdisciplinary approach is also advised to tackle the complex issues in these contexts. Ultimately, this dissertation has underscored the crucial role of the architectural profession in upgrading informal settlements, advocating for development efforts that are informed by PID praxis that in turn will be responsive to the needs of the local community.



7 References

I. Bibliography

Abendroth, L & Bell, B. 2015. *Public Interest Design Practice Guidebook*. 1st ed. New York: Routledge. Available from: <https://www-taylorfrancis-com.uplib.idm.oclc.org/books/edit/10.4324/9781315749570/public-interest-design-practice-guidebook-lisa-abendroth-bryan-bell> [Accessed 1 April 2024].

Adetooto, J, Windapo, A & Pomponi, F. 2022. The use of alternative building technologies as a sustainable affordable housing solution: perspectives from South Africa. *Journal of Engineering, Design and Technology*. ahead-of-print(ahead-of-print). doi.org/10.1108/JEDT-05-2022-0257.

Aristotle. 1967. *Aristotle's Politics*. Clarendon Press.

Awan, N, Schneider, T & Till, J. 2011. *Spatial agency: other ways of doing architecture*. Abingdon: Routledge.

Bell, B. 2013. Towards a Cultural Value of Design and Democracy. *Oz*. 35(1). doi.org/10.4148/2378-5853.1519.

Bennett, J & Combrinck, C. 2016. Navigating hostile territory? Where participation and design converge in the upgrade debate. 305–322.

Botes, AW. 2013. A feasibility study of utilising shipping containers to address the housing backlog in South Africa. Stellenbosch : Stellenbosch University. Available from: <http://hdl.handle.net/10019.1/85714> [Accessed 25 April 2024].

Bower, R. 2016. Who Decides and Who Provides? The Anarchistic Housing Practices of John Turner as Realizations of Henri Lefebvre's Autogestive Space. *Alternatives*. 41(2):83–97. doi.org/10.1177/0304375416684856.

Braun, V & Clarke, V. 2006. Using thematic analysis in psychology. *Qualitative Research in Psychology*. 3(2):77–101. doi.org/10.1191/1478088706qp063oa.

Chase, J, Crawford, M & Kaliski, J. 2008. *Everyday urbanism*. Expanded ed ed. New York: Monacelli Press. Available from: <http://catdir.loc.gov/catdir/toc/fy0903/2008037263.html> [Accessed 24 June 2024].

Cirolia, LR, Görgens, T, van Donk, M, Smit, W & Drimie, S. 2016. *Upgrading Informal Settlements in South Africa | A Partnership-Based Approach*. First ed. Cape Town: UCT Press.

Combrinck, C. 2015. A Model to Address Marginality of the Architectural Profession in the South African Discourse on Informal Settlement Upgrade. University of Pretoria.

Combrinck, C. 2023. *Research Field Project (RFP 711) 2023 Quarter 1: Abstract and Brief: Urban Citizenship: Plastic View and Melusi*. University of Pretoria. Available from: https://drive.google.com/file/d/10HkRTc9Jldsyj-OK91AbYAV3KypCbZ98/view?usp=drive_link

Combrinck, C. 2024. *Design Investigative Treatise (DIT 801) 2024: Abstract and Brief: Public Interest Design in South Africa Understanding socio-spatial needs through Max-Neef's human-scale matrix*. University of Pretoria. Available from: https://drive.google.com/file/d/1M7Ng4bbFI-QfEq7ahSzP1DLrZK7-V2Xu/view?usp=drive_link

Cruz, I, Stahel, A & Max-Neef, M. 2009. Towards a systemic development approach: Building on the Human-Scale Development paradigm. *Ecological Economics*. 68:2021–2030. doi.org/10.1016/j.ecolecon.2009.02.004.

De Certeau, M. 1984. *The Practice of Everyday Life*. First Edition ed. Los Angeles: University of California Press. Available from: https://monoskop.org/images/2/2a/De_Certeau_Michel_The_Practice_of_Everyday_Life.pdf [Accessed 22 May 2022].

Department of Human Settlements. 2010. *The Use of Alternative Building Technologies in Low-Cost Housing Construction: Why the Slow Pace of Delivery?* Pretoria. Available from: <https://static.pmg.org.za/docs/2011/110216review.pdf>.

Department of Human Settlements. 2021. *Baseline Evaluation of Informal Settlements Targeted for Upgrading in the 2019-2024 Medium Term Strategic Framework*. (Full Report). Pretoria: Department of Human Settlements.

Du Plessis, C. 2005. Action for Sustainability: Preparing an African plan for sustainable construction. *Building Research and Information*. 33. doi.org/10.1080/09613210500218974.

Du Toit, J. 2014. Research Design. In: *The Routledge Handbook of Planning Research Methods*. Routledge.

Ferdous, F & Bell, B. 2020. *All-Inclusive Engagement in Architecture: Towards the Future of Social Change*. doi.org/10.4324/9780367341985.

Galmarini, B, Costa, P & Chiesi, L. 2022. Natural Building Materials and Social Representations in Informal Settlements: How Perceptions of Bamboo Interfere with Sustainable, Affordable, and Quality Housing. *Sustainability*. 14(19):12252. doi.org/10.3390/su141912252.

Grady, B, Muzila, D, O'Neill, K & Tanner, A. 2019. *Alternative Building Technologies for LowIncome Housing in Cape Town, South Africa*. (Interactive Qualifying Project Report). Worcester Polytechnic Institute. Available from: <https://bpb-us-w2.wpmucdn.com/wp.wpi.edu/dist/d/264/files/2020/02/Alternative-Building-Technologies-CT19.pdf> [Accessed 27 May 2024].

Groat, LN & Wang, D. 2013. *Architectural Research Methods*. Second Edition ed. New Jersey: Wiley. Zotero [Accessed 31 March 2024].

Hamdi, N. 2010. *The placemaker's guide to building community*. London: Earthscan.

Huchzermeyer, M. 2006. The new instrument for upgrading informal settlements in South Africa: Contributions and constraints. *Informal Settlements: A Perpetual Challenge*. (January, 1):41–61.

Hugo, JM. 2023. Heat stress: adaptation measures in South African informal settlements. *Buildings and Cities*. 4(1):55–73. doi.org/https://doi.org/10.5334/bc.269.

Isandla Institute. 2017. Available from: https://isandla.org.za/es-es/resources/item/download/141_ea7a20f778aac02036d59132e875fe7b [Accessed 24 May 2024].

Kim, J. 2018. Understanding Public Interest Design: A Conceptual Taxonomy. In: *The Routledge Companion to Architecture and Social Engagement*. Routledge.

Lefebvre, H. 1991. *The Production of Space*. Basil Blackwell. Available from: https://monoskop.org/images/7/75/Lefebvre_Henri_The_Production_of_Space.pdf.

Louw, M. 2021. *The Search for Hybrid Tectonics in Contemporary African Architecture: Encounters Between the Global and the Local*. University of Cape Town.

Maslow, AH. 1943. A Theory of Human Motivation. *Psychological Review*. 50:370–396.

Max-Neef, M. 1991. *Human Scale Development: Conception, Application and Further Reflections*. Apex Press.

Melvin, J. 2017. The Table House in Cape Town, South Africa by Noero Architects and Rainer Hehl. Available from: <https://www.architectural-review.com/buildings/the-table-house-in-cape-town-south-africa-by-noero-architects-and-rainer-hehl> [Accessed 25 June 2024].

Moraba, NL. 2013. Challenges of Implementing Breaking New Ground Policy in the North West Province. University of the Witwatersrand. Available from: <https://wiredspace.wits.ac.za/bitstreams/a25d0d70-5b45-48e5-99f4-47d4210eba8e/download> [Accessed 13 April 2024].

Msimang, Z. 2017. A Study of the Negative Impacts of Informal Settlements on the Environment. A Case Study of Jika Joe, Pietermaritzburg. University of KwaZulu-Natal. Available from: <https://researchspace.ukzn.ac.za/items/a42ba7ab-4118-44d8-940a-3273ad23ede0> [Accessed 28 May 2024].

National Home Builders Registration Council. 2020. *Consumer and Stakeholder Perceptions and Acceptance of Building Technologies used in Residential Construction*. South Africa: National Home Builders Registration Council. Available from: <https://nhbrc.org.za/wp-content/uploads/2020/10/Consumer-and-Stakeholder-Perception-Study-on-IBTs-used-in-residential-construction-Final-Report.pdf>.

Noero, J. 2017. Jo Noero & Noero Architects | Cape Town & PE | Noero Architects. Available from: <https://www.noeroarchitects.com/about-noero-architects/> [Accessed 25 June 2024].

Oberholster, J, Combrinck, C & Schonfeldt, H. 2023. Learning from Architects Who Engage in the Upgrade of Informal Settlement Programmes (UISP) in South Africa. 109–112. doi.org/10.1007/978-3-031-27308-7_20.

Oldfield, S, Parnell, S & Mabin, A. 2004. Engagement and reconstruction in critical research: Negotiating urban practice, policy and theory in South Africa. *Social & Cultural Geography - SOC CULT GEOGR*. 5:285–299. doi.org/10.1080/14649360410001690268.

- Osman, A. 2015. *What architects must learn from South African student protests*. Available from: <http://theconversation.com/what-architects-must-learn-from-south-african-student-protests-50678> [Accessed 15 May 2024].
- Perold, R, Donaldson, R & Devisch, O. 2019. Architecture in Southern African informal settlements: A contextually appropriate intervention. *Urbani izziv*. Supplement:96–111. doi.org/10.5379/urbani-izziv-en-2019-30-supplement-007.
- Pieterse, E. 2011. Grasping the unknowable: coming to grips with African urbanisms. *Social Dynamics*. 37(1):5–23. doi.org/10.1080/02533952.2011.569994.
- Siphika, R. 2023. *Alternative building tech may aid SA's informal housing crisis, but is no panacea*. Available from: <https://www.dailymaverick.co.za/opinionista/2023-01-15-alternative-building-technologies-may-be-a-boon-to-south-africas-informal-human-settlements-crisis-but-are-not-a-panacea/> [Accessed 19 May 2024].
- Smuts, C. 2010. *CS Studio Architects Philosophy*. Available from: <https://csstudio.co.za/Philosophy.php> [Accessed 25 June 2024].
- South Africa. 2000. *The Architectural Profession Act 44 of 2000*. Available from: https://www.gov.za/sites/default/files/gcis_document/201409/a44-000.pdf
- South African Housing and Infrastructure Fund. 2020. *Alternative Building Technologies: Thought Paper*. Available from: https://www.sahiffund.co.za/documents/SAHIF_THOUGHT_PAPER_Alternative_Building_Technologies_NOVEMBER_2020.pdf
- Stappers, PJ, Sanders, E, Sleswijk Visser, F & van der Lugt, R. 2005. Context mapping: experiences from practice. *CoDesign*. 1(2):119–149. doi.org/10.1080/15710880500135987.
- Sverrisdóttir, H & Mathiesen, A. 2014. *The Sociopolitical Role of the Architect / Interview: Communication SCIBE*. Available from: https://www.academia.edu/32730710/The_Sociopolitical_Role_of_the_Architect_Interview_Communication_SCIBE [Accessed 2 June 2024].
- Tissington, K. 2010. *Towards an SER Matrix: Monitoring the Progressive Realisation of Socio-Economic Rights in South Africa*. (Review). South Africa: Socio-Economic Rights Institute of South Africa.
- Turner, JFC. 1976. *Housing by People: Towards Autonomy in Building Environments*. New York: Pantheon Books.
- United Nations. 2019. *Building Inclusive and Sustainable Cities and Communities*. Salt Lake City: United Nations. Available from: https://www.un.org/sites/un2.un.org/files/2020/02/outcome_statement_uncsc2019.pdf.
- Unit for Urban Citizenship. 2023. *Urban Citizen Studio - Melusi informal settlement - Part 2 Knowledge Exchange*. [YouTube video] Available from: <https://www.youtube.com/watch?v=QdL9A3RzIQI> [Accessed 13 June 2024]

Unit for Urban Citizenship. 2023. *Urban Citizen Studio - Melusi informal settlement - Part 4 Skills and Business*. [YouTube video] Available from:
<https://www.youtube.com/watch?v=qzVBlwU7YR0> [Accessed 13 June 2024]

University of Pretoria. n.d. *Unit for Urban Citizenship | University of Pretoria*. Available from:
<https://www.up.ac.za/architecture/article/2933010/unit-for-urban-citizenship-> [Accessed 24 June 2024].

Wu, J, Wei, H & Peng, L. 2019. Research on the Evolution of Building Technology Based on Regional Revitalization. *Buildings*. 9(7):165. doi.org/10.3390/buildings9070165.

II. List of Figures

Figure 01	<i>Image of Melusi and Surrounding Context</i>	(Author 2024)
Figure 02	<i>Image of Melusi Youth Development Organisation</i>	(UUC 2023)
Figure 03	<i>Shading Structure & Tuckshop Built as part of the Co-Design Studio in 2023</i>	(UUC 2023)
Figure 04	<i>The HSD Matrix of Needs and Satisfiers</i>	(Max-Neef 1991: 33-34)
Figure 05	<i>Nine Practice Modules of PID</i>	(Kim 2018)
Figure 06	<i>Table House Concept by Jo Noero</i>	(Noero 2016)
Table 07	<i>Factors influencing the Evolution of Building Technology Throughout the history in China</i>	(Wu et al. 2019)
Figure 08	<i>Map of Melusi showing areas covered by CCW Survey in 2023</i>	(UUC, 2023)
Figure 09	<i>Stakeholder Presentation of 2023 at MYDO</i>	(UUC 2023)
Figure 10	<i>Soccer Game Poster and Instructions</i>	(Author 2024)
Figure 11	<i>Locations of Stations placed throughout Melusi</i>	(UUC 2024)
Figure 12	<i>Survey 123™ Data Regarding Use of Gardens by Melusi Residents</i>	(UUC 2023)
Figure 13	<i>Use of reclaimed materials for small-scale subsistence farming in Melusi</i>	(UUC 2023)
Figure 14	<i>Survey 123™ Data on Employment in Melusi</i>	(UUC 2023)
Figure 15	<i>Survey 123™ Data on Employment in Melusi</i>	(UUC 2023)
Figure 16	<i>Evidence of Craft in Melusi through Innovative Use of Repurposed Materials</i>	(UUC 2023)

Figure 17	<i>Sketches of Observations made on waterproofing methods used by Melusi Residents (UUC 2023)</i>	(UUC 2023)
Figure 18	<i>Survey 123™ Responses to Extreme Weather Faced by Melusi Residents in the Past 12 Months</i>	(UUC 2023)
Figure 19	<i>Survey 123™ Responses to What Have Residents Done When These Events Have Occurred</i>	(UUC 2023)
Figure 20	<i>Waterproofing Detail from Dwelling in Melusi</i>	(UUC 2023)
Figure 21	<i>Graph Showing Most Widely Used Building Materials Throughout Melusi</i>	(UUC 2023)
Figure 22	<i>Graph Showing where Building Materials are Sourced</i>	(UUC 2023)
Figure 23	<i>Graph Showing where Building Materials are Sourced.</i>	(UUC 2023)
Figure 24	<i>Subsistence Satisfiers Coded through Atlas Ti™</i>	(Author 2024; UUC 2024)
Figure 25	<i>Subsistence Impediments Coded through Atlas Ti™</i>	(Author 2024; UUC 2024)
Figure 26	<i>Subsistence Utopia Coded through Atlas Ti™</i>	(Author 2024; UUC 2024)
Figure 27	<i>Creation Satisfiers Coded through Atlas Ti™</i>	(Author 2024; UUC 2024)
Figure 28	<i>Creation Impediments Coded through Atlas Ti™</i>	(Author 2024; UUC 2024)
Figure 29	<i>Creation Utopia Coded through Atlas Ti™</i>	(Author 2024; UUC 2024)
Figure 30	<i>Understanding Satisfiers Coded through Atlas Ti™</i>	(Author 2024; UUC 2024)
Figure 31	<i>Understanding Impediments Coded through Atlas Ti™</i>	(Author 2024; UUC 2024)

Figure 32	<i>Understanding Utopia Coded through Atlas Ti™</i>	(Author 2024; UUC 2024)
Figure 33	<i>Discussion Narrative Framework</i>	(Author 2024)
Figure 34	<i>Combined Observations and Findings for Subsistence Satisfiers in Melusi</i>	(Author 2024)
Figure 35	<i>HSD Need for Subsistence 2024 Findings on Satisfiers and Impediments in Melusi</i>	(Author 2024)
Figure 36	<i>Combined Observations and Findings for Creation Satisfiers in Melusi</i>	(Author 2024)
Figure 37	<i>HSD Need for Creation 2024 Findings on Satisfiers and Impediments in Melusi</i>	(Author 2024)
Figure 38	<i>Combined Observations and Findings for Understanding Satisfiers in Melusi</i>	(Author 2024)
Figure 39	<i>HSD Need for Understanding 2024 Findings on Satisfiers and Impediments in Melusi</i>	(Author 2024)
Figure 40	<i>Collage of Work between UUC and MYDO</i>	(Author 2024; UUC 2023)

III. List of Tables

Table 01	<i>The HSD Matrix of Needs and Satisfiers</i>	(Max-Neef 1991: 33-34)
Table 02	<i>Factors influencing Evolution of Building Technology Throughout history in China.</i>	(Wu et al. 2019)

I. Appendices

Appendix AA: Consolidated Matrix of Satisfiers

CONSOLIDATED SATISFIERS				
	Being (qualities)	Having (things)	Doing (actions)	Interacting (settings)
Subsistence	<u>Employed</u>	<u>Tangible</u>	<u>Services:</u>	<u>In Melusi</u>
	<ol style="list-style-type: none"> 1. Has good soccer skills, receives money for coaching soccer. 2. Hairdresser x 2 3. Self-employed painter 4. Builds shacks to make money. 5. Self-Employment 6. Domestic Worker 7. Work in security which allows me to make money. 	<ol style="list-style-type: none"> 1. Phone 2. License allows me to drive a taxi which lets me make money. 3. Water and money. 4. Owning a house - Does not have to pay rent. 5. Has weed growing in his garden. 6. Boy keeps his dads ashes. 7. Water is safe. 	<ol style="list-style-type: none"> 1. Advertisement 2. Hairdresser x 2 3. Nail Technician 4. Make-up artist 5. I own a small business so I can put food on the table and provide for my family. 6. She like to help children with homework, tutors for money. 7. Works night shifts at Coca-Cola (Does Cleaning). 	<ol style="list-style-type: none"> 1. People want to work at Suez-(Like a Simba company). 2. MYDO, to ask about job opportunities. 3. Mydo x10 4. I am self-employed, I help people send money to other countries.

	<p>8. Sells fat-cakes to meet new people and receive an income.</p>	<p>8. Happy to have MYDO for info about Melusi.</p> <p>9. Having a place to learn.</p> <p>10. Has a business.</p> <p>11. Glad there is some sanitation.</p> <p>12. Money</p>	<p>8. Washing cars</p> <p>9. Rents his shacks (he buys and rents out shacks)</p> <p>10. Happy he is a welder.</p> <p>11. His business is slow but is happy that he still gets an income.</p> <p>12. I own a taxi; it brings me comfort because I can make money</p>	<p><u>Close by or in PTA CBD</u></p> <p>1. Coca-Cola factory and International Food Brands x2</p> <p>2. Shoprite</p> <p>3. Laerskool Booysens</p> <p>4. Marabastad</p> <p>5. Municipality / main street (day jobs) - (x2)</p>
	<p><u>Unemployed</u></p> <p>1. Beggars to make money.</p> <p>2. SASSA x5</p> <p>3. Allowance from parents</p> <p>4. Husband does Piece jobs, she is happy her husband cares for her.</p>	<p><u>Non-Tangible</u></p> <p>1. Supporting Family</p> <p>2. Son</p> <p>3. Hairdressing (JOB)</p> <p>4. Works at a garage for money</p> <p>5. Having a job.</p> <p>6. I only get an income via the social grants</p> <p>7. I have a qualification</p> <p>8. I have friends I play soccer with</p>	<p>Goods:</p> <p>1. Sell vegetables, livestock and plants to make money. X2</p> <p>2. Sell products to make money.</p> <p>3. Product sales: Fat cakes, Avon products, veggies & snacks</p> <p>4. Selling Flowers</p> <p>5. She sells table charms, good way for her to make money.</p>	

		<p>9. I have a job I wake up to - I am employed</p> <p>10. Work in security which allows me to make money</p> <p>11. Matric Certificate</p>	<p>Miscellaneous:</p> <p>1. Gambles on Betway x2</p> <p>2. Plays cards</p>	
Protection	<p><u>Safe</u></p>	<p><u>Tangible</u></p> <p>1. Security door</p> <p>2. Gun and Knife X2</p> <p>3. Chain and lock</p> <p>4. Gate and locks</p> <p>5. Security doors and windows</p> <p>6. Dog</p> <p>7. Locking up at night</p> <p>8. A home - house x6</p> <p>9. Goes to work to feel safe</p> <p>10. I have a fence around my house with a gate.</p>	<p><u>System</u></p> <p>1. Helping with fire extinguishing and building.</p> <p>2. Feels safe because everyone has a whistle, whistle helps to notify community when you are in danger x5</p>	<p><u>Community Centre</u></p> <p>1. MYDO</p> <p>2. Community hub X2</p> <p>3. Spends a lot of time at MYDO to feel safe.</p> <p>4. Youth Centre</p>
	<p><u>Community</u></p> <p>1. Strong communication as a community</p> <p>2. Violence is not an issue</p> <p>3. Not perfect but they try their best</p> <p>4. Strong sense of love</p> <p>5. Safest squatter camp ever, no gangsters and we can walk at any time of the day even midnight.</p> <p>6. I am very talkative and friendly, this makes me</p>			

	<p>feel safe and trusted in the community.</p> <p>7. Feels safe in the community</p> <p>8. Feels safe in her own house.</p> <p><u>Home/work</u></p> <p>1. I feel safe</p> <p>2. Safe at home</p> <p>3. Feels safe at work and home</p> <p><u>Background</u></p> <p>1. Participant said she grew up in the area, for her side she makes the means to look out for children on their way home back from school</p> <p>1. Feels safe, he was a soldier from Zimbabwe</p>	<p><u>Non-Tangible</u></p> <p>1. Living with significant other x 3</p>	<p>4. Community leaders help resolve violence</p> <p>5. Very trusting community (community system)</p> <p>1.</p> <p>Community - aren't these rather interacting?</p>	<p>2. God</p> <p><u>Miscellaneous:</u></p> <p>1. Visits Family</p> <p>2. Grizzly's park X2</p> <p>3. Hercules Shopping Centre</p> <p>4. Having Money</p> <p>5. Police (x4)</p> <p>6. Having own car wash, where he has everything he needs there</p> <p>7. On mountain</p> <p>8. Leaves Melusi to go somewhere else X2</p>
--	---	---	--	---

	<p>and feels very confident.</p> <p><u>Not safe</u></p> <ol style="list-style-type: none"> 1. Area is too dirty and loud 2. No safety Municipality side 3. Gomora is not safe (Melusi 2 & 3) 4. Not safe at night 5. Dam is not safe 6. Not safe at church 7. Concerns about the loose electricity cables. 8. - community members would steal from each other 			
<p>Affection</p>	<p><u>Positive</u></p> <ol style="list-style-type: none"> 1. Lots of people help each other - assistance from community where needed. 	<p><u>Non-Tangible</u></p> <ol style="list-style-type: none"> 1. My Parents X6 2. My Family X3 	<p><u>Goods:</u></p> <ol style="list-style-type: none"> 1. Builds shacks for people. 2. Gives community food to help where he can 	<p><u>Melusi</u></p> <ol style="list-style-type: none"> 1. I feel comfortable at church because it's a space for family and spirituality.

	<ol style="list-style-type: none"> 2. Sense of worth 3. Greeting people walking past 4. I am a member of the community, I should like where I live and I do. (been in Melusi for 8 years) 5. I can walk to work. (been in Melusi for 5-6 years) 6. The community is united. 7. art 8. Positive x2 9. Feels safe in Melusi 10. Her life evolves around church, she's happy with the fact that she can depend from the other church members. 11. Her circle of friends are the best thing she has. 	<ol style="list-style-type: none"> 3. My Children X7 4. My friends x5 5. My Siblings X1 6. Myself X4 7. The Community X3 8. God X1 <p>What</p> <ol style="list-style-type: none"> 1. Taverns X1 2. Electricity 3. Alcohol X1- One participant mentioned he loves his alcohol a lot 	<ol style="list-style-type: none"> 3. He gives people fencing for their homes. 4. There is plenty of crime 5. Gives money to people in need. 6. Gives housing to people in need. <p>Services:</p> <ol style="list-style-type: none"> 1. Preaches to people about God to make them feel better. 2. Lots of people to talk to when you are sad 3. Babysits children for community members 4. Plant trees 5. Fetching water from JoJo tanks for neighbours 6. Solve Community Problems 7. While cooking for the children in need, I also help in looking out for them and helping them 	<ol style="list-style-type: none"> 2. Mydo x2 3. Friends house 4. Vincent soccer grounds to watch soccer and drink 5. Malariben (next to MYDO) 6. Home <p>Outside Melusi</p> <ol style="list-style-type: none"> 1. Pools X4 2. Parks X8 (Booyens Park) 3. Restaurants X1 4. Shopping Centres X1 5. Zoo X2 6. Danville
--	--	--	---	---

	<p>12. The unity amongst the community is usually seen in gatherings</p> <p><u>Negative</u></p> <ol style="list-style-type: none"> 1. Negative x2 2. One participant mentioned that he does not speak to people in the community so he wouldn't know. 		<p>with their home works in the meantime</p> <p><u>Security:</u></p> <ol style="list-style-type: none"> 1. I am a security guard so I give protection to the community. 2. Patrolling community 3. He helps to keep the community safe by Patrolling. 4. Uses gun to protect people 	
<p>Understanding</p>	<p><u>School and learning hubs</u></p> <ol style="list-style-type: none"> 1. Lots of places to send the young ones. 2. MYDO x3 <p><u>Community</u></p> <ol style="list-style-type: none"> 1. There are leaders in the community, we talk to 	<p><u>Tangible</u></p> <ol style="list-style-type: none"> 1. TV 2. Exploring different places 3. Phone 4. MYDO 5. She is glad she can read because it helps her with communication. 	<p><u>Community</u></p> <ol style="list-style-type: none"> 1. Community meetings to learn new skills X3 2. Going to Community Centre for lessons 3. Community Skill learning <p><u>Learning hubs and platforms</u></p>	<p><u>Places:</u></p> <ol style="list-style-type: none"> 1. MYDO X11 2. Atteridgeville X1 3. Melusi 2-Creche 4. Gomora X1 5. Church X1 6. Too old for learning

	<p>the leaders to resolve any issues.</p> <ol style="list-style-type: none"> We learn through the community and each other. Identify troublemakers and drive them out of the community Tutoring: if someone doesn't understand another member will help out. <p><u>Family and friends</u></p> <ol style="list-style-type: none"> Looking after each other Cleaning together Family taught him everything he knows. My sister, she takes care of me financially. <p><u>Other</u></p> <ol style="list-style-type: none"> "yes" x2 People felt that they could learn in efficient way at Mydo. 	<ol style="list-style-type: none"> He is happy that he has many books because it helps him grow intellectually. My qualification I always learn something new from my friends <p><u>Non-Tangible</u></p> <ol style="list-style-type: none"> My friends 	<ol style="list-style-type: none"> Goes to MYDO to attend courses x 2. Studies online X2 <p><u>Independent opportunities</u></p> <ol style="list-style-type: none"> Learning from friend how to be a hairstylist. Sharing knowledge: work related skills, how to drive and braid hair. Studies online X2 Florist: Teaches people to grow their own plants. Teaches people how to defend themselves X2 	
--	---	---	---	--

	2. Having a phone makes life easier, can communicate.			
Participation	<p><u>Good participation</u></p> <ol style="list-style-type: none"> 1. I go house to house selling tomatoes and atchar. 2. Cooks for those in need at her shop 3. Serves as a community lookout outreach 4. Attends community meetings 5. Inspires the youth to study sciences <p><u>Moderate participation</u></p> <ol style="list-style-type: none"> 1. Have a piece of land where I plant 	<p><u>Sport</u></p> <ol style="list-style-type: none"> 1. Soccer X4 2. Netball 3. Goes to Gym X3 <p><u>Arts and culture</u></p> <ol style="list-style-type: none"> 1. Scriptwriting/Directing 2. Reading 3. Stage play theatre X4 4. Art <p><u>Community engagement</u></p> <ol style="list-style-type: none"> 1. Motivational speaker 	<p><u>Formal:</u></p> <ol style="list-style-type: none"> 1. Have a 'Men's' conference 2. Discuss problems with the Community (Gets community involved) 3. Public Art 4. Showcasing their acting talent example public art 5. Uses art to help the youth and discourage drugs. 6. Talking to leadership in community 7. Discuss about GBV 8. There are different groups of leaders in Melusi 	<p><u>Does Participate:</u></p> <ol style="list-style-type: none"> 1. Goes to the pub X2 2. Community Centre 3. Municipality Tree X10 4. MYDO x2 5. Spin City 6. Playground 7. Vincent soccer ground X2 8. Around church x2 <p><u>Does not participate:</u></p>

	<p>vegetables and have chicken and livestock.</p> <p>2. Help the community if there is a robbery by blowing whistles and attracting attention which activates the community to help.</p> <p>3. I like to join community meetings with leaders.</p>	<p>2. MYDO-Skill Sharing</p> <p>3. Community Cleaning</p> <p>4. Going to Church</p> <p>5. Research similar to ours and holding conferences at MYDO.</p> <p>6. Community meetings</p>	<p><u>Informal:</u></p> <ol style="list-style-type: none"> 1. Watching TV and chatting or going out with my friends 2. Only participates with family members. 3. Giving and motivation 4. By showing the benefits of taking part 5. Soccer coach -- teaches all ages of boys to play soccer 6. Take a soccer ball to the field and play bigger than normal games of soccer with the community. 7. It is difficult to get the community to participate. We can encourage the younger generation, age group 18-25 to participate but the older generation refuses to participate. We can teach the small kids to participate in the community. <p><u>Doing:</u></p> <ol style="list-style-type: none"> 1. Fixing Potholes 	<ol style="list-style-type: none"> 1. Too scared to go to places in Melusi 2. I'm a single mom, I need to be with my kids (can't go drinking or participate in strikes these are not safe for my children) 3. I am busy with work and children. <p>Personally I do not partake in any activity as I am a loner, living in my own world</p>
--	--	--	---	---

Leisure	<p><u>Contributes to community</u></p> <ol style="list-style-type: none"> 1. Playing soccer X2 2. Relaxes with her family 3. Learning X3 4. Writing stage plays (Involves the community) 5. Cleaning the road 6. Exercise and while I do that I am patrolling and making sure everything is okay. 7. Play ludo with my friends. 8. Likes to do Sewing to relax. (Sells Clothes to Melusi members) <p><u>Does not contribute to community</u></p>	<p><u>Physical objects</u></p> <ol style="list-style-type: none"> 1. TV x2 2. Phone x 2 3. My daughters 4. Bible 5. Inflatable pool 6. Bath <p><u>Consumption</u></p> <ol style="list-style-type: none"> 1. alcohol 2. weed 	<p><u>Active:</u></p> <ol style="list-style-type: none"> 1. Bowling 2. Singing 3. Likes playing netball 4. Exercising 5. Soccer 6. Jogging 7. Dancing 8. Playing volleyball 9. Does Boxing to relax and blow off steam. 10. Walks in Melusi to relax 11. Playing pool at tavern <p><u>Consumption:</u></p> <ol style="list-style-type: none"> 1. Drinking as relaxation x 2. 	<p><u>Places:</u></p> <ol style="list-style-type: none"> 1. Goes to Grizzly's Park. 2. Goes to the pub to relax 3. Spin City x3 4. MYDO 5. Hair dressing Salon, next to the church with friends 6. Home X2 7. Going to church (Marabstad) 8. Going to the library <p><u>Nature:</u></p> <ol style="list-style-type: none"> 1. Runs to the mountain to avoid getting in trouble. 2. Booyens Park - to relax (x7)

	<ol style="list-style-type: none"> 1. Watching tv 2. Playing on phone 3. Goes to the Mall 4. I go to one of the gyms in the area. 5. Dancing 6. Usually goes out for a run 7. Goes out drinking with friends 8. Getting High is his activity 		<ol style="list-style-type: none"> 2. Smokes weed to 'escape' 3. Drink alcohol. 4. Smoke weed. (used the word ganja) 5. Getting high 6. Drinking alcohol <p><u>Media use:</u></p> <ol style="list-style-type: none"> 1. Listening to R&B music 2. Playing and playing Music x4 3. Watching tv/ movies on phone 4. Stays home and watches tv to relax. 5. Plays games and watches movies on the phone. 6. Reading novel x5 7. Reading a bible - Religion <p><u>Nature:</u></p> <ol style="list-style-type: none"> 1. Creation of vegetable gardens - helps to monitor gardens after completion 	<ol style="list-style-type: none"> 3. Municipality Tree x 2 4. The soccer ground. 5. Play soccer with other community members. 6. Chilling at Phalo ParkLoves to go to pubs. 7. Going outside to enjoy the air at night <p><u>Community</u></p> <ol style="list-style-type: none"> 1. My neighbour.
--	--	--	--	--

			<u>Idleness:</u> <ol style="list-style-type: none"> 1. Meditation 2. Sleeping 3. Sleeps and works. 4. Stays with husband at home to relax 	
Creation	<u>Skills</u> <ol style="list-style-type: none"> 1. Helping the community by teaching soccer. 2. Soccer, Learning, Dancing 3. Matric Certificate 4. Does peace jobs part-time. 5. Does Gardening X2 6. Cleaning (Domestic) - Works in Booyens / Danville 7. Contract work at Red Alert Service Solution and house cleaning 	<u>People</u> <ol style="list-style-type: none"> 1. Children X6 2. My mom x2 3. Volunteer to teach the children of Melusi. 4. Coach soccer makes him feel good to help. 5. Lives with son and boyfriend (Made a Family). <u>Things</u> <ol style="list-style-type: none"> 1. Their car 2. Being Educated X2 	<u>Skills</u> <ol style="list-style-type: none"> 1. Technician 2. Designs his buildings (came to Melusi to build a church) 3. Soccer Coach - Helps with fitness, mental and physical health. 4. Taking care of children is my business. 5. I run my business and plant. 6. I enjoy sewing. <u>Talents</u> <ol style="list-style-type: none"> 1. TALENTS 	<u>Places:</u> <ol style="list-style-type: none"> 1. At the parks nearby 2. Likes Melusi 3. Gambora/ Melusi 3 - Good for business 4. MYDO - most successful project (x2) <u>Projects</u> <ol style="list-style-type: none"> 1. Entrepreneurship chicken project with a friend 2. Water project 3. Road repairs & fixing (sand filling potholes)

	<p>8. Selling bunny chow at a restaurant in Melusi</p> <p>9. Build structures for community members.</p> <p>10. I work as a mechanic.</p> <p><u>Talents</u></p> <p>1. Showcases his soccer skills when playing soccer with friends.</p> <p>2. Likes to express the love for soccer X2.</p> <p>3. Does Gardening, this is a way she expresses her creativity.</p> <p>4. He is a good dancer.</p> <p><u>Ideas</u></p> <p>1. Organize training in agriculture.</p> <p>2. Providing materials for the community.</p>	<p>3. Created spaza shops that create jobs.</p> <p>4. Proud of the home he built.</p>	<p>2. Talent is to sing.</p> <p>3. Soccer player for the community</p> <p><u>Ideas</u></p> <p>1. Feel like men are the biggest issue.</p> <p>2. Reading Novels</p> <p>3. She makes sure they are safe and home at the right time.</p> <p>4. I make sure that children get home from school and do their homework</p>	<p>4. electricity</p>
Identity	<u>How do you see yourself and feel about yourself</u>	<u>People</u>	<u>Religious:</u>	<u>Social:</u>

	<ol style="list-style-type: none"> 1. Likes making jokes, people gravitate towards them. 2. Feels proud just because of what he is. 3. Religious, keeping a closeness with God. 	<ol style="list-style-type: none"> 1. Her Child 	<ol style="list-style-type: none"> 1. Attending wedding ceremonies 2. Church 3. Happy that there is a church in Melusi. 	<ol style="list-style-type: none"> 1. See has friends in the community. 2. Goes to play soccer outside Melusi. 3. At the road where I sell my product. 4. Mydo x 4 5. Phola Park 6. Church 7. SPAR shop x2 8. The soccer grounds x5 9. Booyensens Park (x2) 10. Tavern
	<p><u>What makes you unique?</u></p> <ol style="list-style-type: none"> 1. My religion 2. My Heart 3. My Kindness & Smiley piercing 4. My Face 5. My clothing 6. My Body x2 7. Having a child makes him feel unique. 8. She feels valuable and that is what makes her unique. 9. I am a good person. 	<p><u>Things</u></p> <ol style="list-style-type: none"> 1. Bible 2. House 3. Church 4. Having a job 5. Qualification 6. ID 7. My taxi- it helps me make money. 8. My soccer ball - I play soccer with my friends. 9. My Jeans- where she got it from and bedazzled it. 	<p><u>Dancing:</u></p> <ol style="list-style-type: none"> 1. Expresses her emotions through dancing. 2. Tsonga dancing 3. Can dance anywhere and not feel judged. 4. Traditional dance (Malende) & Xibelani) 5. Step-Type of traditional dance 6. Weddings, I like being part of them and doing traditional dances. 7. Wedding steps (traditional dances done at weddings) 8. Playing drums and dancing <p><u>Food:</u></p> <ol style="list-style-type: none"> 1. Cooking Traditional food 	<p><u>Private:</u></p> <ol style="list-style-type: none"> 1. Drinks at his own house, does not like pubs 2. At my house.

	<p>10. I am friendly to everyone.</p> <p>11. "I live my life the way I want to without being controlled"</p>		<p>2. I take care and organize food for the kids.</p> <p>Games:</p> <ol style="list-style-type: none"> 1. Watching kids play indigenous games. It is nice to see kids from different places remembering where they are from 2. We play indigenous games, so the kids remember where they came from and don't lose their identity. 3. Playing soccer takes out stress, I am always happy at soccer. 4. On June 16 (Freedom Day) we all wear black and white and march to commemorate the youth. <p>Other:</p> <ol style="list-style-type: none"> 1. Reading 	
Freedom	<p>1. Safe during the day and at home</p>	<p>People</p> <ol style="list-style-type: none"> 1. My Kids X2 	<p>Most People did not understand this question:</p>	<p>Community:</p> <ol style="list-style-type: none"> 1. Does not feel safe in the community.

	<ol style="list-style-type: none"> 2. Only during the day, not at night 3. During the day 4. Not safe walking at night 5. Feels safe. 	<ol style="list-style-type: none"> 2. My family 3. She has Electricity and water. 4. She rents out her yard. 5. My thoughts 	<ol style="list-style-type: none"> 1. Everyone just said 'yes' to this question. 2. 	<ol style="list-style-type: none"> 2. Nothing Bothers her about Melusi. 3. MYDO
	<p><u>Feeling good about freedom</u></p> <p><u>Do you feel free?</u></p> <ol style="list-style-type: none"> 1. Feels free from crime. 2. Feels free in the community. 3. I feel safe and free. 4. Always free, very safe, free to work at any time of the day and there are no gangsters. 5. "I have the freedom to do whatever I want without being judged." 6. I feel good about my freedom I am free. <p><u>What makes you feel free?</u></p>	<p><u>Things</u></p> <ol style="list-style-type: none"> 1. My house 2. Having food 3. Having a vegetable garden 4. My phone 5. His house makes him feel free. 		<p><u>Private:</u></p> <ol style="list-style-type: none"> 1. Home x6 <p><u>Social:</u></p> <ol style="list-style-type: none"> 1. Soccer grounds. 2. All over, everywhere and at any time of the day. 3. Shoprite - during day 1. I feel free - people from different areas and places live together. It is a community I can talk to, and they understand me, there is no racism.

	<ol style="list-style-type: none">1. Confidence sets him free.2. Feels that people look out for each other.3. The whistle system works well.4. I can talk to whoever, whenever.5. I already feel free - nothing stops me. <p><i>People did not understand the questions and could not answer them. Most of the answers have no connection to the questions</i></p>			
--	--	--	--	--

Appendix AB: Consolidated Matrix of Impediments

CONSOLIDATED IMPEDIMENTS				
	Being (qualities)	Having (things)	Doing (actions)	Interacting (settings)
Subsistence	<u>Unemployment</u> <ol style="list-style-type: none"> No capital No business opportunities No qualifications/education Causes crime. Foreign citizen (SASSA Grant) People only want to buy cheap things so it's hard to keep business going. 	<u>Education</u> <ol style="list-style-type: none"> Further education + qualifications 	<u>Youth</u> <ol style="list-style-type: none"> Difficulty for youth to join the labour industry - work experience limits you. Youth get the jobs. 	<u>Dam</u> <ol style="list-style-type: none"> Dam is dangerous - If children fall in, they can't get out.
		<u>Unemployment</u> <ol style="list-style-type: none"> Lack of money Lack of job opportunities Can't apply for university. 	<u>Job Opportunity</u> <ol style="list-style-type: none"> Nepotism Employ family and friends first. No jobs available (need to make bribes, have connections, or have luck to get a job). I go and ask for work - I don't have qualifications. 	<u>MYDO</u> <ol style="list-style-type: none"> MYDO (not income making, only skills learning)
	<u>Corruption</u>	<u>Infrastructure</u> <ol style="list-style-type: none"> Water Need for more soccer pitches. 		<u>MELUSI</u> <ol style="list-style-type: none"> East side- mostly drunk people who aren't interested in business (Melusi 3). Nothing in Melusi.
	<u>Community</u>			

	<ol style="list-style-type: none"> 1. Environment (electricity, water & sanitation) 2. Exclusion by community 3. Feeling Unsafe 4. Fear 	<ol style="list-style-type: none"> 3. Electricity is a big issue. <p><u>Courage</u></p>	<ol style="list-style-type: none"> 5. Not having a Qualification 6. I have work but there is no schedule, sometimes it is part-time, sometimes I have to work the whole week and sometimes I have no work. 7. There is no work close by. 8. Does not have a full-time job and needs to look for part-time jobs every day. 9. Lost Job due to knee injury no medical leave) 10. Unemployment 11. Lack of experience 12. Lack of information from MYDO <p><u>Transport</u></p> <ol style="list-style-type: none"> 1. Takes 30 mins - 2 hours to travel to work. 2. Travel costs are too high R350/R250 	<ol style="list-style-type: none"> 3. Home (because of limitations) - (x2) 4. Away from the busy intersections and streets. 5. GOMORA (little income that can be generated)
--	---	---	---	--

			<ol style="list-style-type: none"> 3. Transport costs are her biggest expense. 4. There is no work close by. 5. He felt guilty that he did not do anything to help the community. <p>Identity</p> <ol style="list-style-type: none"> 1. I am Zimbabwean, I don't have a voice as I am an illegal immigrant. 2. Lost my ID book - so I can't get to work. 	
Protection	<p><u>Inflictors</u></p> <ol style="list-style-type: none"> 1. "Thipa" "Seiepa" 2. Police assault community members, search people and take their property (call it stolen property), take their weed and cigarettes, and sometimes plant drugs on them. They also point guns 	<p><u>Community</u></p> <ol style="list-style-type: none"> 1. A safe Church is open for everyone. 2. Parents - I lost my parents at a very young age. 3. Participant says everyone is lying about their answers. 	<p><u>Inflictors</u></p> <ol style="list-style-type: none"> 1. Guns 2. Knives 3. Drugs 4. Alcohol <p><u>Environment</u></p>	<p>Tavern</p> <ol style="list-style-type: none"> 1. The taverns 2. Taverns or drinking spots. <p><u>Police</u></p>

	<p>at them and accuse them of things they have not done.</p> <ol style="list-style-type: none"> 3. Gun x4 4. Knives 5. People are dying and being robbed. 6. When they go to the pub, they might get poisoned or stabbed. 7. The Crime in this community is very high. 8. Gun Violence 9. People put pollutants into JoJo tanks on purpose. 	<ol style="list-style-type: none"> 4. Lots of competition - Development of Melusi 1,2,3 don't meet. 5. The participant feels there is no trust within the community. 6. I feel safe at the moment. 	<ol style="list-style-type: none"> 1. No voice within the community 2. Housing due to homelessness 3. Car/ mode of transport 4. Police not being reliable. 5. Discriminatory Laws/ rules 	<ol style="list-style-type: none"> 1. Police plant drugs on people to get bribes. 2. Lacks contact with police and policing forums.
	<p><u>Environment</u></p> <ol style="list-style-type: none"> 1. The electricity supply is not safe, sometimes it falls down and once when the ground is wet a child is shocked because of that. 	<p><u>Infrastructure</u></p> <ol style="list-style-type: none"> 1. Finding work and electricity - the streets are too dark at night. 2. Police stations or police patrols. 	<p><u>Causes</u></p> <ol style="list-style-type: none"> 1. The community is dangerous due to unfair law conditions. 2. Bias against immigrants 3. Law enforcement is inadequate in terms of services. 4. High number of unemployment leading to homelessness & theft & excessive levels of drinking 5. Drugs, knives and guns are easily accessible to the public. 6. Not spaces to facilitate recreational activities or 	<p><u>Tribalist Places</u></p> <ol style="list-style-type: none"> 1. Malariebeng 2. Does not feel safe in area 5 (Melusi 3) 3. Scared of all the foreigners 4. Is too afraid to patrol Melusi alone.
		<p><u>Prevention/Aid</u></p> <ol style="list-style-type: none"> 1. Police station or police patrols. 2. Community, if there is a problem, the community blows whistles to alert danger. 3. Police, they can sometimes take long but blowing 		<p><u>Quarry</u></p> <ol style="list-style-type: none"> 1. Certain areas around the quarry have lots of drugs. 2. The river 3. Drug abuse - big problem

	<ol style="list-style-type: none"> 2. Melusi is a squatter camp so anything can happen at any time (example: shootings). 3. Lack of strong community leaders 4. Dam 5. They are scared of Melusi 3 6. Gomora is a problem - rivalries between between different areas. <p><u>Causes</u></p> <p>Drug users (nyaopes).</p> <p>Illegal Electricity connections</p> <p>People put pollutants into JoJo tanks on purpose.</p> <p>Violence due to youth not having parents.</p> <p>Beer</p> <p>Being a foreign national, they are afraid of upsetting locals.</p>	<p>whistles helps with alerting the police and community.</p> <ol style="list-style-type: none"> 4. Police 5. Gun 6. Locking Gate at night 7. money 8. Finding work and electricity 	<p>people's interests outside of MYDO.</p> <ol style="list-style-type: none"> 7. Lacking community outreach in certain parts of Melusi (MYDO is not heard of in other regions) 8. 	<p><u>Afternoon</u></p> <ol style="list-style-type: none"> 1. Lots of people get robbed in the afternoon. <p><u>Nursery</u></p> <ol style="list-style-type: none"> 1. Nursery is very dangerous
--	---	--	---	---

Affection	<u>Activity</u>	<u>Substance Abuse</u>	<u>Community</u>	<u>Social Spaces</u>
	<ol style="list-style-type: none"> Doesn't want to be involved in drugs. Lack of Sports Activities 	<ol style="list-style-type: none"> Police plant drugs on people to get bribes. Drug abuse - big problem Alcohol abuse 	<ol style="list-style-type: none"> The community is not very friendly. They don't always feel included. No places MYDO does not inform them about gatherings or opportunities, we want communication from them. People don't listen. I feel excluded from certain parts of the community. There is nothing to do in Melusi. 	<ol style="list-style-type: none"> The taverns Mafadi Tavern The club/tavern Racecourse SPIN CITY Does not like to go where there are crowds.
	<u>Community</u>	<u>Crime</u>		<u>Landmarks</u>
	<ol style="list-style-type: none"> Single Language barriers A dog (neighbour did not like the dog) negative relationship) Not having friends Being a loner 	<ol style="list-style-type: none"> Lots of people get mugged in the afternoon. 	<u>Crime</u> <ol style="list-style-type: none"> Thieves Sometimes I have to lock myself in my house when things are unsafe (immigrant) 	<ol style="list-style-type: none"> MYDO (not suitable for family relaxation) Church - not safe for her The dam (quarry). Booyesen nursery - can't see through due to the amount of trees.
		<u>Relationships</u>		
		<ol style="list-style-type: none"> I'm new to SA - I have a neutral relationship with the people in the community. My problematic friends No, because I don't want to be the cause of pain. My nationality (Zimbabwean). The community does not want foreigners, so I have no one to help me. 		

		<p>5. Unemployment - Not having a job makes me feel alone</p>	<p><u>Communication</u></p> <ol style="list-style-type: none"> 1. There is a lack of information on all the opportunities and activities in the community. 	<p><u>Night Life</u></p> <ol style="list-style-type: none"> 1. At night, everyone is drunk. 2. Robberies happen at night. <p><u>Outside Melusi</u></p> <ol style="list-style-type: none"> 1. Soshanguve (family-related issues)
<p>Understanding</p>	<p><u>Education/Qualification</u></p> <ol style="list-style-type: none"> 1. Lack of knowledge 2. Not sure how to further their education after high school. 3. Master's Degree 4. Beauty qualification 	<p><u>Education</u></p> <ol style="list-style-type: none"> 1. Has an education but still struggles to make a living 2. Has N6 civil engineering certificate (still can't find a job) 	<p><u>Substance Abuse</u></p> <ol style="list-style-type: none"> 1. There are things in the community that aren't good like drugs and alcohol, I can't be a good leader if I am involved in those things 2. Drugs and people who rob us. 	<p><u>Landmarks</u></p> <ol style="list-style-type: none"> 1. Vincent is the best place 2. Community Hub 3. MYDO (there is a suggestion box)

	<ul style="list-style-type: none"> 5. Computer skills 6. Auxiliary Nursing 7. Phycology 8. ECD (Education Certificate) 	<ul style="list-style-type: none"> 3. A formal qualification in Nursing 4. Lack of experience and formal qualifications 5. An education in art and poetry. A place like MYDO nearby would help. 6. Didn't have enough info to apply to varsity 7. Education 8. If I can learn coding or IT. 9. I did not finish school (I'd like to study medicine). 10. Degree 	<ul style="list-style-type: none"> 3. Says alcohol and fighting is a big issue 	
	<p><u>Identity</u></p> <ul style="list-style-type: none"> 1. Introvert - alone and no engagement 2. Being a loner <p><u>Social</u></p> <ul style="list-style-type: none"> 1. Some people create group chats on their phones and then don't include everyone. 2. Failure to understand people 3. Bribes - Information is only shared after a bribe 4. Communication with community leaders by visiting their houses 	<p><u>Money</u></p> <ul style="list-style-type: none"> 1. Likes to work with her hands for money (there isn't a job right now) 2. Money is a big issue 	<p><u>Spatial</u></p> <ul style="list-style-type: none"> 1. Shortage of space 2. No space to farm 3. Shortage of their own social spaces <p><u>Infrastructure</u></p> <ul style="list-style-type: none"> 1. Bad roads 2. Don't have water 3. Electricity power lines 4. Water is also a big issue <p><u>Education</u></p> <ul style="list-style-type: none"> 1. Educated, however still struggles to find jobs 2. She feels she is negatively impacted by her age and 	<p><u>Community</u></p> <ul style="list-style-type: none"> 1. With people who live around 2. Nowhere because community organizers make decisions for them. 3. Community leaders. 4. Community leaders - they live next to Tavern 5. Family (near Mloto) 6. There isn't a place to learn or get education. <p><u>Outside</u></p> <ul style="list-style-type: none"> 1. Radio station.

	<p>5. MYDO is too small to function for the whole community</p>	<p><u>Objects</u></p> <ol style="list-style-type: none"> 1. I don't have a computer to do online studies. 2. If I had a bakkie I could use it for business. 	<p>can't study because she feels she would be judged.</p> <p><u>Community</u></p> <ol style="list-style-type: none"> 1. Have to strike to receive, fight for everything they need 2. He is usually in his world - hard to relate to people in the community 3. He mentioned that the friends he keeps are danger to the community, so hanging out with them makes him look like part of the gang. <p><u>Identity</u></p> <ol style="list-style-type: none"> 1. My nationality (I experience xenophobia). 	
<p>Participation</p>	<p><u>Community/Environment</u></p> <ol style="list-style-type: none"> 1. Members of community don't have equal access. 2. Very happy in the community 	<p><u>Social Networks</u></p> <ol style="list-style-type: none"> 1. Good Communication 2. We need to inspire the youth to vote. The issues are very political, we need a stable 	<p><u>Facilities</u></p> <ol style="list-style-type: none"> 1. Lack of gym equipment 2. Only one gym 	<p><u>Social/Economic Conditions</u></p> <ol style="list-style-type: none"> 1. Community leaders steal money from community members.

	<ul style="list-style-type: none"> 3. Lack of communication 4. My nationality/ xenophobia. 5. Unemployment - I feel that having a job will gain me respect. <p><u>Trust</u></p> <ul style="list-style-type: none"> 1. Crime and false promises from community leaders 2. Many people lie and nobody buys their fake stories. 3. Many people lie. 4. People don't buy their fake stories. <p><u>Services</u></p> <ul style="list-style-type: none"> 1. Can't participate due to lack of equipment 	<p>government and that will hopefully help resolve our issues.</p> <ul style="list-style-type: none"> 3. She hates how people in the community always gossips about others and that makes her not want to be part of the community. <p><u>Exclusion</u></p> <ul style="list-style-type: none"> 1. As a foreigner, they don't feel like they fit in the community. 2. The favouritism that is being practiced in the community. People favours their own. 3. Being a loner 4. Does not have time for engagement. 5. Goes to MYDO 	<ul style="list-style-type: none"> 3. Taverns are always full - It's hard going in when they are full. 4. There isn't much he can do because there isn't a sport park 5. No places <p><u>Social Networks</u></p> <ul style="list-style-type: none"> 1. Being an outsider, I feel like my opinion will not be respected. 2. The community is not very friendly. 3. They don't always feel included. 4. People don't listen. 5. People do feel included, they have their friends. <p><u>Fears</u></p> <ul style="list-style-type: none"> 1. Scared to do activities. 	<ul style="list-style-type: none"> 2. Unemployment is the biggest issue; people start to participate in criminal activities. 3. I'm a single mom, I need to be with my kids (can't go drinking or participate in strikes these are not safe for my children) 4. I am busy with work and children. <p><u>Places</u></p> <ul style="list-style-type: none"> 1. Tavern 2. River 3. Unsafe place Jatareng tavern 4. Does not feel safe at the dam. <p><u>Fears</u></p> <ul style="list-style-type: none"> 1. Not safe in Melusi at night
--	--	--	---	--

			<ol style="list-style-type: none"> 2. Men Bully women (Men make decisions for women) 3. Men want money from the women (They don't want to go out because they don't want to pay the men) 4. Thieves 	<ol style="list-style-type: none"> 2. UNSAFE IN MELUSI - DUE TO LACK OF ELECTRICITY 3. Tries to stay away from Melusi. 4. Does not feel safe in her community. 5. None x3
Leisure	<p><u>Subsistence</u></p> <ol style="list-style-type: none"> 1. Money 2. Trying to make money. 3. Money 4. hunger <p><u>Infrastructure</u></p> <ol style="list-style-type: none"> 1. Electricity is the biggest problem. 	<p><u>Unemployment</u></p> <ol style="list-style-type: none"> 1. Unemployment- still looking for work. 2. Stressing about money stops her from relaxing. <p><u>Infrastructure</u></p> <ol style="list-style-type: none"> 1. No TV - because no electricity 2. Electricity is the biggest issue for him. 	<p><u>Personal</u></p> <ol style="list-style-type: none"> 1. Playing on the phone 2. Spending too much time on my phone and TV - Media <p><u>Work</u></p> <ol style="list-style-type: none"> 1. MYDO is too far for Melusi 3 members. 2. Within people who live around 	<p><u>Quarry</u></p> <ol style="list-style-type: none"> 1. Lake/Quarry - lots of mosquitoes 2. Quarry- I am not used to water and feel unsafe around it. 3. Areas of drugs (Quarry) 4. The quarry is not safe for kids.

	2. Water	3. I don't have water; I need to walk far to fetch it.	3. Nothing stops him from relaxing.	<p><u>Tavern</u></p> <ol style="list-style-type: none"> 1. Tavern 2. Feels stressed to go to the pub (too much violence at the pub) <p><u>Services</u></p> <ol style="list-style-type: none"> 1. Clinic (Long ques are stressful) 2. Clinic (doctors don't always come) 3. Police (not helpful) <p><u>Infrastructure</u></p> <ol style="list-style-type: none"> 1. Dumping sites 2. Most of Melusi is in a horrible condition. 3. Melusi 2: 3 people died this year because of unsafe electricity connections. 	
	<u>Youth</u>	<u>Crime</u>	4. He is happy with everything.		
	<ol style="list-style-type: none"> 1. Child 2. My kids need attention. 	<ol style="list-style-type: none"> 1. The neighbourhood drug addicts. 2. Anxiety from all the crime in Melusi 3. Criminals 	5. Looking after children & seeking work		
	<u>Work</u>	<u>Personal</u>	<u>Family & Friends</u>		6. There is nothing to do in Melusi.
	<ol style="list-style-type: none"> 1. Busy at the market 2. I am always busy with housework. 3. I need to focus on my business. 4. Not actively available 	<ol style="list-style-type: none"> 1. Single parenthood can be a lot sometimes. 2. Housework. 3. Having Aids makes him feel scared to engage. 4. Overthinking 5. Always out for a run 6. Disagreement with his soccer teammates 	<ol style="list-style-type: none"> 1. Kids 2. Work and family 3. My friends are outgoing, having Friends like them makes it difficult for you to relax. 4. Work, I need to provide for my family and also take care of them if I am sick. 		

	worry about fighting because of what I say. 4. Corruption	7. Rats and snakes.		4. Parks
Creation	<p><u>Facilities</u></p> <ol style="list-style-type: none"> No skills centre. MYDO doesn't have training facilities for men's interests. Stays very far. <p><u>Socioeconomic Environment Exclusion</u></p> <ol style="list-style-type: none"> Immigrants aren't valued - Xenophobic. Lack Of Money & Knowledge x2 Lack of qualification Money/Motivation Money Certificates/Money 	<p><u>Personal</u></p> <ol style="list-style-type: none"> Doesn't feel like he's done much, he lacks courage because he is afraid of community leaders. <p><u>Situational</u></p> <ol style="list-style-type: none"> My mom Being a single parent <p><u>Transport</u></p> <ol style="list-style-type: none"> Transportation to get to where I need to be to showcase my talents. Transport is expensive to get to schools. 	<p><u>Facilities</u></p> <ol style="list-style-type: none"> MYDO is too far for Melusi 3 members. A place to do things and practice. <p><u>Fear</u></p> <ol style="list-style-type: none"> He does not want to start his own business because there is too much crime. Does not have any goals, he is scared to voice his opinion. <p><u>Socioeconomic Issues</u></p> <ol style="list-style-type: none"> Money, knowing people and working. 	<p><u>Environment</u></p> <ol style="list-style-type: none"> Owned areas that are fenced off. There is nothing in Melusi that gives back to the community. Clinic (tight restrictions) None Home (can't do anything without bribing leaders) No obstructions Other people's premises (need to negotiate to use spaces). <p><u>Planning</u></p>

	<p><u>Personal</u></p> <ol style="list-style-type: none"> 1. Shyness. 2. Motivation/Government 	<p><u>Socioeconomic Environment</u></p> <ol style="list-style-type: none"> 1. Lack of access to education 2. Money and finance 3. I need to find connections because only they can help me. 4. Money 	<p><u>Personal</u></p> <ol style="list-style-type: none"> 1. Playing on the phone 	<ol style="list-style-type: none"> 1. Gas pipeline in the park. Prevents them from playing. 2. Near home 3. Outside MYDO -no electricity
<p>Identity</p>	<p><u>Substance Abuse</u></p> <ol style="list-style-type: none"> 1. Alcohol abuse 2. Substance abuse <p><u>Education/Unemployment</u></p> <ol style="list-style-type: none"> 1. Only has elementary school. 2. Unemployment & living in an underdeveloped place. <p><u>Personal</u></p>	<p><u>Community</u></p> <ol style="list-style-type: none"> 1. Not owning a residency permit 2. Not having a permit or a passport 3. Not owning stuff affects you negatively. 4. I need to depend on others (it's stressful) <p><u>Subsistence</u></p>	<p><u>Infrastructure</u></p> <ol style="list-style-type: none"> 1. Illegal electricity connections. <p><u>Substance Abuse</u></p> <ol style="list-style-type: none"> 1. Drinking and drugs 2. Drugs <p><u>Crime</u></p> <ol style="list-style-type: none"> 1. Crime x2 	<p><u>Tavern</u></p> <ol style="list-style-type: none"> 1. Taverns 2. The tavern isn't safe there is a lot of fighting. 3. Tavern (is risky) 4. Donald Tavern - People get murdered. <p><u>Dam/Quarry</u></p> <ol style="list-style-type: none"> 1. Does not like the dam area.

	<ol style="list-style-type: none"> 1. Low self-esteem 2. I am very short-tempered. 3. I'm not doing anything now, I am just sitting around. 4. Came to SA to find a job but instead, I had kids very quickly and did not accomplish my goal. Now my kids are suffering from my mistakes. 	<ol style="list-style-type: none"> 1. Can't be independent, living in poverty. <p><u>Education/Unemployment</u></p> <ol style="list-style-type: none"> 1. Difficulty in getting work as only has elementary school qualification. 2. Unemployment - makes me feel inferior to others. 	<ol style="list-style-type: none"> 2. Drug users 'nopes' - they steal from us. 3. Cash in transit robbery 4. Shacks are being burned down. 5. Leaders want bribes after fights (Goes to leaders after fights) 	<ol style="list-style-type: none"> 2. Dam (not safe) 3. People go to the dam to kill themselves. <p><u>Landmarks</u></p> <ol style="list-style-type: none"> 1. Entrance to Melusi 2. Around Coca Cola factory 3. Soshanguve (Near family) - outside melusi
	<p><u>Community</u></p> <ol style="list-style-type: none"> 1. Not proud to live in Melusi. 2. My business is unsuccessful 	<p><u>Personal</u></p> <ol style="list-style-type: none"> 1. I cannot start a family. 2. Feeling useless 3. Low self esteem 	<p><u>Community</u></p> <ol style="list-style-type: none"> 1. Living conditions (feels like they're living like animals) 2. Some people look for jobs for other people but don't include all of us when they do it. 3. People don't love each other. 4. Travels for recycling (outside Melusi) 5. Does not attend cultural activities because she feels unsafe. 	<p><u>Protection</u></p> <ol style="list-style-type: none"> 1. We can't walk around when it's late at night.

Freedom	<p><u>Community</u></p> <ol style="list-style-type: none"> 1. Politicians promising houses and not delivering. 2. No freedom in the community, scared to speak to community leaders. 3. Scared to give opinions. 4. The Jealousy we receive from other people. 5. Engagement- can't engage with people 6. Family 7. Doesn't feel free at all. 	<p><u>Homes</u></p> <ol style="list-style-type: none"> 1. It (what I have) is too small to achieve everything, we depend on our grandchildren for money, but we try. 2. I can't get my PDP which would help me get a job. 3. I have a shack but it's leaking, it's where I feel safe. I sometimes wake up and I feel like I am in a river. 	<p><u>Fear</u></p> <ol style="list-style-type: none"> 1. No freedom, intimidated by community leaders. 2. Xenophobia - people take stuff from illegal immigrants. 3. Did not know what freedom. 4. We cannot plant by the nursery because the municipality owns it. 5. The quarry/dam. 	<p><u>Tavern</u></p> <ol style="list-style-type: none"> 1. tavern because it is loud. 2. Alcohol is a big issue for men and women.
	<p><u>Crime</u></p> <ol style="list-style-type: none"> 1. Crime is a big problem - Bad crime rate due to lack of jobs. 2. I do not feel safe at all, people steal, and they take cell phones. 	<p><u>Substances</u></p> <ol style="list-style-type: none"> 1. Tavern and beer spots. 2. Consuming alcohol stops me from doing things and it's expensive. 3. Consuming alcohol - I drink every week and sometimes can't work. <p><u>Personal</u></p> <ol style="list-style-type: none"> 1. Jealousy <p><u>Environment</u></p>	<p><u>Culture</u></p> <ol style="list-style-type: none"> 1. People don't like singing in the community. 2. They dont take you seriously when you sing. 3. Making fun of other people <p><u>Politics</u></p> <ol style="list-style-type: none"> 1. I do not vote. 	<p><u>Quarry</u></p> <ol style="list-style-type: none"> 1. The dam/quarry. <p><u>Simba Snacks factory</u></p> <ol style="list-style-type: none"> 1. <i>Around SIMBA SNACKS - restricted zone</i> <p><u>Nowhere</u></p> <ol style="list-style-type: none"> 1. <i>None (x3)</i>

	<p><u>Substance Abuse</u></p> <p>1. Drug abuse - No place for rehab, children are vulnerable</p>	<p>1. Does not feel free (Not happy with dirty roads & Infrastructure)</p>	<p><u>Infrastructure</u></p> <p>1. No- water leaking in the sheds feels like I am stuck in a river when I wake up.</p> <p>2. No - we need to find a place for agriculture in the community.</p> <p><u>Work</u></p> <p>1. I find odd/small jobs so I can't always be around.</p>	
--	---	--	---	--

Appendix AC: Consolidated Matrix of Utopia

	Being (qualities)	Having (things)	Doing (actions)	Interacting (settings)
Subsistence	<p>WORK</p> <p>1. <i>Entrepreneurship</i></p> <p>A. Trade</p> <p>1. Needs money, wants her own business - likes selling of general goods.</p> <p>2. WANTS A BUSINESS TO SELL ALCOHOL AT CORNER OF VINCENT</p> <p>3. I would own a taxi or open up my own business.</p> <p>4. I would open up my own business - like a tuck shop.</p> <p>5. BE SELF-EMPLOYED (ORDER PEOPLE AROUND)</p> <p>6. Wants to sell clothes.</p> <p>B. Food & Catering (Services)</p>	<p>TANGIBLE</p> <p>1. Physical (Needs & wants)</p> <p>Needs</p> <p>1. WANTS An RDP HOUSE</p> <p>2. <i>Wants RDP housing.</i></p> <p>3. <i>House x3</i></p> <p>4. <i>Renovate your home.</i></p> <p>5. <i>Food x2</i></p> <p>6. <i>Money - Medicine, clothes, food and education.</i></p> <p>7. <i>Money x2</i></p> <p>8. <i>Needs resources to be able to earn a living.</i></p> <p>Wants</p> <p>1. <i>Car x3</i></p>	<p>Outliers (Education)</p> <p>1. Wants to be a doctor.</p> <p>Outliers (Community Based)</p> <p>1. Like to help people.</p> <p>2. Stop youth and stop drug use.</p> <p>Entrepreneurship (food)</p> <p>1. open a restaurant to sell mopani worms and chicken legs.</p> <p>2. Open a tuckshop.</p> <p>3. Selling to children before (vetkoek) and after (ice cream) school.</p>	<p>Malls</p> <p>1. Limpopo - Masingita mall (wish it was in Melusi)</p> <p>2. Would like a shopping Centre.</p> <p>Community Aid/Empowerment (Youth)</p> <p>1. Start and run a dropping centre for kids in Melusi (to prevent them from getting involved in drugs)</p> <p>2. would like to work at MYDO, teaching the youth how to grow and develop their skills, especially the girls.</p> <p>Community Aid/Empowerment (Community)</p>

	<p>1. Open Fruit market business</p> <p>2. Food</p> <p>C. Education (Knowledge transfer)</p> <p>1. Teaching</p> <p>2. Would like to do tutoring for money.</p> <p>D. Craft, talent and Skills</p> <p>1. I would work in carpentry - I excel at it.</p> <p>2. Does handiwork and is good at construction (Melusi needs a construction company) wants to work for himself?</p> <p>3. Wants sew clothes and sell them.</p> <p>4. Wants to do Sewing as a job.</p> <p>1. Job/ employment</p>	<p>2. Services</p> <p>Health</p> <p>1. <i>Happy with the clinic, but wants more or bigger clinics - scared for his health.</i></p> <p>2. A free clinic close by would help, currently going to Pretoria West clinic.</p> <p>Water, waste & Sanitation</p> <p>1. Access to clean water</p> <p>2. <i>Water</i></p> <p>3. <i>Water and electricity, I could cook when I want and get water without waiting in a cue after work.</i></p> <p>4. <i>Wants permanent public ablution facilities, but electricity is the biggest issue.</i></p> <p>5. <i>Wants proper Sanitation.</i></p> <p>6. <i>Wants to see proper Sanitation.</i></p> <p>7. LEGAL WATER CONNECTIONS</p>	<p>4. bakery</p> <p>Entrepreneurship (farming)</p> <p>1. Pig Farm</p> <p>Entrepreneurship (general)</p> <p>1. Start a business.</p> <p>2. Hustling</p> <p>3. Business owner</p> <p>4. To have my own business</p> <p>Entrepreneurship (talent)</p> <p>1. I would be an entertainer for money, it would help me buy food, clothes and a music studio.</p> <p>2. money from playing soccer in her free time.</p>	<p>1. Wants people to share ideas.</p> <p>2. Provide aid, helping people.</p> <p>3. Supporting and developing my community</p> <p>4. See myself helping the community get food.</p> <p>Infrastructure Improvement (services)</p> <p>1. Existing Infrastructure (water, electricity) needs to be improved before anything else can be improved</p> <p>Infrastructure Improvement (safety)</p> <p>1. Changing dam to park/ fencing it off</p>
--	---	--	---	---

	<p>2. Wants to work in a shoe company.</p> <p>3. Go back to my previous job as a health worker.</p> <hr/> <hr/> <hr/> <p>OUTLIERS</p> <p>Negative (-)</p> <ol style="list-style-type: none"> Gambling Gamble on Betway x2 <p>Positive (+)</p> <ol style="list-style-type: none"> OPEN UP AFTERCARE FOR WORKERS CHILDREN Wants to Leave the community to express his skills. 	<p>8. <i>Having permanent sanitation.</i></p> <p>Electricity & Power</p> <ol style="list-style-type: none"> Electricity <p>Education</p> <ol style="list-style-type: none"> <i>SMALL CRECHE FOR CHILDREN TO LEARN DIFFERENT LANGUAGES</i> <p>Financial</p> <ol style="list-style-type: none"> I would like financial support to buy ingredients for my skin product business. FINANCIALLY STABLE TO HELP TO POOREST <p>INTANGIBLE</p> <p>1. Health/ Safety</p> <ol style="list-style-type: none"> Health protection <p>2. Work</p> <ol style="list-style-type: none"> HAVE A STABLE JOB (DOESNT MATTER WHAT JOB IT IS) 	<p>Looking for a Job (to leave Melusi)</p> <ol style="list-style-type: none"> Wants a good job to leave Melusi. <p>Looking for a Job (dreams)</p> <ol style="list-style-type: none"> Wants a job - management assistant is her dream job. <p>Looking for a Job (skills)</p> <ol style="list-style-type: none"> Wants an opportunity to show that he can work with electricity - can help with installing electricity at Melusi <p>Looking for a Job (general)</p> <ol style="list-style-type: none"> Needs job (has matric) Would feel free if I had a job that give me a steady income. 	<p>Infrastructure Improvement (aesthetics)</p> <ol style="list-style-type: none"> good landscaping <p>Outlier</p> <ol style="list-style-type: none"> dreams of living in Pretoria West - wants to live in an upperclass area. Soshanguve <p>Jobs</p> <ol style="list-style-type: none"> Councilor Farming Community Leader x 2
--	--	--	---	---

		<p>2. <i>Job</i></p> <p>3. <i>Wants job (in admin)</i></p> <p>4. <i>Wants more development.</i></p> <p>5. <i>Better job opportunities.</i></p> <p>3. Residency & Tenure</p> <p>1. HAVING A RESIDENCY PERMIT</p> <p>OUTLIERS</p> <p>1. <i>Wants to move away, Melusi is too muddy, need better roads and infrastructure.</i></p> <p>2. I would want to be more famous, because I would have more followers so I can influence people in a positive manner - I would also be able to earn money to buy clothes, food and create a music studio.</p>	<p>3. Can do hairdressing for Money.</p> <p>Looking for a Job (to stay Melusi)</p> <p>1. I will go to another place if nothing changes - I want job opportunities in Melusi</p>	
<p>Protection</p>	<p>Services</p> <p>1. <i>A place with electricity</i></p>	<p>Equality & Inclusivity</p>	<p>Youth</p> <p>1. Another centre like MYDO to feed the</p>	<p>Crime (Community Spaces)</p>

	<p>2. Security and police.</p> <p>3. Lights</p> <p>4. Water</p> <p>Social & Psychological safety</p> <p>1. Share their thoughts.</p> <p>2. He feels he can trust the leaders.</p> <p>3. A well together community</p> <p>4. Not Together (Racial Issues)</p> <p>5. The kids need to be safe.</p> <p>6. Does not worry about safety.</p> <p>7. Having Security patrols</p> <p>Food security</p> <p>1. I will be safe when I have food security.</p> <p>2. Food</p> <p>OUTLIERS</p>	<p>1. GIVING EACH OTHER CHANCES AND LISTEN TO EACH OTHER</p> <p>Security</p> <p>1. Gomora - community police forum and faster response from police and emergency services</p> <p>2. wants streetlights, Melusi is very scary at night</p> <p>3. Wants more street lights.</p> <p>4. Streetlights/Apollo lights</p> <p>5. Security fences</p> <p>6. <i>Police station x4</i></p> <p>7. Security patrols</p> <p>8. Whistles</p> <p>9. <i>Open streets</i></p> <p>Health</p> <p>1. Need to make things like clinics available in terms of time and funding. Some people cannot afford healthcare and some people's</p>	<p>children and help black children succeed in an African country.</p> <p>Infrastructure</p> <p>1. Electricity</p> <p>2. Night Lighting</p> <p>Drugs</p> <p>1. She wants no drugs.</p> <p>2. Wants to stop drug dealers.</p> <p>Infrastructure</p> <p>1. Open a church.</p> <p>2. have a Park.</p> <p>3. Soccer pitches</p>	<p>1. Car Wash near Phola park (theft and crime)</p> <p>Infrastructure (Private)</p> <p>1. SASOL gas pipes that pose a danger to community when they explode</p> <p>Infrastructure (Public)</p> <p>1. Dams - need to be safeguard with guard rails to prevent people from falling into them</p> <p>2. I live around the quarry, and I wish for it to be safer.</p> <p>3. Dam and area next to spin city</p> <p>4. Dumping</p> <p>Safety (Police)</p>
--	--	---	--	---

	<p>1. <i>I have not seen anything unsafe - I'm new to Melusi</i></p>	<p>jobs conflict with the times the clinic is open.</p> <ol style="list-style-type: none"> 2. <i>Clinic for every day x3</i> 3. <i>Building proper infrastructure and clinics for the sick.</i> 4. <i>Access to doctor</i> <p>Shelter</p> <ol style="list-style-type: none"> 1. Wants to live in Booyens, this will make her feel safe. 2. Wants RDP housing, she feels unsafe in Melusi 3, RDP housing will help with safety. <p>Dialogue</p> <ol style="list-style-type: none"> 1. More open conversations with community leaders and each other <p>Education/ Upskilling & Training</p> <ol style="list-style-type: none"> 1. Attend the programs MYDO offers. <p>OUTLIERS</p>	<p>Healthcare</p> <ol style="list-style-type: none"> 1. Ambulances 2. Clinic <p>Safety (Community - Police)</p> <ol style="list-style-type: none"> 1. better usage of the police and patrols. 2. Police availability, more patrols especially when there is no electricity. 3. The police are not active, they are corrupt and are just looking for money. <p>Safety (Community - Crime)</p> <ol style="list-style-type: none"> 1. I have knowledge of GBV - I would like to teach others about it and hopefully bring down the number of rapes in Melusi 2. Wants to challenge people that commit crimes, sees Foreigners as a threat, because they 	<ol style="list-style-type: none"> 1. Wants people to patrol in Melusi. <p>Safety (Community Patrol)</p> <ol style="list-style-type: none"> 1. Security patrolling the community - members checking up on each other. 2. Wants security that can Patrol, to make Melusi 3 feel safer, because only feels unsafe at night. 3. Feels safe so far, working together as a community, but does not want patrol alone, bigger groups must patrol Melusi together. 4. Does not feel safe, wants people to patrol Melusi. 5. There must be a community patrol. <p>Safety (Crime)</p> <ol style="list-style-type: none"> 1. There must be community justice.
--	--	--	--	--

		<ol style="list-style-type: none"> 1. NEEDS AN ORGANIZATION TO DO THIS 2. TURN TAVERNS INTO CHURCHES 	<p>get away with crime - they dont have any documentation/ID.</p> <ol style="list-style-type: none"> 3. She knows where to get the drug dealers but needs support to stop them. 4. Provide jobs, more jobs = less crime <p>Safety (Self)</p> <ol style="list-style-type: none"> 1. Wants self-defense. <p>Food</p> <ol style="list-style-type: none"> 1. food security 	<ol style="list-style-type: none"> 2. Community must stand together to stop drug dealers. <p>Community Unity</p> <ol style="list-style-type: none"> 1. Would like the community to get more involved and intervene when there is fighting between members or other troubles. 2. Wants people to be united. <p>Children</p> <ol style="list-style-type: none"> 1. A secure place for children. 2. I would like there to be a school in Melusi, so the children do not need to travel far. 3. A secure place especially for the children. <p>Landscaping</p>
--	--	--	--	---

				<ol style="list-style-type: none"> 1. The nursery forest, it is unsafe, we do not know if people will come back. It's a space for criminal activities, I would cut it down and clear it out. 2. Change the forest landscaping. 3. Need proper landscapes. <p>Outliers</p> <ol style="list-style-type: none"> 1. Taverns should close early. 2. Churches should end early - too loud
Affection	<p>Communal Support</p> <ol style="list-style-type: none"> 1. A youth forum to patrol at night. 2. Protecting the needs and rights of the people. <p>Service Improvements</p>	<p>Shelter</p> <ol style="list-style-type: none"> 1. <i>Likes to spend time at home, wants a better home.</i> <p>Financial services</p> <ol style="list-style-type: none"> 1. Wants facilities to send money. 	<p>Youth (School)</p> <ol style="list-style-type: none"> 1. Support with caring and looking after my younger brother - help with school work. <p>Youth (Transport)</p>	<p>Travel (Cities/General Area)</p> <ol style="list-style-type: none"> 1. Cape Town 2. Kruger National Park 3. The Ocean <p>Travel (Specific Destination)</p>

	<ol style="list-style-type: none"> 1. Build a school. 2. Have electricity. 3. Cleanliness of Melusi, health is so important, the cleaner the better. <p>Communication</p> <ol style="list-style-type: none"> 1. communication improvement 	<p>Educational services</p> <ol style="list-style-type: none"> 1. Kindergarten needs to give children food. <p>Health services</p> <ol style="list-style-type: none"> 1. <i>Medical facilities</i> <p>Jobs & employment</p> <ol style="list-style-type: none"> 1. JOB - WILL IMPROVE RELATIONSHIP WITH FRIENDS AND FAMILY BECAUSE HE CAN GIVE THEM JOBS <p>Entrepreneurship</p> <ol style="list-style-type: none"> 1. Start a business. 2. Business for all family members so no one bothers me with asking for money. 3. <i>Restaurant</i> <p>Property & ownership</p> <ol style="list-style-type: none"> 1. <i>Pool</i> 2. <i>Braai</i> 	<ol style="list-style-type: none"> 1. Better transportation, especially for children going to school. <p>Infrastructure</p> <ol style="list-style-type: none"> 1. Access to water and electricity <p>Family and friends</p> <ol style="list-style-type: none"> 1. Family and friends support in personal relationships. 2. I would just want to be able to give more love and support to my family and friends. <p>Business</p> <ol style="list-style-type: none"> 1. Help him start a business. 2. I would own a taxi or open up my own business. (Restaurant, club) 	<ol style="list-style-type: none"> 1. Bundu Inn (Swim and chill) 2. Pretoria Zoo <p>Places in Melusi (Spiritual)</p> <ol style="list-style-type: none"> 1. Church <p>Places in Melusi (Leisure)</p> <ol style="list-style-type: none"> 1. Phola park 2. Spend all their time at spin city. <p>Places in Melusi (Home)</p> <ol style="list-style-type: none"> 1. At home with my son. <p>Places Near Melusi</p> <ol style="list-style-type: none"> 1. A would like to go to the pool by Shoprite. <p>General</p> <ol style="list-style-type: none"> 1. Want to be in nature.
--	--	--	--	--

		<p>OUTLIERS</p> <ol style="list-style-type: none"> 1. <i>help my mom, if I had more money</i> 	<p>Financial (Support)</p> <ol style="list-style-type: none"> 1. Financial Support 2. Government support <p>Financial (Start Up Capital)</p> <ol style="list-style-type: none"> 1. More money for business 	
Understanding	<p>Systematic Changes</p> <ol style="list-style-type: none"> 1. Mobile school or busses to pick up kids. 2. Government support for us, but they need to monitor the funding. <p>Community Centre</p> <ol style="list-style-type: none"> 1. Education: teach members to learn how to cook and clean 2. Have stations to help the youth with university registrations. 	<p>Transportation</p> <ol style="list-style-type: none"> 1. School transport is too expensive, wants cheaper transportation. 2. Wants better roads for the children to go to school. 3. Wants free transportation for her child. <p>Community Centre</p> <ol style="list-style-type: none"> 1. I wish we had a library where we can learn more. 2. Melusi needs parks to relax their minds. 	<p>Improve own education.</p> <ol style="list-style-type: none"> 1. Wants to go to school. 2. Go back to school. 3. I would like to go to university in-person and study to be a doctor or travel the world to learn new things, since I studied Tourism. <p>Educational Centre</p> <ol style="list-style-type: none"> 1. Wants teaching programs, MYDO is 	<p>Mentioning MYDO</p> <ol style="list-style-type: none"> 1. MYDO is the best place for people to come together to talk about their problems and safety. 2. MYDO must communicate and express their ideas with the community more. 3. I need a shortcourse at MYDO that helps finish/bridge matric certificate. <p>Sport Ground</p>

	<p>3. MYDO.</p> <p>4. Another MYDO further west - MYDO is too small to look after whole community.</p> <p>5. Have it (community centre/school) near the soccer grounds because it is on a main road and it will be easy for everyone, especially the school children to find it.</p> <p>Workshops</p> <ol style="list-style-type: none"> 1. Doing activities with other people, learning through others. 2. Face to face workshops 3. Have teaching programs 	<p>3. Wants Wifi (Place for collecting information)</p> <p>4. Another MYDO</p> <p>Sports</p> <ol style="list-style-type: none"> 1. More places for members to do physical exercise (gym and soccer ground) 2. Sports <p>Local Education Centre</p> <ol style="list-style-type: none"> 1. Offer educational lessons. 2. Free university and education. 3. High school in Melusi. 4. Primary & Secondary schools 5. School x2 <p>Skills Required</p> <ol style="list-style-type: none"> 1. Science, technology and accounting. 2. Computer or laptop skills - we don't have access to them and have not been taught. 	<p>limited, can research anything.</p> <ol style="list-style-type: none"> 2. Wants a Library where children can learn to read. 3. Would like to teach other kids to read, wants a Library. <p>Enterprise</p> <ol style="list-style-type: none"> 1. Community to support each other - bake bread locally as opposed to sourcing from Joburg. 2. Have a Catering business. 3. Sell Scones for her bakery. <p>Communication</p> <ol style="list-style-type: none"> 1. Communicate with others more. 	<ol style="list-style-type: none"> 1. VINCENT 2. The sports grounds are fine. <p>Proposing a new place</p> <ol style="list-style-type: none"> 1. Turning the nursery into a meeting place 2. A shelter at any open place - to protect from the elements. <p>Community Centre</p> <ol style="list-style-type: none"> 1. Community hub 2. Community hall/ Vincent ground 3. Community Leaders <p>Outlier</p>
--	--	--	--	--

		<ol style="list-style-type: none"> 3. Place for infants when parents are at work. 4. Open a day care. 	<ol style="list-style-type: none"> 2. I will get my neighbours to help and work it through together. 3. I would ask the police for help or if it is something they cannot help with I will ask a friend. <p>Healthcare</p> <ol style="list-style-type: none"> 1. Health care 2. Hospital 3. I have a chest infection and would like medical care and it is not readily available. <p>Individual Self-Improvement</p> <ol style="list-style-type: none"> 1. I will sit down and resolve the problem one by one. 2. Fix Finances 3. Plan for future and making a start to increase the chances of family after her to be more successful. 	<ol style="list-style-type: none"> 1. Tshwane House, the municipality does not help or assist use.
--	--	---	---	---

			4. Make more money	
Participation	<p>Positive Feelings</p> <ol style="list-style-type: none"> Happy - I'm trying to better my community by giving them an alternative energy source. Feel happy. Make me feel happy, as I will be recognised as a member of the community. Happy and well appreciated. Proud x2 <p>Wants more community interaction to feel included:</p> <ol style="list-style-type: none"> Wants a say in the community, wants Melusi to feel like home. I would feel good, but I still need to be welcomed into the community. 	<p>Hinderance</p> <ol style="list-style-type: none"> Not having education stops him from thinking of anything to do. <p>Access to healthcare/facilities</p> <ol style="list-style-type: none"> 24/7 clinic or shop. It would be nice to have vending machines for medicine or food so when people are not around, we can still access it. <p>Communication</p> <ol style="list-style-type: none"> Meetings Talking to people Opportunity to speak and make decisions. I influence people to come to MYDO to learn more - 	<p>Community Communication</p> <ol style="list-style-type: none"> If the community works together, change could happen, and more jobs could be available Wants youth to meet up and say what needs to change, others won't listen to the youth because they dont want change There must be forum meetings Sharing good ideas with each other. I would like to participate in everything the community does. support groups <p>Advertising/ More Open Communication:</p> <ol style="list-style-type: none"> Mydo must advertise more 	<p>Community Centre</p> <ol style="list-style-type: none"> A community hall where we can meet people and have a platform to raise concerns in the community and talk about what's going on Community hub Community hall Would be happy if he can be heard, wants a meeting place to talk about Melusi's problems, people/ leaders must go house to house to inform people what's going on. <p>Mydo mentions:</p> <ol style="list-style-type: none"> Mydo MYDO Sports grounds (x3) MYDO

	<p>3. Sharing good ideas with one another, one brain can't do it all.</p> <p>4. "Negreted"? - Maybe Neglected</p> <p>5. Wants external investors to invest in Melusi. Private Sector.</p>	<p>language skills would help me reach more people.</p> <p>Suggestion</p> <p>1. I do not currently feel heard in the community meetings, we need to formalise them. We can stop having them in the streets and start having them in the community hub with a community leader.</p> <p>Outlier</p> <p>1. Needs a place to play soccer</p>	<p>2. We need more information on the activities (put up posters around Melusi).</p> <p>3. Activities like strikes need to be more structured because the way they are currently done have a negative/harmful impact.</p> <p>4. having open communication platforms</p> <p>Stopping Crime</p> <p>1. Crime will increase if the community doesn't get involved in solving issues</p> <p>2. Prevent youth from using drugs</p> <p>3. Stop drug usage</p> <p>4. Stop crime</p> <p>5. Peaceful Place</p> <p>Miscellaneous</p>	<p>Sport Grounds/Parks</p> <p>1. Vincent sports ground</p> <p>2. Vincent ground</p> <p>3. Wants more parks and play area</p> <p>External Interventions</p> <p>1. Create events to talk about issues and accomplishments</p> <p>2. Bring more activities into Melusi.</p> <p>3. Wants more support from Government</p> <p>At house</p> <p>1. I would like people to meet at my house.</p> <p>Other</p>
--	---	--	---	---

			<ol style="list-style-type: none"> 1. Soccer teams 2. Help with Gardening 3. Have more Friends 4. More places to take part in skill development. 	<ol style="list-style-type: none"> 1. Bheki's place
Leisure	<p>Entertainment</p> <p>1. Sport</p> <ol style="list-style-type: none"> 1. Play soccer x2 2. The pools at Shoprite with my kids. <p>2. Musical</p> <ol style="list-style-type: none"> 1. I like reading and singing gospel, but not at the church, only at home. 2. Dancing 3. Listening to music <p>3. Social</p> <ol style="list-style-type: none"> 1. Drinking 	<p>Sport</p> <ol style="list-style-type: none"> 1. Wants a soccer field 2. More Space - Soccer field - Maybe wants a soccer field where the nursery is 3. I love playing soccer and running. I would like a centre or church where I can showcase my ideas 4. I know how to play soccer but I need the grounds to express this skill, I have a lot of ideas. 5. I play soccer - I would like the opportunity to play in different places <p>TV</p>	<p>Individual/Self-Improvement</p> <ol style="list-style-type: none"> 1. Bathing 2. Meditation 3. Reading 4. Exercise 5. Sleeping all day 6. Wants to read, Has a Zim Matric and wants to study business management when he gets money 7. Manage my own things <p>Interacting/Socialising</p> <ol style="list-style-type: none"> 1. Family gatherings 	<p>Outside Melusi</p> <ol style="list-style-type: none"> 1. Durban. 2. Europe or Asia. <p>Existing near Melusi</p> <ol style="list-style-type: none"> 1. Games at tavern near Phola Park 2. Bundu Inn 3. Mahem Raceway <p>Proposed</p> <ol style="list-style-type: none"> 1. A community pool, cafe' or cinema

	<p>2. Gambling</p> <p>4. Downtime</p> <p>1. Sleeping</p> <p>2. Planting or Relaxing</p> <p>Productive Relaxation</p> <p>1. Training centre (brick laying, painting, mechanics)</p> <p>2. My business will help me relax.</p> <p>3. DJ</p>	<p>1. Wants a TV and electricity</p> <p>2. TV for movies, but no electricity</p> <p>Educational</p> <p>1. Loves to have a library</p> <p>2. Education</p> <p>Achieving Goals/Dreams</p> <p>1. Achieving my dreams and goals, this would help me to look after myself.</p> <p>2. I need money to start my own business. I will employ people to work for me and then I don't have to work.</p> <p>3. He'll only feel relaxed after achieving his goals</p> <p>4. Have money</p> <p>Healthcare</p>	<p>2. Sports Person, wants to see children play sports to take them off the streets</p> <p>3. Wants to socialise outside Melusi</p> <p>4. Walk in the street and speak to people</p> <p>Entertainment</p> <p>1. Smoking</p> <p>2. Alcohol</p> <p>3. Series and movies</p> <p>4. Watch movies</p> <p>Place-based</p> <p>1. Peaceful place (pool)</p> <p>2. I need a quiet place to relax</p>	<p>2. Park</p> <p>3. Grizzly's, to have a park there that has place to braai, swim and good security.</p> <p>4. Wants a bigger place for kids to play.</p> <p>5. I would like to go somewhere with family where there are beautiful landscapes and gardens.</p> <p>6. Somewhere quiet which we don't have in Melusi.</p> <p>7. I would go to a resort, where I can go swimming, to a spa and listen to music.</p> <p>8. Spa</p> <p>9. Wants Melusi to get more Clubs.</p> <p>Individual</p> <p>1. Self-care</p>
--	--	---	--	--

		<ol style="list-style-type: none"> 1. Good health 2. Clinics working every day x2 and bigger 3. Clinic give chronic medications <p>Infrastructure</p> <ol style="list-style-type: none"> 1. Water 2. Permanent structures (roads, drains) 3. Permanent stand 4. Shopping complex 5. Permanent stand x3 		<ol style="list-style-type: none"> 2. Home
Creation	<p>Skills</p> <ol style="list-style-type: none"> 1. Plumbing - we need access to better infrastructure as I am a plumber and would like to have it to work. 2. Soccer and cooking. 	<p>Landscaping</p> <ol style="list-style-type: none"> 1. Wants her own garden. 2. Gardening <p>Hairdressing</p>	<p>Musical</p> <ol style="list-style-type: none"> 1. Dancing 2. Dancing and singing. 3. Wants to be a DJ at clubs. 	<p>Discipline Specific/Outliers</p> <ol style="list-style-type: none"> 1. At the NRF - I would like the chance to showcase my business skills. I am a consultant. 2. At Hospital, Places that people can use skills to make money.

	<p>3. The soccer grounds in somewhere I can develop my skills.</p> <p>Communication</p> <ol style="list-style-type: none"> 1. Through communication 2. I don't know how they can help. 3. stop shutting people outside. <p>Support</p> <ol style="list-style-type: none"> 1. Give people opportunities. 2. Give people Support x2. 3. Getting in contact with the department of arts and culture as they have the resources to support and strengthen our creative skills. <p>Outlier:</p>	<ol style="list-style-type: none"> 1. Open a hair salon. 2. Hairdresser <p>Arts & crafts</p> <ol style="list-style-type: none"> 1. Decor - I would like the community to drop off their recycling so that I can use the items and upcycle them as decor for me and to sell. 2. Singing - I would like a speaker or musical instruments. Drawing - paper or walls to draw on. 3. Money to buy material things like clothes and jewelry. 4. Fashion design 5. Crafts <p>Cooking</p> <ol style="list-style-type: none"> 1. Baking Supplies as she wants to start a baking business. 	<p>Sport</p> <ol style="list-style-type: none"> 1. Sport 2. Looking after children and playing netball. 3. Soccer <p>Community Hall</p> <ol style="list-style-type: none"> 1. Community should build a community hall to share knowledge. 2. Community hall in Melusi 3 3. Places to access opportunities to try new things. 4. MYDO to do more advertising of events, etc. <p>Cooking</p> <ol style="list-style-type: none"> 1. I need cooking and frying machines for my business. 	<p>Social</p> <ol style="list-style-type: none"> 1. Casino 2. Tavern <p>School</p> <ol style="list-style-type: none"> 1. Prestige college 2. In schools, I would like to teach the children how to paint. 3. At School, <p>Singing</p> <ol style="list-style-type: none"> 1. I love singing - I would like a platform where I can share it and maybe earn money for it. 2. At MYDO, I like dancing and singing.
--	---	--	---	---

	<ol style="list-style-type: none"> Place for education - turn tavern into education 	<ol style="list-style-type: none"> If I can own a catering business one day. Cooking <p>Outliers</p> <ol style="list-style-type: none"> I would like to open up a plumbing business with the right tools. If I can be a teacher - I need to repeat some subjects before I study. Grizzly's, wants more places to look at in Melusi (like monuments) 	<ol style="list-style-type: none"> Cooking Catering and decoration for weddings and special events <p>Landscaping</p> <ol style="list-style-type: none"> Wants more trees: for shading, growing of fruits to sell. Garden <p>Outliers</p> <ol style="list-style-type: none"> Entrepreneurship. Reading Drawing 	<p>MYDO</p> <ol style="list-style-type: none"> At MYDO, I like dancing and singing. MYDO - To learn more electrical and solar installation skills. MYDO
Identity	<p>Cultural traditions</p> <ol style="list-style-type: none"> I would like to practice and follow my cultural routes 	<p>Place</p> <ol style="list-style-type: none"> Having traditional events to attend, like weddings. 	<p>Moral values</p> <ol style="list-style-type: none"> I want to be known as a good person and a good 	<p>Language/ Literacy</p> <ol style="list-style-type: none"> Teach english -

	<p>more strictly - I won't change or lose my identity.</p> <p>2. Wearing cultural clothes</p> <p>Events</p> <ol style="list-style-type: none"> 1. Have events on Heritage Day at MYDO where we share traditional food, clothes and dances (Sarafina). 2. Have programs to play games. 3. Attends youth events. <p>Dancing</p> <ol style="list-style-type: none"> 1. Have dancing events. 2. Through singing and dancing x2 <p>Social</p> <ol style="list-style-type: none"> 1. Drinking 	<p>2. Wants a park where people can meet, wants a monument that represents Melusi.</p> <p>Clothing</p> <ol style="list-style-type: none"> 1. Need an Attire to perform the cultural dances. 2. Attire 3. Cultural attire <p>Musical</p> <ol style="list-style-type: none"> 1. Concert 2. Drums 3. Instruments 4. Speakers <p>Outlier</p> <ol style="list-style-type: none"> 1. Wants a career in soccer, wants a sponsor for her soccer career 	<p>soccer player - I play for MYDO FC.</p> <ol style="list-style-type: none"> 2. I can be a real person when I am doing nice things for others. 3. Express identity through religion <p>Infrastructure</p> <ol style="list-style-type: none"> 1. Participant wants to be a community leader and upgrade existing infrastructure. 2. Own own house <p>Creative</p> <ol style="list-style-type: none"> 1. Money & skills to express fashion sense and make my own. 2. I dance - I would like to join a dance group and have a venue big enough. 	<p>2. Would like government to provide a place to learn english.</p> <p>Infrastructure/Tenure</p> <p>Services:</p> <ol style="list-style-type: none"> 1. Melusi to have better infrastructure, legal connections, taps in homes and better roads. 2. Development of water and electricity, I need better access to services. 3. Better services and infrastructure (electricity connections, safe water, roads) - x2 4. We want to see development like electricity, Schools, Running water and a better clinic. <p>Building/Tenure</p>
--	--	---	---	--

			<p>Luxury items</p> <ol style="list-style-type: none"> 1. Nice car 2. Fashionable jewelry 3. Luxury life 4. Many cars <p>Outlier</p> <ol style="list-style-type: none"> 1. None 	<ol style="list-style-type: none"> 1. Beautiful and developed neighborhood, with nice houses - x2 2. Permanent tenure - (we are temporary here and not sure if we will be chased away) 3. RDPx2
Freedom	<p>Freedom of choice</p> <ol style="list-style-type: none"> 1. Everyone is able to do what they want whenever they want to, as long as everything being done is good. 2. Freedom to do whatever you want without being questioned. 3. If you can do the right thing at the right moment and without anyone stopping, you. 	<p>Community support</p> <ol style="list-style-type: none"> 1. More support and less judgement from the community. 2. I just want to be me, without boundaries, more support and less judgement. 3. No competition 4. Help in community/ Event participation. 5. Help cooking 	<p>Community support</p> <ol style="list-style-type: none"> 1. Communication - especially with new people, it would allow us to help each other and connect. 2. Donate food to the children that are at the clinic. 3. Community watch <p>Money/income</p>	<p>Quarry</p> <ol style="list-style-type: none"> 1. The quarry, I would like to swim there or use a boat. 2. The quarry, it needs to be safer, maybe a fence around it. <p>Outlier</p> <ol style="list-style-type: none"> 1. Anywhere (x3)

	<p>4. Confidence to continue doing my job as a door-to-door solar saleswoman.</p> <p>5. Being able to play soccer freely anywhere in Melusi.</p> <p>Service delivery</p> <p>1. Having politicians stick to their promises.</p> <p>2. Infrastructure and access to services needs to be developed.</p> <p>Free speech</p> <p>1. Freedom of speech</p> <p>2. Freedom of speech</p> <p>Outlier</p> <p>1. poverty</p>	<p>Money</p> <p>1. Money and Job.</p> <p>2. Money</p> <p>3. Money</p> <p>4. When you have access to money you have power to do everything you want.</p> <p>Musical</p> <p>1. Dance x2</p> <p>2. Sing x2.</p> <p>Clothing</p> <p>1. Traditional attire x2</p> <p>2. Cultural attire</p> <p>Outliers</p>	<p>1. Going to market and going home without having to pay for anything.</p> <p>2. Jobs - money will fix all of our problems.</p> <p>3. More money</p> <p>4. Good Job</p> <p>5. Own own Company</p> <p>6. Successful Business</p> <p>Social</p> <p>1. Socially free</p> <p>2. Independence - The ability to do the things I want.</p> <p>Outliers</p> <p>1. Roads - infrastructure needs to be improved.</p> <p>2. None</p>	<p>2. Would like to move to the USA.</p> <p>3. The clinic</p> <p>Social</p> <p>1. Spin cityyyyyyy</p> <p>2. Spin cityyyyyyyyy</p> <p>3. Rooftop - Nightclub</p>
--	--	--	---	--

		<ol style="list-style-type: none">1. Alcohol - nothing can stop me when I am drunk.2. I want a park, an adventurous place where I can rest alone and refresh my mind		
--	--	---	--	--