SOCIAL STITCH: CONNECTING SEGREGATED COMMUNITIES THROUGH ACTIVITY

Submitted in partial fulfillment of the requirements for the degree
Master of Architecture(professional).
Department of Architecture
Faculty of Engineering, Built Environment and Information Technology
University of Pretoria

Study leader: Mr. Nico Botes
Course coordinators: Dr. Jacques Laubscher and Dr. Arthur Barker

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PROJECT SUMMARY

Full dissertation title:
Social Stitch: Connecting segregated communities through activity

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Degree:
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Department:
Department of architecture

Faculty:
Faculty of engineering, built environment and information technology

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Project summary:
A hybrid community clinic which addresses health issues and the lack of some basic resources within the community of Mshongo.

Programme:
A Hybrid community primary care clinic which consists of a seminar room and organic lab to help educate the community about hygiene and medicinal value of plants, doctors consultation offices, pension offices, governmental offices and a cafe.

Site description:
Informal settlements of “Mshongo” in Atteridgeville

Client:
The community and community leaders of Mshongo and Scrap. The Municipality of Tshwane and ministerial offices

Site location:
off Mphalane Street, Atteridgeville-former entrance into Mshongo

Architectural theoretical premise:
Social re-integration within diverse ethnic landscape, through formalisation of social production and interaction, thus creating a platform for better social cohesion.

Architectural approach:
Structure carved by the surrounding physical landscape, and local tectonics

Research field:
Housing and urban landscapes
In accordance with Regulation 4(e) of the General Regulations (G.57) for dissertations and theses, I declare that this thesis, which I hereby submit for the degree Master of Architecture (Professional) at the University of Pretoria, is my own work and has not previously been submitted by me for a degree at this or any other tertiary institution. I further state that no part of my thesis has already been, or is currently being, submitted for any such degree, diploma or other qualification. I further declare that this thesis is substantially my own work. Where reference is made to the works of others, the extent to which that work has been used is indicated and fully acknowledged in the text and list of references.

Signature

Dr. Arthur Barker
“29 With your help I can advance against a troop; with my God I can scale a wall... 32 It is God who arms me with strength and makes my ways perfect. 33 He makes my feet like the feet of a deer; He enables me to stand on the heights... 49 Therefore I will praise you among the nations, O Lord.”

(Psalms 18:29, 32-33, 49)

Thank you Lord, for yet another opportunity to know you better.

The pillars in my life; my mom, Mrs. Thulisile Elizabeth Zondi, my two sisters; Dr. Mbalenhle Nokwanda “Babi” Zondi (MBChB) and Fezile Busisiwe “Nane” Zondi and my mom away from home, Dr. Nompumelelo Gumede (Phd Human geography). It is through your strength and wisdom that I realised what I was capable of.

Had it not been for Mr. Nico Botes’ faith in me, great intellect in the field and patience, I would have not been able to turn my capabilities into a reality, thank you for your enthusiastic approach and professional guidance Mr. Botes.

Thank you Dr. Laubscher and Dr. Barker, for selflessly making time for us in studio and for your genuine leadership, it made us far wiser then when we first started.

To the staff of the Architecture Department of the University of Pretoria, thank you for the smiles when I needed them and the encouragement and support when the end seemed too far.
The influence of social constructs on the moral fibre and the nature of interactions within a community can never be over emphasized. Social constructs being tangible and intangible elements which form spaces within which communities interact with one another. Where social constructs are chaotic, conflicts within those communities are bound to follow. This has been observed in countries like Rwanda where inequalities among the different communities within the country led to genocide.

This dissertation aims to investigate possibilities of using architecture as a tool to create opportunities for cultural and social integration thus encouraging a people to foster values of ‘otherness’ ‘selflessness’ and community. This will be achieved by constructing strong social networks (tangible and intangible) throughout an ethnically, and culturally diverse landscape, with an aim to contribute towards the upliftment of the immediate community. It is hoped that lessons learnt from this study could be of benefit to the South African society at large since the phenomenon observed within the communities being studied presents itself in other communities within the country as well.

The anger so thick in the atmosphere, tension bound up into (the site) pockets, slowly strangle and suffocate her pillars, breaking them, forcing them into the ground, causing them to disappear in their turmoil, misunderstandings, and continuous drift and neglect. Tightening the bonds of individualistic interactions ignorance and “disconnectedness” forged by man’s forgetful nature of social ills he exists within.

(a poem by the author, inspired by the site chosen for the dissertation)
Chapter 1: Introduction
1.1 Background
1.1.1 South Africa
1.1.2 Atteridgeville
1.2 Introduction
1.2.1 Conflicts in Africa and South Africa
1.2.2 Conflicts in Atteridgeville
1.2.3 Triggers of xenophobic attacks in Atteridgeville
1.2.4 Summary

Chapter 2: Review and Reasoning
2.1 Research Methodology
2.2 Research Method
2.3 Problem Statement
2.4 Aim of the Study
2.5 Hypothesis
2.6 Thesis Problem Statement
2.7 Summary

Chapter 3: Theoretical Discourse
3.1 Design Strategies in Architecture [Geoffrey Baker]
3.2 Genius Loci [Christiaan Norburg-Schultz]
3.3 Production of Space [Henri Lefebvre]
3.4 Social Interaction
3.5 Normative Position [Fanele Zondi]
3.6 Summary

Chapter 4: Urban Analysis
4.1 Contextual Study
4.1.1 Economy
4.1.2 Social Segregation / Status
4.2 Infrastructure
4.2.1 Atteridgeville north
4.2.2 Maunde street and Mshongo
4.3 Site Analysis
4.3.1 Major routes and access into Mshongo
4.3.2 Physical Landscape of Mshongo
4.3.3 Settlement Patterns and typical Architecture of Mshongo
4.3.4 Cultural Landscape of Mshongo
4.3.5 Conclusions drawn from the economic, social and infrastructure study
4.4 Summary

Chapter 5: Precedent Studies
5.1 Precedents - Planning Principles
5.1.1 Marrakech, Morocco
5.1.2 Great Mosque of Djene, Mali
5.1.3 Lessons learnt
5.2 Precedents - Design Principles
5.2.1 Nelson Mandela Interpretation Centre, Gauteng, South Africa
5.2.2 Red Location Museum, Eastern Cape, South Africa
5.2.3 Cassia co-op training centre, Indonesia
5.2.4 The centre pour le Bien-etre la Femme (CBF), Ouagadougou, Burkina Faso
5.2.5 Bridge School, Li Xiaodong, China
5.3 General Conclusion

Chapter 6: Design Exploration
6.1 Introduction
6.2 Design Process
6.2.1 Zoning study
6.2.2 Metaphysics of the site
6.2.3 The stitch
6.2.4 Conclusion
6.3 Design Resolution
6.3.1 Design principles
6.3.2 Design Solution
6.4 Conclusion
Chapter 7: Technical Exploration

7.1 Introduction

7.2 Sustainable Construction Principles
   7.2.1 Pretoria’s Climatic Conditions
   7.2.2 Waste Treatment System
   7.2.3 Natural ventilation, heating and cooling system
       7.2.3.1 Conclusion

7.3 Technical Solution

7.4 Green Star Rating and Materials used

LIST OF REFERENCES
LIST OF ILLUSTRATIONS
LIST OF FIGURES
CHAPTER ONE:
INTRODUCTION

1.1 Background
   1.1.1 South Africa
   1.1.2 Atteridgeville

1.2 Introduction
   1.2.1 Conflicts in Africa and South Africa
   1.2.2 Conflicts in Atteridgeville
   1.2.3 Triggers of conflict in Atteridgeville
   1.2.4 Summary: Conflict stricken Communities
1.1 BACKGROUND
1.1.1 SOUTH AFRICA

South Africa is currently enjoying the hard earned democratic dispensation, but in spite of this it “..is clear that although the Group Areas Act was repealed in 1991, the component elements of apartheid planning have been etched into the fabric of our cities” (Frescura, 1982:7).

The social landscape of South Africa is a complex matrix of layers built up by early settlements of the first inhabitants of her lands, and a fluctuation of regimes, some of which were established well over decades, and some over a few years. With time, the social landscape continues to change and reinvent itself. The past laws, forgotten by many are yet still scars for others (in the form of informal settlements).

Social engineering in South Africa resulted in the segregation of races into four categories, namely; whites, Blacks, Indians and Coloureds. This segregation was made successful through the The Native Land Act, 1913 (subsequently renamed Black Land Act No. 27 of 1913) and The Group Areas Act No. 41 of 1950 of the Apartheid regime, which forced “nonwhites” out of the Central Business District (CBD).

This segregation was further enforced amongst ethnicities within their designated townships, as depicted in illustration 1.2.

Illus 1.2 The Apartheid's Group Areas Act in Theory, Topographical features and ideal plan.
(John Western in; Morojele, M. and Brandt, D. p1)
### 1.1.2 Atteridgeville

Atteridgeville, where the study is conducted is a township in one of the nine provinces in South Africa's Gauteng Province. It is located in the third region of the Tshwane Municipality (Pretoria West). This township, like majority of townships in South Africa, was built according to the old apartheid planning principles, which encouraged ethnic segregation. This is seen in that different ethnic groups are accommodated in different sections within the same township. This indicates the extent to which the Black Areas Act and the Group Act were etched into the fibre of the South African built environment.

Segregation amongst ethnicities is further found in Atteridgeville within the nine ethnic ‘districts’ of the township as follows;

1. Thlala Mpya: Predominantly Northern seSotho speaking
2. Ou Stad and Ten Morgan: Predominantly seSotho speaking
3. Black Rock: Blurred concentration of sePedi and xiTsonga speaking
4. Matebeleng (a derogatory term): isiNdebele and isiZulu speaking
5. Extension 3,4,5,6: New development defying past ethnic segregation
6. Selbourne Side: xiTsonga and tshiVenda
7. Ghost town: areas near old Atteridgeville graveyards
8. Harlem/Mshongo: Mixed ethnic and cultural residents
9. Skoopers: Indian residents
Atteridgeville is separated from the CBD and other major amenities by a buffer zone of industrial areas, a train track and a ridge to the South. The current police dog training academy was a police presence put in place during the apartheid era, this aiming at managing any riots which would break out in the township. A majority of the roads radiate outwards from a circle, this being as a result of past ideologies that military forces could set up firing devices aiming right along the streets radiating from the circle, where they would set up. Atteridgeville has come a long way from the oppressive urban planning principles of the past.

Unfortunately these urban planning principles of the past have left huge fractures within the functioning of the segments of Atteridgeville as a part of the region as a whole, segregating the fringes from everything that’s located in the centre. While major vehicular routes connect the fragmented parts of the municipality to the city centre, they also create even greater disconnections between communities in these areas. Roads, railway tracks and industrial zones, although they are services needed and used by the people, they create buffers between this township and the city centre.
The existing and functioning railway track and Church Street (it is now changed to W.F Nkomo Street) create strong horizontal boundaries between Atteridgeville and Lotus township. Roads within Atteridgeville are such that they form a circle. The township is planned around these pre-established routes. This ensures quick and easy reach of the whole township by police in a short space of time during unrest.

There is one major entrance into Atteridgeville, a secondary entrance is below a bridge along Church Street, this was so facilitate the process of control and monitoring who goes in or out and when. It is interesting to note that, Mshongo seems to be experiencing the same segregation, but within the township, as if being an island, within a bigger island.

Atteridgeville has seen great improvement with the construction of schools, clinics, doctors’ offices, retail entities - formal and informal, and the transport industry is in great demand due to the distance between Atteridgeville and the city centre.

Two informal settlements border the South and South East of Atteridgeville, in 1991 the settlements of Mshongo were established to the south of Atteridgeville, these were divided into two sections, Jeffsville to the West, and Matlajwane to the East. Towards Laudium, there is an informal settlement which the locals refer to as “Scrap”, due to that fact that conditions in this area are worse than those in Mshongo, which itself is also lacking in services and infrastructure as a community, as will be discussed further in chapter 4. These settlements operate informally as part of Atteridgeville with respect to basic resources and infrastructure. This naturally puts a strain on the stretched resources allocated to Atteridgeville.
Recently, in 2008, xenophobic attacks broke out in "Scrap", these attacks soon found ground in Mshongo and in Atteridgeville. These attacks, according to the locals were not directed only at foreign nationals, but also at South Africans who were not originally from the area. This is a classic example of the extent to which apartheid laws remain etched in the minds of society, long after they were repealed. This situation is compounded by the reality that some areas have better access to resources than other communities. Thus aggravating tensions between the different ethnicities and nationalities within the community.
1.2 INTRODUCTION
1.2.1 CONFLICTS WITHIN SOUTH AFRICA

South Africa is a young democracy which has had a long struggle of conflicts during the apartheid era. The country has overcome some of the ills, but some still disguise themselves in different forms and ideologies within our urban fabric as mentioned in 1.1.1. One such example being xenophobic and ethnic conflicts within the country. These socio-political conflicts result in segregation of smaller communities within bigger ones. Physical interpretation of this becomes evident in the settlements, and their location in relation with primary resources.

The fragmented settlements, and hugely scarred connections between them and vital functions within the city, are interpretations of the underlying social ills still hidden within the layers of the diverse cultural landscape of South Africa.

During the apartheid regime, South Africa had been cut off from trading in the international market, and consequently countries had distanced themselves from South Africa. The era post 1994 has seen a great growth of international relationships fostered by South Africa’s new found democracy, which started to take part in the competitive global economic landscape again, South Africa has thus become a member of the global village, making access into and out of the country easier than before. Whilst this is fostering good relations with other countries and benefits the land to an extent, it also brings some challenges with it. South Africans who see themselves struggling to access the country’s resources suddenly see themselves as competing for these with other nationals.

Lately South Africa’s international reputation has been tainted by the frequent xenophobic attacks on foreign nationals.

The deportation of 125 Nigerian nationals on the 2nd of March 2012, who were said to have been found in possession of fraudulent yellow fever cards, caused further tensions between South Africa and her international neighbours, this leaving the foreign nationals within the smaller communities in South Africa vulnerable to violence by South Africans living within them.

“Nigeria Foreign Minister Olugbenga Ashiru, speaking to his National Assembly on Tuesday, linked the deportations to what he called the "xenophobia" faced by Nigerian immigrants living in South Africa who fear police who arrest them without cause.”

(www.africanspotlight.com, 2012)
1.2.2 CONFLICTS IN ATTERIDGEVILLE
Atteridgeville is a township divided by time, where the urban planning principles of the past government are still clearly visible in the township today. Specific areas of Atteridgeville have been recently developed - this denouncing the planning principles of the past. It is of value to note the past principles used in determining the urban planning of some parts of Atteridgeville, as some of these principles are borrowed in the proposed framework and used as a skeleton upon which a progressive programme is attached. Thus some of the apartheid planning principles were used to generate the framework of this intervention. This is intended to give new meaning, one not of oppression but progression, to existing spaces which still echo the oppressive regime of the past. (for urban framework see 4.4)

As a part of the apartheid regime, the black townships were further divided within ethnicities, this further segregating people according to the languages which they spoke. This, as stated above in 1.1.2 is quite evident and very much still in effect in Atteridgeville today. This planning was an attempt by the apartheid government to further plant divisions amongst the black communities. This set up was one of the important factors during the attacks of 2008. These xenophobic outbreaks were also aimed at those who, though South African, were not originally from the area. This has caused even more segregation amongst the community members. There seems to be a gradual diffusion of these ethnic boundaries in the formal and affluent segments of Atteridgeville but in informal settlements, this is a rife day to day reality, for example; the Nguni tribes-some of them being, amaZulu, amaXhosa, amaNdebele, amaTsonga would group themselves in proximity to one another thus forming a bigger group.

Illus 1.8 Indication of existing urban patterns in Atteridgeville

- Residential
- Commercial node
- Non - Residential
- Radial cluster where resources and eminities are efficiently accessible. This patterns is predominantly found in the formal settlements of Atteridgeville
- Lost Connection
- Mixed-use
- Residential
- Detached pattern where living and production are disconnected, this pattern is predominantly found in the informal settlements of Mshongo
It has been established from a majority of permanent residents interviewed in Atteridgeville that, conflicts in this township occur most frequently in the informal segments of the township, where there is a lack in infrastructure, as opposed to the more affluent parts of Atteridgeville. This informal segment known as "Mshongo" is located to the South western corner of Atteridgeville toward the foot of the ridge.

Mshongo is section 1 of Atteridgeville, under the Gauteng Civic Association (GACA) whose chairperson is Jeff Rabothlale. Mshongo is divided into two sections, 'Jeffsville' named after the chairperson of GACA, established in 1991, and 'Brazzaville'.

Mshongo consists of a great mixture of ethnicities, namely; baPedi, baTswana, Shangaans, Xhosas, amaZulu, Ndebeles, baSotho and Vendas, the predominant group being the Pedis. Amongst the local nationals are foreign nationals, namely; Mozambicans, Zimbabweans, Malawians, Somalians and BaSotho. It is said that the xenophobic attacks in Atteridgeville were triggered by the predominantly African National Congress Youth League (ANCYL) - (a league within a South African political party - the ANC) community of "Scrap". Foreign nationals from these areas were displaced into Mshongo after fleeing from their attackers. Their attackers encouraged the same behaviour from the locals of Mshongo, this then spread to Atteridgeville and resulted in 5 deaths and...

"Approximately 150 shacks and shops were burnt down, destroyed or vandalized and 500 foreign nationals were displaced and sought refuge at Atteridgeville police station and nearby community halls." (Misago et al, 2008:132).
### 1.2.3 TRIGGERS OF CONFLICT IN ATTERIDGEVILLE

In order to gain more insight into the events which led to the May 8 2008 xenophobic attacks at Mshongo, a series of interviews were conducted. The study was aimed at understanding the movement patterns between places of work and living, and the patterns prevalent within the mindsets of people living in Mshongo towards their environment which consists of a diverse ethnicity as mentioned above.

The candidates for interviews were selected on the basis of where they stay, and their reasons for staying there. Those who were non-residents of Atteridgeville, were interviewed according to their reason for being in Atteridgeville and how frequently they are in Atteridgeville. To conclude, they were asked about their occupation and views on the xenophobic attacks and asked to further explain how, if at all, the xenophobia has affected relations amongst the members of mixed community of Mshongo and subsequently Atteridgeville, today.

#### INTERVIEWS CONDUCTED 1 MARCH 2012

<table>
<thead>
<tr>
<th>MR. MAHLALELA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resides: West Fort village</td>
</tr>
<tr>
<td>Occupation: Collects recyclable material for an income</td>
</tr>
<tr>
<td>Views on xenophobia: “We stay well with them, when I come here to work, I do not get bothered by anyone, I just do my work, ja, they are fine.”</td>
</tr>
</tbody>
</table>

Fig. 1. Informal interview

Illus 1.9 Mr. Mahlalela on his way home to West Fort Heights, with the recyclable material he found.

<table>
<thead>
<tr>
<th>MRS. HELEN KHOZA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resides: M 14, G. Jeffville, Mshongo, Atteridgeville, 0008</td>
</tr>
<tr>
<td>Occupation: Sells beauty products (Avon) for an income</td>
</tr>
<tr>
<td>Views on xenophobia: “There attacks on the foreigners on that date, they started in Mshongo, where I stay. They started there and ended there, they only happen in the shacks cause really there isn’t any space, and the area is bad, no water, no electricity, and at night it is not safe. We were living happily before the attacks.”</td>
</tr>
</tbody>
</table>

Fig. 2. Informal interview

Illus 1.10 Mrs. Khoza, selling beauty products at the entrance of Atlyn Mall, Atteridgeville.
INTERVIEWS CONDUCTED 8 MARCH 2012

MR. MOSEKI
Resides: Black Rock, Atteridgeville. Temporarily
Occupation: Trolley attendant at Atlyn Mall, Atteridgeville
Views on xenophobia: “Down there at Mshongo, if you are a man and you are a foreigner they will fight you, because you are a threat to their business and women, same thing with these boys from here, South Africa. If you are a woman they talk nice and smile with you, and say lets have a drink (he laughs)”

Fig. 4. Informal interview

THOMANI
Resides: Gazankulu Clinic complex. Jeffsville, Mshongo
Occupation: Motivational speaker at local events and church services
Views on xenophobia: “They apply for RDP houses when they do not even qualify for them and they get them, before us, and we end up homeless. When inflation goes up, we too have to be able to make a living, and so we demand better wages, but the foreigners are willing to work for cheap, so we loose out.”

Fig. 5. Informal interview
Attacks getting passed off as petty violence, or small misunderstandings within communities is what culminates into the physical fractures. It does seem as though South Africa is reverting to its old habits of the dark regime, where attacks are planned on a specific group of people, but this time, this not being a racial issue, but an ethnic and in some instances nationalist issue which is carried into the present, from the past. These attacks are what counteract the passive surveillance, taking away the “eyes from the street” enforcing curfews out of fear, this benefiting the ill motives of violence. Communal progression becomes hard to achieve, as during these protests and attacks, both tangible and intangible structures are dismantled, this leaving depressed landscapes, which lack a permanence and identity, or maybe, a positive identity.

Use of basic materials and construction methods in demarcating space, enhance social interaction, and therefore social cohesion amongst the community members. This lowers chances for illegal activities on site and surrounding areas. As illustrated in illustration 1.14.

Conclusions drawn from the interviews conducted:
From the above interviews, it starts to become more clear that the deeper the study went into Atteridgeville-moving closer into Mshongo, the author felt more conscious of her ethnicity. The lack of infrastructure and resources in Mshongo physically segregate Mshongo from the greater Atteridgeville, this creating an urban island. This also depicts the standard deemed true for the majority of informal settlements within the country.
Since Mshongo is home to diverse ethnicities and nationalities, this also indicates the fluctuating migrations of dwellers into and out of, the informal settlement, and therefore also contributing toward the existing basic construction methods of shelter put up by the residents, from which the roads are determined, further formalising the informalities of Mshongo.

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Use of basic materials and construction methods in demarcating space, enhance social interaction, and therefore social cohesion amongst the community members. This lowers chances for illegal activities on site and surrounding areas. As illustrated in illustration 1.14.
XENOPHOBIC SPRAWL IN ATTERIDGEVILLE

Due to conflicts which originated in "Scrap" a weak connection between Mshongo and "Scrap" has come about. This connection is neglected and is only used as a means from getting from point A to point B. The pedestrian movement from one place to the other is due to need of resources and commuting to school and work by residents on either end of this link.

As it is, the gap in between Mshongo and "Scrap" is slowly becoming no-man's land, further contributing towards loss of place, character and identity.
1.3 SUMMARY: CONFLICT STRICKEN COMMUNITIES

According to the Social Interaction theory which will be discussed in Chapter 3, Community should be a place where oneself has the freedom to express themselves, engaging with other members of that community. Interaction between members within their community can be influenced by current sociopolitical and socio-economical events which take place in countries. Conflicts within communities are also exasperated by lack of infrastructure and social services. This conflict then gets focussed on specific groups within the community, these groups-which are singled out, then ostracized and in the most part blamed for the ill functioning of the community.

Interaction between the foreign and local nationals, as gathered from the residents of Mshongo, only recently started becoming violent due to the above mentioned xenophobic attacks. Before the xenophobic events the residents of Mshongo were living in harmony with each other. Due to the lack of infrastructure, this area is then physically detached from the rest of Atteridgeville. This is made even more evident in the interviews held, where most interviewees stated that the attacks started and ended in Mshongo, some residents of the more affluent parts of Atteridgeville were not even interested to hear about Mshongo, the author was told blatantly, to “...go there and talk to them if you want to know about them.”

This showed signs of physical and psychological detachment caused by unevenly distributed resources, economic flow, and social cohesion.
CHAPTER TWO: REVIEW AND REASONING

2.1 Research Methodology
   2.1.1 Literature Review
2.2 Research Method
   2.2.1 Strategy of enquiry and data collection
2.3 Problem Statement
2.4 Aim of the Study
2.5 Hypothesis
2.6 Summary

Illus 2. Collage. Infrastructure in Atteridgeville.
2.1 Research Methodology

2.1.1 Literature Review
The study is based on information and research which was compiled and gathered from the following sources:

I. Literature studies of books and essays
II. Journals
III. Local and National Newspapers
IV. Internet Search Engines
V. Urban Analysis
VI. Ethnographic Studies
VII. Precedent and Case Studies

2.2 Research Methodology

During the journey of finding a site for study, literature and theories on the topic of xenophobia, ethnic conflict and conflict stricken communities were reviewed. This served as the basis upon which the author was able to start mapping and identifying areas, or zones in South Africa which were prone to ethnic conflicts dating back to 1994. The identification of these locations and together with the advised study area led to the identification of the proposed site for study.

The proposed site was first analysed within its greater context of Tshwane, then Region 3 within Tshwane, and eventually Atteridgeville, the township within which Mshongo is located.

The final document was reviewed for the course CPD810 (Continued Practice Development).

2.2.1 Strategy of enquiry and data collection
A mixed method (qualitative and quantitative) approach was used. The intention was to cover the emotional and quantitative aspects of the research. Interviews were used as a data collection tool. Casual - informal interviews were conducted. This affording the researcher an opportunity to probe and to explain the questions (Turner, 2010:11).

During site visits, further analysis of Atteridgeville was conducted by means of using public transport to site, photographs, videos, interviews and map studies. The research findings were collated and then presented before other colleagues and course co-ordinator, together with study leaders, in a series of submissions during the year. Results of the research process were analysed and that analysis informed the intervention proposed by the study.
ongoing process

1 March '12
8 March '12

LITERATURE
Books
Papers
web pages

URBAN ANALYSIS
Atteridgeville
Photo's
Videos
mapping

ETHNOGRAPHIC RESEARCH
Casual interviews
Collective Testimonio
Personal Interviews

PRECEDENT
Marrakech, Morrocco
Djene Mosque, Mali
Building typologies, national and international

End of April, Beginning of May

End of April, Beginning of May

Fig. 2 Indication of research methods
2.3 Problem Statement

Ethnic conflicts occur mostly in situations where there is shortage of infrastructure and services. These areas predominantly informal settlements. In its inception the democratic government of South Africa committed to the provision of resources to all South Africans. this process has been riddled with corruption which leads to service delivery protests that have become common in the country. Among claims made by protestors is the fact that undeserving individuals gain access to these resources and qualifying people get left behind. There is great conflict over the fact that, certain ethnic and foreign national groups have more privileges and access to basic resources than other groups, this study revealed that this is more pronounced in housing and accommodation.

Communities in the targeted area of study line in proximity to each other but the inequality in the distribution of resources between them translates into a stark difference in their lifestyles.

Due to lack of resources like water, clinics, reliable service delivery, in areas like Mshongo healthcare issues arise and reliable service delivery, health issues arise, these become a great burden on the people: physically, economically and emotionally. This is compounded by the high rate or unemployment in this area. Places of work and education institutions are far, so adults and children commuting from home, to work and school, struggle with the very long distances travelled by foot, due to lack of transport in the area. This eventually takes its toll in an already impoverished community. This culminates into rife competition between ethnic and cultural groups, formed into smaller communities, who struggle and compete for resources in order to survive, thus aggravating the already fragmented social and built environment.

Mshongo is not a community without potential, but her potential is hidden in the strong misunderstandings of its culturally rich landscape. Such conflict within the community is one of the major reasons people do not feel comfortable with conducting any business there, therefore Mshongo becomes an empty gut, which is used purely by surrounding community members as a passaged to ferry pedestrian and vehicular traffic from point A, to point B.

2.4 Aim of the Study

The study aims to:

1. identify the underlying reasons which result in uninformed hatred amongst the diverse ethnicities of Mshongo, Atteridgeville.
2. Assess the environment (in terms of the physical space and the capabilities of the people) in order to work out an intervention that will be workable in the area.
3. Create a conducive environment, or platform upon which conflicts could be resolved in a non-violent manner, which will bridge the gap between the ethnic and social divides, first at a communal level, then ultimately at the continental level.
4. Provide a prototype that can be used to address similar phenomena in other parts of the country. This will be taken further by helping to create a conducive environment, or platform upon which conflicts could be resolved in a non-violent manner, this starting to bridge the gap between ethnic and social divides, first at a communal level, then ultimately at the continental level.

Scrap and Mshongo have been chosen for the intervention so that lessons from the study can be used as a catalyst for greater change and growth through diversity. These lessons will be used to stitch up the fragmented fibres in the formal and informal settlements within Scrap and Mshongo and in the broader environment (country). This study aims to achieve this by designing available space and exploiting potential that is available among the community reuniting the mindsets of different backgrounds. This will then be used as a bridge within which ethnic and social divides are conquered.
Illustration 2.2 Sketch showing the aims of the study. This integrating ethnicities, across conflicting urban fabrics within Mshongo.

Illustration 2.3 Diagram depicting extreme diversity in socioeconomic conditions existent within Atteridgeville.
2.5 HYPOTHESIS

During site visits and the conducting of interviews with the locals, it was found that a majority of the local nationals stood in agreement that

“...the Nigerians are very good with their work, they know their stuff, but us too we also do a lot of hand work because you find that the community leaders, they don’t do anything, they take too long, you better be able to do things by yourself.”

This implies that there is great skill locked up in Mshongo. First, the residents are good builders of their own homes and are business men and women, (despite the attacks on the foreigners’ shops), they maintain vendor stalls on the sides of their roads, and make a living out of the income they get from selling. The foreigners, it is said, are very good with crafting and creating objects of art and furniture pieces with their hands.

“...but my sister I can tell you, the Nigerians can do their thing, they are very good with their hands...” (interview with Themba: 8 March 2012)

The entrance into Mshongo is toward the south western corner of this settlement, this is where a majority of residents from the "Scrap" settlement, in Laudium access Mshongo, in Atteridgeville. This entrance portal is an extremely public space, where a lot of ‘short cuts’ pass through, and so this begs the question. "How can architecture facilitate the skills existing within Mshongo to bridge the divide between the different ethnicities, using this as leverage point to further address internal conflicts within the community, creating a platform upon which the community can make opportunities to uplift themselves?"

2.5 SUMMARY

It also becomes evident that the more one engages with people on a face to face basis, or at the same level as them (commute in public transport as they do, even wear the same way as they do, and as much as possible trying to communicate the same way as they do, as opposed to coming across as “a student of the University of Pretoria, talking in a language which might not be easily accessible to them) they are able to interpret questions far better, and are further more willing to assist in the research. This has proved to be a good direction to take when seeking information about a people, their way of life and surroundings.

Upliftment within a community is better achieved when the involved parties have a clear understanding of the real problems within their communities, and are helped to understand practical steps which they can physically implement as part of a process to creating a more cohesive and healthier environment for themselves.
CHAPTER THREE: THEORETICAL DISCOURSE

Design Strategies in Architecture

Genius Loci

Production of Space

Social Interaction

Normative Position

Summary

[Geoffrey Baker]

[Christiaan Norburg-Schultz]

[Henri Lefebvre]

[Fanele Zondi]

Illus 3. Collage. Mr Moseki at work. Spaces of productivity are detached from spaces of living.
3.1 DESIGN STRATEGIES IN ARCHITECTURE [architecture as a means of facilitating a culture]

Structures within society then further become the "...framework for existence, architecture participates directly in life, and as an art form it is assessed as to the extent to which it enhances and enriches life" (Baker, 2006: 62).

Architecture becomes the mediator between social constructs and how these go about existing with one another. Places which are well planned and consist of true diversity of the seen as well as the unseen, allow for an unhindered flow of energy resultant from interactions encompassed within these structures, which mold the lived experiences. Connections between mind and soul, aesthetic and function, science and art are bridged by structure which is able to "...absorb the life forces so they are correctly assimilated" (Baker, 2006: 62).

This is when architecture gets given an opportunity to become employed by the people for their liberation, from oppressive social constructs, uncaring surroundings and neglect. This in turn triggers a renewed interaction between different groups and their environment and furthermore their greater surroundings.

It is within well-constructed layers where the soul can find rest and reconnect with its true inner self. As connections both in the seen and unseen realm continue to be bridged. With architecture being the thread, the architect is the needle directed by the people, who's activities form the functions inherent within specific spaces, and so "Form becomes sign of function, and the relationship between the two gives rise to structure..." (Lefebvre 1991: 148)

Illus 3.1 Arrangement of tangible elements (built environment / fabric) determines, to a certain degree the intangible environment, thus affecting ones perception of the reality they exist in.
3.2 SOCIAL INTERACTION [interaction amongst the different mental constructs-people]

Communication and therefore interaction, determine the quality that relationships within society. This may create stronger bonds between individuals, thus producing cohesive communities or it may be divisive, depending in the nature of the interactions.

As a person continues to live and connect to their surroundings with time, they internalise and attach meaning to the cultural construct of their surroundings. This adds layers of perception, insight and questioning of their reality. These are played out in day to day relations with those they considers family, neighbours, community and society. One learns to hear, see, feel and understand, through filters - (pervious and impervious) - which society constructs in symbols they display within their setting in daily activities. Symbols being the meanings given to everyday interactions through words; language, touch; handshakes, hugs and kisses, violence; defending oneself from intrusive physical and psychological force. All these everyday dealings contribute toward shaping an individual, and ultimately a community, through families. This concludes that, an individual is ultimately a product of their surroundings, of their daily interactions, stemming from basic lessons seen and heard from within a family, to experiences within society. So, a person within a certain community, be it big or small, shall always be a link in the vast network responsible for the creation of economies, global crises, rise and fall of governments and innovations not yet known to humankind, because man, is a social being, stemming from one, but progressing into multitudes.


Illus 3.2 Diagrammatic representation of different backgrounds and individual spaces creating a communal place with a new and single identity.

Illus 3.3 The interaction of different perceptions creates a matrix of cultures which build up social constructs. Out this, architecture becomes the platform upon which society can interact and progress.
What is belonging, what brings it about? Identity brings it about, when you know who you are within an existent space. This then becomes a better informed understanding of one's surroundings. The knowledge one gains from interacting with one's surroundings determines the way they behave and treat their fellow beings and natural environment existent within the space they inhabit, and even the broader context surrounding them.

Day to day dealings, within a space become impregnated with the culture of how ideals and aspirations are carried out within the space. This lends character to lived space, and therefore the way it is further perceived in the human psychology, as character rich space creates "...a system of meaningful places..." (Norburg-Schultz, 1980:28)

This engaging pulls our senses to become a part of our environment, and our environment to become a part of our senses, coherently creating a dense matrix of senses, and environment bringing forth characters, alive within the varied pockets of places.
3.3 PRODUCTION OF SPACE [space abstracted into a mental construct, coherent dwelling for the inner man]

"It seems to be well established that physical space has no 'reality' without the energy that is displayed within it." Therefore, "...when we evoke 'energy', we must immediately note that energy has to be deployed within a space." (Lefebvre, 1991: 13 & 12 respectively).

When the character within a space is expressed by the people inhabiting that space, it then becomes a space with significant cultures and therefore relationships, this is what differentiates a space from a place, and so, without space and relationships within it, there cannot be place. The relationships existent within that space, be they positive or negative relationships, create or are the basis for the creation of society, this then enables us to say that, society is a construct of relationships from which, dependent on their quality, a constructive or disruptive society is created.

Interactions between different subjects within their space and surroundings, allow for; according to Hegel's forecast in Lefebvre's Production of Space; flattened social and cultural spheres, this causing an end to conflicts and contradictions.

Contradictions and conflicts result from a lack of understanding amongst a group. These are fueled by uninformed intended social actions, with cause harm to or eliminate another group existent within the same space. Such disruptive occurrences are facilitated by failure to take time to understand and internalise diverse elements inherent within a culturally rich society, this being the reason why "...knowledge misses its target; our understanding is reduced to a confirmation of the undefined and indefinable multiplicity of things and gets lost in classifications, descriptions and segmentations." (Lefebvre 1991: 81)

Space then, becomes a room of subconscious contemplation, an area of internal reflection, a zone which "...is no longer situated in the physical world but in the subjectivity of the human mind that formally shapes this world." (Casey, 1998: 136). Self introspection is further expanded into social space, where ideals and creations clash and merge, and construct a communal place out of what was initially an undefined space surrounded by places defined by contradicting elements to one another. Therefore the blur between contradictions becomes "...neither rural nor urban but the result of a newly engendered spatial relationship between the two." (Lefebvre 1991: 78)
3.5 NORMATIVE POSITION

Colours and space are an invitation for the soul and the body to intertwine, learning each other's palettes, and triggering each other's reaction. Whether space confines or brings freedom is relative to how the mathematics within proportion unearths the beauty of the facade and volumes, which make up the surface of the inner workings and dwellings of the space to be experienced.

Floors and ceilings are common denominators, derived from nature herself (i.e. earth and sky), this grounds the mind and emotion, whilst allowing for aspirations and ideas to manifest. This builds up walls upon which this ceiling of dreams rests, thus completing the comfort zone for man, where he considers, dreams and builds.

When we consider memories, thoughts and ideas, these are all things not present for the senses to experience, yet they become factors which form character: character of space, nature, man. How does the intangible become responsible for the formation of the tangible, as the tangible forges intangible palettes in our minds? Association and experiences with the tangible, enhance and concretise memories in one's psychology. Contact with others, be it welcoming or conflicting, creates pictures in the mind, allowing for internal processes to take place, which conjure up specific actions related to certain emotion. This associates emotion with experiences.

As much as structure is a physical entity, it should too contain a soul, an intangible character, with which the psychology can associate, becoming the second skin of society, connecting memories, services and emotion.

The strengthened connections of a soul, the sun baked brick, and cracks of concrete, open up portals where all parties have sight into each other's realms. This is when man lends to space and space lends to man, creating a symbiotic relationship. As one moves along the timeline, we ultimately do find that nature is the driving and mentoring force, behind the progressing relationships and sinews strengthened between the seen and the unseen. As man was created after nature, and structure by man.

Illus 3.6 Intangible elements contribute toward the construction of tangible elements. Harmony and proportion determine quality of space, this affecting internal processes.
3.6 SUMMARY

Acknowledgement of each other’s existence is better achieved through interacting and communicating with one another. In order for this to be effective and take place consistently, conducive places must be created and formed in such ways that they depict the culture of the people utilising that space, this being a form which truly follows function.

Social interaction is a tool which allows for well diversified space and places to exist, where instead of clear divides, there are distinct bonds between different backgrounds and ideals, and as people begin to interact with each other within the conducive environments, a new coherent set of values is adopted, constructing well sustained communities. This is what this study aims to achieve in the identified area of Mshongo.

As the sayings of the Zulu people goes...“it takes a village to raise a child.” The truthfulness of this saying hinges in the health and functionality of the community. The field of architecture has a big contribution to make towards creating an environment that will foster healthy communities. This has far reaching implications as it feeds even broader but pivotal community life like its economy and its sustenance for coming generations.

Another saying is that, “Umuntu ngumuntu ngabantu.” A person is, as a result of others around them, one cannot grow by themselves, nor can they be productive on their own, they need moral contribution from others as they grow. Good input, contributing towards society’s growth. The architect’s role, therefore in the creation of spaces that will facilitate healthy and productive interaction among the people in the community, can never be over emphasized.

[Interaction starts as a mental and emotional construct, or logic which then becomes transferred into actions]...
CHAPTER FOUR: URBAN ANALYSIS

4.1 Contextual Study
   4.1.1 Economy
   4.1.2 Social Segregation / Status

4.2 Infrastructure
   4.2.1 Atteridgeville north
   4.2.2 Maunde street and Mshongo

4.3 Site Analysis
   4.3.1 Major routes and access into Mshongo
   4.3.2 Physical Landscape of Mshongo
   4.3.3 Settlement Patterns and typical Architecture of Mshongo
   4.3.4 Cultural Landscape of Mshongo
   4.3.5 Conclusions drawn from the economic, social and infrastructure study

4.4 Summary

4.5 Urban Framework
   4.5.1 Aims of the framework
   4.5.2 Urban Framework
   4.5.3 Proposed site for intervention

4.6 Programme
   4.6.1 Proposed intervention
   4.6.2 Proposed programme
   4.6.3 Users, Clients and stakeholders
   4.6.4 Summary

Illus 4. Collage. Aerial map of proposed site for the project
4.1 CONTEXTUAL STUDY
4.1.1 ECONOMY

1. Kalafong Road Taxi rank and brick selling stalls, located in front of the hospital and next to the taxi rank.

2. Mrs Khoza, sells beauty products outside the suburbs of Kalafong Heights, on a table she bought from the income she makes from selling her products.

3. Moses, sells chips, sweets and cigarettes opposite the Atteridgeville cemetery along Khoza street.

4. Stall opposite the Gazankulu government clinic, was made by the owner of the stall.

5. Container along Maunde street providing communications services in terms of airtime and phone calls.

Each stall is a generic type which exists within the greater area that the stall is identified in. The above photographs were taken at intervals of approximately 5Km’s from Kalafong Street to the junction formed by Khoza Street and Maunde Street. The stalls along Maunde Street were taken at longer this being due to the generic nature of economic patterns along Maunde Street of stalls existent either in residential garages or in containers, and at the entrance of Mshongo is shown the generic quality of stalls identified in the greater context of Mshongo.

illus 4.2 Photographs showing the varying settings upon which the residents create job opportunities for themselves.
CONCLUSIONS DRAWN FROM THE ECONOMIC STUDY

The photographic study above does start to indicate economic patterns of Mshongo with the other more affluent sections of Atteridgeville. Evidently further west along Maunde Street, resources become scarce, and self-employment through stalls becomes less successful. The products being sold also vary according to the area within which the stalls are located. At the taxi rank along Kalafong Street, women sell cooked meals catering to the taxi drivers mostly. This is complimented by employers at the Kalafong Hospital opposite the taxi rank. The success thereof since the taxi rank is located along the main entrance into the township. These areas are paved and covered with shelters, these protecting people from the elements whilst they wait for the taxi’s. This makes trading, between the taxi drivers, the customers and sellers more efficient.

Khoza street is separated into two parts, the southern and the northern. Khoza Street-north is located within the more affluent areas of Atteridgeville, and so Mrs. Khoza is able to sell her product more successfully to her clientele, also being located opposite the mall entrance increases her chances of sales. The profit, she claims, helps her to buy better equipment to make her stall look more appealing and this then attracts more customers of her target market, over and above her costs of living. This is a more temporary set up, which has very limited demarcation of space. This contributes toward unidentified space, which through her trade, and therefore the relationships she creates, start to build the character of the space within which she is in.

Khoza Street-south, towards Maunde Street, is where Moses is located, opposite the cemetery and the metal works factory shop. His clientele buy mostly cigarettes and chewing gum from him and he sells chips and sweets mostly to school children making their way home. This limits his clientele due to their financial status. Moses is located between the informal bus parking which picks up school children, and the metal works factory towards the south. This part of Khoza Street is made active through trade as a light commercial street, more people are drawn to this part of the street.

These models are found throughout Atteridgeville, this is one of the ways the people of Atteridgeville try to fight poverty, and create passive surveillance, as there are more people on the more public frontier. This model exists in much of the township, as many of them had been under the same oppressions of the past urban planning principles. This open interaction with those selling and the passers by strengthens social cohesion, and so these stalls become the pockets of identity which become the first points of reference during conflicts and times of rest.

Along Khoza street, pockets of energy radiate from the smaller cores (informal stalls) The existing model in Atteridgeville and in most townships, is that where there is economic activity, there is usually social activity. This creates a culture of passive security, contributing towards the safety and upliftment of the community. This reinforces social cohesion.
4.1.2 SOCIAL SEGREGATION/STATUS

Hatfield: High walls don’t allow for better social cohesion. They are exclusive and create individualistic communities. This creates fractures within the city.

Atteridgeville: Low fences allow for demarcation of private space, whilst creating opportunity for social interaction with passers by and neighbours. This promotes healthy pedestrian traffic on the “semi-public” spaces. This achieves the passive surveillance by neighborhood members.

Mshongo, Atteridgeville. There is very minimal demarcation of space in Mshongo. This is due to the fact that a lot of the residents cannot afford to build boundaries, are there only to work—look for jobs (temporary residents) or there is no space. Therefore, what is potentially private space, ends up becoming public space where cross circulation between houses and spaces occurs.

JOURNEY FROM EAST TO WEST

The following journey, “From east to west” was taken to understand in greater context how people move and relate to one another within different settings, this in relation to quality of existing buildings, infrastructure.

Buildings:

The quality if buildings was measured according to street edges, and whether these act as good or bad thresholds in the transition from street (vehicular public) to pavement (pedestrian public), to shop (semi-public), to residential (private).

Infrastructure

The street edge also is indicative of the level of infrastructure existent within the area. Fortunately when the journey was taken, there were heavy rains, this showed how storm water and traffic were being directed.

Conclusion

It was noted that in areas which were very formal, social interaction did not occur frequently but in those which were characterised by peoples’ craft, and skill—that being maintenance, created the formalised aspect thereof. In areas where the street edge was not designed, or maintained, people started taking ownership of that space, and most vendor shops would be located on these edges. This starts to say that, ownership at different levels of private and public, individual and communal space, start to become definers of a space, this contributing toward the creation of place.
4.2 INFRASTRUCTURE
4.2.1 INFRASTRUCTURE - Atteridgeville North

Illus 4.8 Power station on the corner of Church Street and Acridian Street.

Illus 4.9 Heavy storm water is managed along Khoza Street, not affecting private residential spaces, and pedestrian and vehicular traffic.

Illus 4.10 Map showing Atteridgeville North.

Illus 4.11 Regular municipal litter management takes place more efficiently around Atteridgeville North, this being evident from the clean street edges.
4.2.2 INFRASTRUCTURE - Maunde Street and Mshongo

Illus 4.12 Lack of storm water control services and poor quality surfaces for roads.

Illus 4.13 Residential initiatives taken to protect themselves against elements of harsh weather.

Illus 4.14 Residential initiatives to counter lack of transport facilities in the area.

Illus 4.15 Map showing Mshongo. 'Atteridgeville South'.

Illus 4.16-4.18 There are no services in Mshongo dedicated to maintaining clean edges.
4.3 SITE ANALYSIS
4.3.1 SITE ANALYSIS - Major routes and access into Mshongo

Illus 4.19. Aerial map showing Mshongo to the west and “Scrap” to the east. Indicating major access points into Mshongo.

Illus 4.20. Aerial map showing informal, eastern entrance point into Mshongo from “Scrap”, indicating major movement routes.

ACCESS POINTS:
1. Major crossing of both vehicular and pedestrian traffic. Peak hours: 6:30am to 8:00am and 16:00 to 18:00
2. Major internal pedestrian and vehicular and informal trade intersection.
3. Point of entrance from Scrap into Mshongo.

Primary, vehicular and pedestrian link between Mshongo and “Scrap” and Laudium.
Secondary internal pedestrian link, connecting to primary route

Illus 4.21. Lady coming from work.
Illus 4.22. Themba waiting for a friend.
Illus 4.23. A couple heading to Mshongo
Illus 4.24. A kid giving way to a car heading to Mshongo
Illus 4.25. “Scrap” residents heading to Maunde street through Mshongo

Illus 4.21-4.26, from top to bottom. This is the only route available for cars and people to access both Mshongo and “Scrap”. It is an informal route which over the years has formed informally and organically, merely a need of being able to get from point A to point B.
4.3.2 SITE ANALYSIS - Physical landscape of Mshongo

Mshongo consists mostly of dry red earth. This makes it rather difficult for the residents, who are mostly subsistence farmers, to produce healthy crop. During heavy rains, the un-tarred roads and pathways make it difficult and dangerous to maneuver, making service delivery a challenge for a majority of the times.

Illus 4.27. Aerial map of Mshongo and “Scrap”, indicating different views and the mountain edge.

Illus 4.28. Entrance into “Scrap”.

Illus 4.29. Western view of “Scrap”.

Illus 4.30. Mountain range south of “Scrap”.

Illus 4.31. View of settlements around entrance point into Mshongo from “Scrap”.

Illus 4.32. View of settlements along major link between Mshongo and “Scrap”.

Illus 4.33. Local church, located on the edge of an informal dump site.

Illus 4.34. Community water tank.

Illus 4.35-4.38. Existing vegetation within the red zone.
Informal settlements are usually created out of the immediate need of shelter, and as they increase in numbers, self-made services which sprout. This leads to sicknesses which are not easily cured. Lack of resources cause these self-made services to not run well, exacerbating the issues of health hazards.

This leads to sicknesses which is not so easily cured due to, lack of information available, unaccessible roads by medical professionals / policemen (service providers) and financial constraints.

The need which arises out of this, is improvement of support and protection amongst neighbours, self employment through informal trading.

So then, a community forms organically, without rigid lines and structures, but instead, as Thorsten Deckler of 26’ 10 South Architects explains, in Harber’s Diepsloot.

"People have structured their space to serve their needs...and it means that child-headed households, for example get the support and assistance of their neighbours." (Harber, 2011:154)

Though the above mentioned quote is about Diepsloot informal township, this is a glaring reality in a great majority of Mshongo and most informal settlements in parts of the country.
Illus 4.41. Analysis of nearest resources to the community

Illus 4.42. Analysis of existing fabric surrounding the site.
4.3.3 SITE ANALYSIS - Settlement Patterns and typical Architecture of Mshongo

Illus. 4.43-4.45. Since houses are arranged mostly in clusters, and courtyards are shared amongst families, much of assistance with construction and harvesting of material is easily available. This attitude and spirit among the residents will be used as a lever to get the proposed intervention going. The homes have the services placed on the outside as there is no running water, and so a pit toilet system is used in most households, close to these toilets is where the small family gardens would normally be located, as human waste is recycled in the earth and creates fertile land for crops to grow more successfully.


Much of today’s buildings originated from Laugier’s interpretation of the primitive hut, the origins of architecture. This is seen as a culmination from what Sir Bannister Fletcher illustrated as “…one of three archetypal dwellings…” (Weston, 2003:12), the cave. Viollet-Le-Duc interprets the first primitive hut as a structure constructed of saplings. These illustrations start to communicate the level with which humanity has been able to interpret their environment and utilise it to protect themselves from the elements, this outlining the priorities with which these settlements were developed, where durability and primary function become more important than comfort, though in some instances, these can be viewed as some level of comfort.

Mshongo, and a majority of informal settlements present the same model, where structures have not been able to evolve into more than the primary elements of, housing and shelter at the same rate as their modern counterparts, this being purely due to funds available. The structures which go up in these settlements, then also, in a contradictory manner to the deeper reason for their existence, become great examples of form following function, or in some rare cases, a depiction of the natural environment within which they exist.

Illus. 4.46-4.47. Residents of Mshongo are mostly self sustaining community, where creation of shelter to services needed to maintain them are constructed by the residents. The material used is chosen according to its level of durability within the landscape. Methods of construction are basic, the only permanent structure in some of these houses is the in-situ concrete floor, some have foundations and some do not, funding being a great factor in determining this.

Illus. 4.46
“Texture forms part of our recognition and identification process, linking unforgettable images to certain places. Our existence plays off in towns and cities, and the urban grain helps us to make this world our own.”

(Matthews; 2003:11)

As Matthews above suggests, man identifies with his surroundings, he makes them and is made by them. The environment and texture of Mshongo, (depicted in Illustrations 4.49-4.54 above) translates itself into the characters of people within the environment. Considering that this situation repeats itself in every corner of the country it is critical that it be addressed and measures to curb it, put in place.
4.3.5 CONCLUSIONS DRAWN FROM THE ECONOMIC, SOCIAL AND INFRASTRUCTURE STUDY

- There exists obvious inequalities between communities of Atteridgeville South and Mshongo. The latter live in adverse poverty whilst the former can be ranked as middle class.

- ECONOMIC ASPECT
  - Attempts by Mshongo community to self-sustain are thwarted by:
    1. Low economic status of potential customers
    2. Lack of infrastructure and other services to support such business initiatives (roads, water, electricity, buildings, transport, etc.)
    3. An escalation of the crime rate which spills over to the more affluent parts which are usually seen as targets due to their social status.
    4. Lack of recreation facilities leading to crime
    5. General despondence among the community

- SOCIAL ASPECT
  1. The closeness of shacks encourages interaction among the community and hence social cohesion in this area is more entrenched than in the more affluent parts of Atteridgeville.
  2. Individuals of employable age spend the whole day roaming the streets with some sitting on the side of the road hoping for a piece-job. Some of these young people have certificates and others diplomas.

- INFRASTRUCTURE
  1. The condition of roads is of bad quality - it is gravel and is never maintained.
  2. There is no maintenance of the area e.g. overgrowth of vegetation on the verge of the roads; children walk through these conditions to and from school.
  3. There is no drainage system; shacks get flooded during heavy rains
  4. There is no management of litter, a condition contributing to sickness, which is compounded by the unavailability of a community clinic.
  5. Individuals who are viewed as not being part of this community (e.g. foreign nationals) are therefore seen as taking from the meager resources that are supposed to be shared among "the recognized members" of this community; hence the violence leveled against foreign nationals.
  6. In spite of this there is resilience and willingness to survive in Mshongo with people doing all they can on a daily basis with the little physical resources they have. To this end a wealth of skills has been accumulated within this community e.g. shoe repairing, business skills, sewing, car mechanics, agricultural skills, among others.
  7. Acquired skills together with the high level of social cohesion that exist here are some of the pillars of the concept for the proposed intervention.
4.5 SUMMARY

ECONOMY AND INFRASTRUCTURE:
Mshongo has great potential in the agricultural field. There are vast lands where this is already taking place, but due to a lack of resources and information, the crops do not grow to their fullest. This adds to a string of complications, as a majority of households dependent on these crops for food and some for income. Illustrations 4.57-4.59 indicate parts of the land that could be viable agriculturally but are not optimally used. Poverty and sickness abound, and since there is a lack of maintenance on roads and other structures within this frame, it makes it even more difficult for resources to be delivered into this area. Therefore people around this area have become self reliant; the trade-off has been acquisition of a variety of skills for them to survive.

CULTURE:
Mshongo is a place governed by a rich matrix of layers, both tangible and intangible. It consists of a great variety of backgrounds, and ethnicities, adding to the rich culture of the area and places within. An area like Mshongo is a prototype of the many other informal settlements within this country; here you find taverns, tuck-shops, churches, car garages, hair salons and houses. This weaves together an intricate mixed use precinct, one which the people, over the years, have established for themselves according to their needs. The culture of the place is a well established and visible (As one gets close enough) hierarchy of needs, which are allocated spaces, and creating places of meaning. This becomes the connections on which the community of Mshongo rely, to identify with one another as more layers are built into the unseen governing of the place. This is achieved through good and bad relations, and misunderstandings and relationships. A more deeper sense of place is entrenched, but this also leads to aspirations, far bigger than the reality one finds oneself in. This is what fuels inspiration to keep living and progressing.

This starts to form an informal type of surveillance by the people and communities, creating defensible spaces which develop organically. This encourages a local mechanism of passive security within the settlements. This mechanism being an opportunity to formalise “…real and symbolic barriers, strongly defined areas of influence…” (Newman, 1972: 3) to further improve the basic surveillance already existing. In order for this to become a reality in this area, one has to, as discussed by Deckler in the book Diepsloot, “…accept the spatial relationships they… [the community] …have negotiated for themselves, and give them security of tenure where they are. Then fix the infrastructure and amenities around that” (Harber, 2011:155).

The resilience of the people, the availability of under developed space and the skills within the community are the greatest assets, they all indicate the potential there is in this area.
Existing planning principles from the past regime used to destroy and evoke fear. Today the circle has been developed into a commercial node, holding some municipal buildings, from which radiate roads leading to schools and smaller shops.

The proposed intervention aims to incorporate existing planning principles to re-integrate and reconnect these communities. Lessons learnt from the past, utilised today with progressive motive and therefore more product outcome.
The proposed programme for Mshongo culminates into spaces demarcated by mixed use structures, where accommodation and working are grouped into a unit. These spaces will allow for a better pedestrian and vehicular flow. The development of these spaces and the infrastructure around them will enable residents to gain access to services much needed by the community.

The hand-work hidden within Mshongo makes this place rich with skill and talent, this is also evident in the very shacks which create Mshongo. Sheds within which heavy duty business, such as grinding and car garages will be made available, thus opening up opportunities for apprenticeship and therefore transfer of skill, within the community.

This will start to contribute toward initiating upliftment within the community, by the residents, therefore maintaining structures of culture established by the community, in sustained growth of their community.

Fig 4.1. Diagram illustrating the aims of the proposed intervention in Mshongo, Atteridgeville.
4.5.2 Urban Framework

**Connection Through Activity**

**Aim of the Framework:**
Integration of segregated communities and economies through mixed use development, this also contributing towards passive surveillance and therefore security on the streets.

**Method:**
Formalise existing structures which already function as mixed use households along the major spine connecting eastern and western links between communities on either side of Mshongo.
Introduce services that will contribute towards boosting the economy of the area and providing for the general well-being of the community.
Activity nodes will be opportunity for better improved access into the area of Mshongo, creating an activity precinct. Utilising past principles of oppressive planning for the better of the community.

Illus 4.60. Depicting Proposed framework for Mshongo and parts of Atteridgeville north.
Existing informal activity spine, strengthened and formalised into mixed use strip

Activity infiltrates organic routes and built fabric. Activated edges increase eyes on the street, draws different ends of the community towards the same space. [Chance meeting]

Existing node is main entrance into the settlement. Activated to create formalised entrance point and respond to immediate needs of both communities on either end of the entrance point.

Main street active due to existing trade. Proposed new active spine connected to Maunde Street. This is a catalyst which starts to stitch Mshongo and surrounding settlements back into the main to the more functional parts of Atteridgeville.

Plain of confluence creates platform upon which chance meeting from different parts of the community can take place.
4.5.3 PROPOSED SITE FOR INTERVENTION

Illus. 4.63, Aerial map of Mshongo.
4.6 PROGRAMME
4.6.1 PROPOSED INTERVENTION

A great tapestry of culture and needs exists within Mshongo, these interact with one another on a daily basis. Some of the relationships formed are as a result of the foot traffic generated from residents who live on either side of Mshongo, using this community as a thoroughfare, link and resource. Mshongo for the majority of the residents is a hub of activity, where water can be sourced from tanks erected by the municipality, where communication is accessed through Mr. Phone telephones which cost you R1 per minute, which is cheaper than in the surrounding - more affluent areas.

Consequently, this creates a hub of activity within the area, also increasing opportunities amongst the communities of Mshongo to develop mixed use settlements and precincts. This informal township starts to become a duct of opportunity and access into resources. As more are attracted to the apparent opportunities in Mshongo, more resources are needed to create more opportunities.

ROADS
The study identifies Mshongo as an already existent mixed use precinct, which is an entrance and exit avenue connecting the two communities on either side of it. With an ever expanding growth of settlements, resources become scarce, and the vicious cycle of poverty entrenched becomes endless. Integration of places to live and places of work within more formal structures will aid in creating a more structured commercial node for Mshongo. Infrastructure is not easily accessible for this community, the existing roads will have to be renovated and maintained according to the city’s standards, this will allow access of service vehicles into the area.

CRECHE AND RECREATION FACILITIES
There are many children in the Mshongo community, yet appropriate facilities to cater for them are not available. A service to address this issue is especially critical in a country where child abuse is rife. The intervention will also provide areas of recreation and safe road crossing, this also helping to better integrate other smaller communities within Mshongo.

COMMUNITY CLINIC, WATER SUPPLY AND FARMING
Due to the inaccessibility of Mshongo cause by lack of development of infrastructure e.g roads, many sick people do not get the attention and care that they need. This is also exacerbated by the lack of basic resources, such as water and electricity. The provision of a community clinic where home based care professionals would operate from would help to start alleviating the problem. This community clinic will also aid in serving the other surrounding communities. Through a fair distribution of resources, the subsistence farming community will be afforded an opportunity to yield better crop, as lack of water seems to be amongst the biggest problems of failing crops in this area.

SHEDS FOR HEAVY DUTY BUSINESSES AND STALLS FOR VENDORS
There are skilled individuals within Mshongo, some even have Further Education and Training (FET) certificates in different trades. Provision of such structures with the support of relevant institutions would go a long way towards curbing the extremely high rate of unemployment in the area. There are car mechanics who operate from their yards without proper equipment or security for clients’ vehicles. This impacts negatively on their business and this intervention would reverse the trend.
The proposed programme aims to respond to the major resources lacking in the community. This will be achievable by designing a hybrid structure which can house and contain a few major functions which will be accounted for as elements of a catalyst in providing the basic needs for the community.

The major needs lacking in the community are: healthcare facilities, communal congregational space, governmental offices to assist with governmental issues, being education, home affairs, social development and pensioners. Public ablutions and a cafe will anchor the existing activities and start formalising them.

An organic laboratory will contribute towards educating the community on backyard vegetable gardens, basic health and cleanliness and medicinal value of plants. This laboratory will also service parts of the pharmacy. The community will be addressed on such issues in a seminar room which will be a multifunctional space, borrowing this concept from the existing church tent which is used as a church on Sundays and a meeting space during the week.

Ablution waste will help maintain fertile ground for the new vegetable fields which will partly service the cafe and sick patients, as other parts of it will belong to the community farmers. It is envisioned that in the long run, the community farmers would have established themselves well enough to create financial relationships with local grocery shops and provide them with fresh produce to sell.

**Schedule of accommodation**
- Public Ablution
- General Reception
- Pharmacy
- Seminar Room
- Nurse's Room
- Doctor's Consultation Rooms
- Treatment rooms
- Clinic Ablution
- Waiting Areas
- Clinic Reception
- Department of Education office
- Department of Home Affairs office
- Department of Social Development
- Pension Services offices
- Cafe
- Waiting Areas
- Garden sheds

Fig 4.2 Proposed programme
4.6.3 USERS, CLIENTS and STAKEHOLDERS

USERS:
The proposed intervention will be a great opportunity for the residents of Mshongo, “Scrap” (informal Laudium), and other surrounding communities and communities of the neighbouring, more affluent areas.

CLIENTS:
This will be an intervention which will be greatly dealt with through GACA (Gauteng Civic Association) whose chair for the Mshongo branch is Mr. Jeff Rabothlale, and subcommittees for the smaller communities within Mshongo.
Mshongo is in Atteridgeville which falls under Region 3 of the Tshwane Municipality; and since this is an intervention of community scale, the city of Tshwane, will be included in the list of clients

STAKEHOLDERS:
The regional department of health will be part of the stakeholders who will be helping the staffing and resourcing of the clinic.
The regional department of agriculture will be liaised with to help with programmes to assist the farming community by providing them with basic resources and information.
The department of economic development will provide training and funding enabling them to establish small businesses and be competitive entrepreneurs in small scale economic farming/
Taxi Organisations
Local Businesses
The Department of Land and Water Affairs
The Department of Minerals and Energy for electricity

4.6.4 SUMMARY

The proposed solution for the problems identified within the proposed area of study, is one of a mixed function intervention, which incorporates entrance points used mainly by residents who from time to time, are in conflict with one another due to difference of ethnicities and some times nationalities. It aims at re-integrating these communities through the development and formalisation of already existing spaces, places and governing structures, this being a process which would involve legal structures as well as community substructures.

The further goal of the intervention would be a greater integration amongst the different ethnicities and nationalities within Mshongo, creating a more structured community. This will be achieved by creating an environment, where all communities receive the same level of attention from the municipality. In the long run this will serve to better stabilise and lead to an equitable distribution of resources This environment will facilitate economic growth and social stability between Atteridgeville north and Atteridgeville south.
The eradication of shacks, is a decades long battle, as there seems to be more shacks which go up, than stable structured houses. With the proposal of mixed use living, densification is encouraged, allowing for more accommodation. Also included in the intervention are opportunities for home owners to earn some income to be able to maintain their houses better.
5.1 Precedents - Planning Principles
   5.1.1 Marrakech, Morocco
       5.1.1.1 Conclusions
   5.1.2 Great Mosque of Djene, Mali
       5.1.2.1 Conclusions
   5.1.3 Lessons learnt

5.2 Precedents - Design Principles
   5.2.1 Nelson Mandela Interpretation Centre, Gauteng, South Africa
       5.2.1.1 Conclusions
   5.2.2 Red Location Museum, Eastern Cape, South Africa
       5.2.2.1 Conclusions
   5.2.3 Cassia co-op training centre, Indonesia
       5.2.3.1 Conclusion
   5.2.4 The centre pour le Bien-être la Femme (CBF), Ouagadougou, Burkina Faso
       5.2.4.1 Conclusion
   5.2.5 Bridge School, Li Xiaodong, China
       5.2.5.1 Conclusion

5.3 General Conclusion
5.1 PRECEDENTS

PLANNING PRINCIPLES

Illus 6: Mshongo an entrance hub.
Marrakech is one of the busiest towns in the world. It is not only a market, but a place of performances and prayers. This city is an amalgam of cultures and tourists. Marrakech is dependent on the proximity of its trades, services, and accommodation for its sustainability. This allows a tightly woven network of community and diversity, also increasing safety within the square through passive surveillance.

Activity during the day till the night time is what keeps the streets and alleys of Marrakech bustling. This benefits both the pedestrians and the shop owners. The owners get to sell for longer time periods, allowing for an opportunity to make more income, and the outdoors are enjoyed for longer.

The architectural language of the souks in Marrakech, is suggestive of the desert climate, and also of the regional context. The shelters are made of mostly timbers and mud bricks, baked in the sun.

The stalls are densely packed increasing the number of people who can sell, therefore earn a living, as mentioned above, this arrangement addresses the security issue as well. The buildings which create a dense fabric around the different activities taking place in the square, house different functions, but are still complementary of each other, there is a clear hierarchy which is determined by the religious buildings, and entrance portals into the city.

The towers where the imam sits when he sings the calls for the prayer also act as orientating devices, which can be seen from far off distances. (www.environmentalgriffitmorocco.com, www.completemorocco.com, 2012)
5.1.1.1 Conclusion

Public: The City of Marrakech is an extremely public friendly zone. The public transport system is tightly woven into the intricate network of the **mixed programme of the market**. The small **alleys** between the stalls **spill out** into open spaces which create a platform upon which people from all backgrounds **socialise and communicate**.

Programme place: In the city there exists mosque’, housing and accommodation and retail-stalls. This brings people from **different parts of society** in contact with each other, this contributing toward a more complex **social and cultural diversity**. The entrance into the city is framed with an entrance gate, this city is **demarcated** with an ancient wall, this layering elements of **time and space**, enriching the **sense of place**, creating a string of orienting device, which is legible to both the local and touring community.

Response to region: The structures in the city are made mostly of mud bricks and timbers, this is ideal given that the location of the city is in a desert where there's plenty of sun. The small openings in the facades allow for ideal temperatures within the buildings, shading devices help keep spaces cool, whilst allowing some light to get through.

Orientation: The tall towers of the mosques stand out in the city scape, these are around the **periphery** of the market area, therefore acting as **orienting devices** within the city. These towers also provide a **logic of hierarchy** within city’s fabric, these being of greater importance-religious beliefs, the housing and accommodation are lower, and the **stalls / areas of retail are at a lower level**, this allowing for easier **accessibility** by the public.
The Great Mosque of Djene is located in the city of Djene, Mali, on the flood plain of the Bani River. This being reason for the mosque to be constructed on a raised platform, with a surface area of 5625 m², protecting the building from the annual floods. The mosque was declared a world heritage site by UNESCO in 1988, and is considered the biggest mud brick building in the world. The whole community of Djene plays an active role in maintaining the mosque, this is performed through an annual festival. The repairs are made to the eroded parts due to heavy annual rains, and the cracks the building endures due changes in temperature (extreme fluctuations of desert temperature in the day and in the night). The men climb on the building’s facade and reapply plaster prepared and stirred by young boys, as they play in it. They achieve this by using the built-in scaffolding protruding from the 40 cm thick walls. The women and girls provide water for the plaster, by carrying it to the pits within which it is being prepared. Those who are members of the Djene masons guild direct the reparations. The elders of the community, who have been involved in the annual festivals for years are reserved a place of honour where they sit on in the square as they watch the proceedings. (www.whc.unesco.org, 2012)

Several phases of occupation were brought to light. There was a pre-urban phase, when the Bozo people made their living from fishing and growing rice. An urbanization phase was probably due to the Nono people. Under Nono merchants the city quickly became a market centre and a hub in the trans-Saharan gold trade, which began in the 9th or 10th centuries in western Africa in response to Muslim demand. The discovery of many domestic structures (walls, houses, the remains of ovens) and a wealth of metal and terracotta artefacts make Djenné-Djeno a major archaeological site for the study of the evolution of dwellings, industrial and craft techniques, and the spread of Islam.

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5.1.2.1 Conclusion

Public: The Great Mosque of Djene is a highly public building as it is open to anyone who would need to pray. The mosque is a community owned structure, whose maintenance and upkeep the community have made their responsibility. The bustling market on the periphery of the mosque, allows for a threshold built of the informal economy of the place. This being the logic to the hierarchy of the place, since there is informal activity surrounding a place of great formality.

Programme: The formal programme contained in the mosque is facilitated by the informal programmes surrounding it. This is a very diverse network which contributes towards the diverse social landscape of Djene. People are connected to their community through a hierarchy of structures and services which they hold dear to themselves, and therefore have taken responsibility of.

Response to region: Surrounding geography of the area is what determined the mud brick construction, just like with the buildings of Marrakech. The process of preparation too is a collective effort from the community as explained above. This is a method of building employed from many years ago, and one passed down from generation to generation, and so this makes it sustainable for the community to engage in building processes which they are familiar with and are able to collect material for without harming their environment.

Orientation: Djene mosque is at the heart of the economy of the area, and the community. Around this building is activity which contributes toward most of the functioning of the community. This also being a tourist attraction and UNESCO world heritage site, does draw people to the area, and is used as a marker in the landscape of Djene.
5.1.3 Lessons learnt

**MARRAKECH STUDY:**
The social fabric of Mshongo is comprised of people from different societies and even countries; thus creating a complex social, religious and cultural diversity within this community. This similarity with Marrakech, among other things, is the rationale for using Marrakech as a precedent study for the Mshongo intervention. In view of the tragic events that have occurred at Mshongo (2008 Xenophobic attacks), there is a need for a physical, emotional and psychological space where the different cultures can find a common ground to gel into each other.

The proposed small business precinct at Mshongo, which will include trades from a variety of disciplines and facilities for social events will provide this much needed space for this community. This district is best positioned in terms of its geographical position and what it has to offer to bringing communities from Atteridgeville (affluent). Mshongo, Scrap and LAudium together.

The creative use of locally and readily available material for building houses and stalls is both cost effective and environmentally friendly, which is best suited for a community where unemployment is rife. Besides ideally linking the neighbouring communities, the position of the proposed intervention makes it easily accessible to all its potential patrons.

**MALI STUDY:**
The buildings of the informal places of of abode at Mshongo is a communal exercise. There is therefore a sense of ownership and of belonging that is intrinsic in every community member. The functioning of the community is a product of this kind of attitude which spills over to other aspects of their lives e.g. economic activities, raising of children and general identification with the area.

The proposed intervention takes this important value of the community into consideration and incorporates it as one of the intangible properties that will contribute towards the success of the project. It is important to note that the involvement of the community starts at the planning stage where the community representatives ensure that the intervention is what the people want. In the sense of the employment of locals further strengthening the sense of ownership by the community.
5.2 PRECEDENTS
Design Principles

social stitch
SOCIAL STITCH

Existing built fabric of the site, should contain the proposed structure, but more so connect and tie up loose undesigned ends.

This becomes easily achievable when the proposed structure is the mediator between the different routes and feet which cross the site, border it and frame it.

Peter Rich Architects in this Interpretation centre created a thread which the local communities are able to interact with and engage with, not only on a programmatic level, but also on a visual and mental level.

This thread of communal activity becomes a stitch in the community which represents the community at the same time by depicting local construction methods and material use. The building is legible to the local user and therefore starts to create a common ground for the communities located around it.

(Harber, 2011)

“Alexandra “township” is a high-density urban community northeast of Johannesburg with a particular spatial and social history, having been born as a speculative settlement with land ownership rights for black citizens. The spatial and material design of the Nelson Mandela Interpretation Centre is driven by a combination of site constraints and clues learned from the organic yard and street structure of Alexandra.” (Deckler, Graupner, Rasumss, 2006:47)
5.2.1.1 Conclusion

SOCIAL STITCH
An easily accessible building allows for better social engagement, and this engagement is never restricted only to the internal areas.

The building starts to extend itself towards the community and also becomes a valuable addition of energy, atmosphere and resource to its users.

Buildings are not only walls which create spaces for people to function within, but are also parts of a wider mental construct within the society, they become parts of the subconscious orientation of a community.

This creates a plane of confluence upon which, people from different parts of the community are able to interact with the resources provided by the building. These creates spaces achieve this through their different edges which respond to the diverse boundaries of the site. These different edges in turn indicate the diverse qualities of the community.

(Baker, 1995)
5.2.2 Red Location Museum - Eastern Cape.
Joe Noero

COMMUNITY PRIDE

Being a part of a community is a process, as well as a journey. Therefore creating a building which becomes an effect and fully functional part of the community is a great achievement.

Such a building owes its functionality in its ability to evolve during the process and journey of the community ensuring its usefulness through the different eras of the community.

This achievement is brought about by a well resolved balance or negotiation with the existing skyline and ground-line.

This is clearly depicted in Noero’s Red Location Museum design. Though the building is taller than the surrounding built fabric, life still happens comfortably and in an enriched manner around it. This is owed largely to the shading devices used at the entrance (pergolas) and the lighting which enables children to play outside a bit longer, and commuters to feel a bit safer on their way to and from work.

A building which plugs into a community creates a positive sense of awareness of one’s surroundings and hopefully in turn, one’s neighbour.

(Newman, 2003)

“Red Location, near Port Elizabeth in the Eastern Cape, is an important site of South Africa’s struggle for freedom, and the home of many cultural and political leaders. Red Location Museum is a modern museum located in a favela, a slum or ghetto.” (2006:43)
COMMUNITY PRIDE

A building remains an object until it starts engaging with its surroundings, both tangible and intangible.

It is the response of the community and users which determines the atmosphere of the building. This is solely dependent on the thoughtfulness of the design process.

The ground line and sky line are important factors to consider and therefore work with when designing in any set up, but the topic under discussion directs us that focus should be on the informal settlement context.

Engaging the everyday life that happens on the ground line with high volumes allows the energy to not only flow horizontally, but also vertically. This strengthens the building’s identity as being part of the community.

Therefore, the building is now legible vertically as well as horizontally, it is no longer a new object: that people need to learn how to use, engage, or understand. This now becomes a communal/owned thing which sits seamlessly in the land and the mental construct of its neighbours and its visitors.

(Baker, 1995)
5.2.3 Cassia co-op Training Centre, Sumatra - Indonesia. TYIN Tegnestue

Connectivity of the vertical in between spaces is made possible by the conversations which take place between floor-wall and wall-roof connections. These elements are the main structure of the building which enable the creation of a more legible demarcation of space.

These structures can be permeable or impermeable, connecting or disconnecting one space from another, or interrupting the flow space from one area into or out of another. The vertical ‘in-betweens’ then become social filters which direct energy vertically, horizontally and around.

Most importantly; they are the strength of the building both tangibly and intangibly.

“This project for a training center in Indonesia is typical. Set in the cinnamon forests of Sumatra, where 85 per cent of the world’s cinnamon is produced, it provides training and education for local farmers and workers. The aim of the client, Cassia Co-op, is to counter exploitative practices by paying a fair price for cinnamon as well as providing healthcare and education for its employees.” (Architectural Record, 2012:64)
5.2.3.1 Conclusion

LAND-GROUND-SKY

The intersection of the ground line with the built structure is the beginning of a conversation between land and sky. This is also the critical point which keeps the whole building standing.

The highest part of the buildings is traditionally, the roof and in between are elements which connect the two in a structurally sound manner, but also in a place between the land and sky.

Therefore, this implies that the grounding and floating elements do create an in between space, which through conversing with the fore mentioned elements, a place of dwelling is created.

The quality of structure determines (in many cases) the quality of place, and therefore interaction between people and place. Structure could be permeable, semi-permeable or even solid. These become edges which control the flux and distribution of spaces within the created place.
The site for the centre is still only partially urbanised, and when land was first allocated for the project there was very little development in the area. Since then, the Centre has created a dynamic for increased urban development for its rural migrant population, and the municipality has recently built the major connecting road for the project. The CBF strives to improve women’s lives and guarantee their reproductive health and sexual rights. The CBF serves the entire 40,000-person community in Sector 27, both women and men, with programmes for health, awareness and social action.” (MostafaviLars, 2011:90)

IMPRESSIONS

The impressions of our fingerprints are part of what make us unique from the next person. This is how the fabrics weaved by our built forms should be, unique impressions of the different communities.

These unique impressions are what create the urban texture which trickles right down to the door handle.

This is what an embedded identity of a community, space or place is. Where diverse elements with grooves, holes, spikes, punctures or even solids mold a summary of the place that it comes from and of what it now is.

Texture of the built environment is not only made up of brick and mortar, but also vegetation, people, animals, sounds and smells.

All this contributes toward the legibility of a space, and thence a place.

Texture connects the abstract to reality.

(Pallasma, 2005)
5.2.4.1 Conclusion

IMPRESSIONS

A comprehensive imprint within a community or built fabric forges a well contained identity, in this instance, the imprint is the use of textures on a building to articulate the design thereof.

Textures on a building become the fourth dimension on a building, and voids help to articulate these textures by lending areas of contextual backdrop. Texture engages the senses and connects the imagined to tangible surfaces; thin layers which introduce the user to the envisioned space.

We can then say that texture is the pause between the ephemeral realm and the tangible representation of the ephemeral (the imagined world). Texture is meant to represent that which we cannot immediately engage with.

The construct of texture should carry with it the life of its context-the understanding of its elements.

Therefore; texture can be used as part of a platform upon which issues of fragmentation and disconnection within a community can begin to be addressed.

(Matthews, 2003)
IN-BETWEEN-SPACES
Transitions and thresholds allow for better flow of space and functions. This does not necessarily deal only with internal spaces, but internal and external spaces as well.

Thresholds can be made up of, semi-permeable or permeable planes and surfaces.

These planes and surfaces are what we use as filters to engage the external and the interior in one process, they are what we use to also connect the tangible and the intangible.

This creates a hierarchy of spaces and therefore makes a place. Internal rooms and functions are ultimately connect to those on the outside and vice versa.

Thresholds are critical because they are dots which connect different qualities of space to create a whole and comprehensive place.

(Norburg-Schultz, 1980)
5.2.5.1 Conclusion

IN-BETWEEN-SPACES

Ultimately, the internal spaces are to be connected to one another but, in between the primary functions which need to be connected are smaller secondary spaces. These spaces can be treated as either negative (un-useable space), or positive space (useable space).

It is always preferable to create positive spaces in between buildings, this can create thresholds between functions and facilitate the flow of space, therefore engaging the surroundings in a far more efficient manner.

Thresholds also become points of rest; physically and mentally, they are a tool which can be used to prepare or, introduce another quality of space, ultimately weaving together a richer sense of legibility and hierarchy of the spaces which mould a place.

Thresholds are also mediators between ground and sky, they are necessary connectors of consistency and fluctuations, they mediate temperature, time and seasons, thus facilitating atmosphere and the senses.

(Lefebvre 1991)
The major principles of the design resolution are those picked up from this precedent study, and the contextual study discussed in Chapter 4. Conversation that takes place between people and space create an atmosphere which suggests characters about a place, that being the identity of a place. Identity is a major element which is lacking and should be reinforced in Mshongo, this is slightly suggested in the underlying spirit of the place (as will be discussed in Chapter 6).

Orientation and facilitation of space within Mshongo has its logic, there are spaces which give off life and spaces which drain it. This calls for systems to be designed and sensitively put in place to re-instate hierarchy and legibility of space thus further enriching and enhancing the sense of Mshongo's place.
6.1 Introduction
6.2 Design Process
  6.2.1 Zoning study
  6.2.2 Metaphysics of the site
  6.2.3 The stitch
    6.2.3.1 Conclusion
6.3 Design Resolution
  6.3.1 Design principles
  6.3.2 Design solution
6.4 Conclusion
The Hybrid Clinic will be located within an area which is a diverse cultural and physical landscape. The clinic therefore deals with quite a few influences and characteristics of the site. The underlying principles laid down in the formation of the built fabric create pockets of life within the cracks of the tangible fabric. This relationship with the tangible and intangible becomes an indication of the type of conversation the external spaces have with the internal spaces. These elements at some points of the community are merged subtly and in some instances are interrupted where there are lacks of thresholds. Though this creates a chaotic environment, there still exists a certain level of identity which is suggested by the interaction or functions which flow into each other. The different qualities of space within Mshongo are enhanced by the different levels of social interaction with the different functions contained within them. This implies that there exists an unevenly distributed sense of identity (even though energies are meant to exist in fluctuating levels to create hierarchy and diversity) there should still be underlying, a consistent sense of identity within the different urban rooms.
Illus 6.1 Conceptual sketch 1

Illus 6.2 Conceptual sketch 2

Illus 6.3 Conceptual sketch 3

Illus 6.4 Conceptual sketch 4

Illus 6.5 Conceptual sketch 5
infiltration of resources into the built fabric

orientation devices cement mental scape and legibility of place

context specific edge response
interaction with existing activities and urban fabric contributes toward enhancing the spirit of place and enhancing of its identity.
The proposed programme was a hybrid solution which developed into a complex of functions which aided the community with much needed basic resources such as; a community clinic, stalls, agricultural nurseries to help rotate crops, a rest house which aided the long distance commuters (provision of resting facilities, refreshing-showers and ablutions) and short meals and formalisation of public routes and civic squares.

AUGUST 2012
This proposal focusses creating activity along the major edges of the site allowing space for agricultural activity. The aim of this layout was to provide a complex where economy and agriculture could interact with each other, therefore helping uplift the community socially, economically and environmentally.

The programme was located according to existing activity on site, e.g: the economic component of the programme (stalls) were placed closer to existing stalls and taverns.

The major pedestrian routes on the site were also major determinants in the location of the spaces and buildings which make up the complex.

Functions of the complex which are not as socially robust as the stalls are located on parts of the site which are more quiet.

Toward the informal settlement of Mshongo are more robust systems already put in place i.e: informal stalls, hair salons, car garages, taverns, and toward the informal settlement of Scrap are open fields where either crops are being grown or informal stands are being set up.

This proposal had aimed at creating the agricultural component to be the heart of the project, drawing the community to participate in activities which are familiar to them whilst also improving the economy of their households and as well as that of the community.

The activities surrounding the plantation areas were surrounded by activity in order to protect this space from being vandalised; drawing people from the street toward the edges but keeping them at those edges.
infiltration of resources into the built fabric

orientation devices cement mental scape and legibility of place

context specific edge response
The hill is a barrier between Scrap and Mshongo, this was a solution which looked into interacting with the physical barrier and not so much the psychological and social barriers between the different communities. This solution looked at connecting the different communities long the foot of the hill to one another by introducing spaces of production within and around the hill. The activity on the hill; placed high enough on the mountain to be visually accessible to all became the museum of the everyday. In the hill the major design influence became the network, one cast from a higher point of visibility, like a net cast far onto the surrounding landscapes from a high vantage point.

This is an opportune location for great visibility, but creates a great challenge for physical accessibility. Lessons learnt from this exercise contribute toward the the application of the filtration of resources into the built fabric both socially and architecturally; stitching together the communities which are defragmented and segregated along the foot of the hill; social engagement through the sharing of common resources thus creating a platform for social interaction which enables a better opportunity for chance meeting and therefore creating a catalyst for social integration.
The following layout was an exercise in exploring the potential links and routes which could be used in stitching up the defragmentations existent within the site.

The zoning diagram explores possibilities for the most efficient location of the proposed spaces. This exercise analyses the possible routes which could be capitalised on in order to create links to stitch the different parts of the community to each other.
The hybrid clinic connects to its surrounding context through interaction with external spaces. The organic laboratory interlinks with the green belt across the major route, thus creating a functional and visual link. Opportunity for urban pockets of activity extend a network of resources to filter into the surrounding built environment. The civic space is one already existing but is formalised and structured by proposed spaces of production (stalls, organic laboratory, sports field and the hybrid clinic). This enriches the undesigned space which at the moment is a left over entity within the community. This space, now enriched and formalised demarcates this area as a better legible entrance point into the and out of the community. Different elements within the complex contribute toward an ordering and therefore a hierarchy of spaces, this now becomes a knuckle which catalyses the foreseeable upliftment of the community.
The following layout was an exercise in exploring the potential links and routes which could be used in stitching up the defragmentations existent within the site.

The zoning diagram explores possibilities for the most efficient location of the proposed spaces. This exercise analyses the possible routes which could be capitalised on to create links to stitch the different parts of the community to each other.

LESSONS LEARNT

Public squares are bordered by activity, these become threshold spaces which allow pause amongst the activity along the route.

Perforated edges allow for visual and physical engagement. Parts of these edges create active boundaries, ruling out monotonous demarcation of space.

An activity spine is created by fluctuations of energy along the existing route, these fluctuate due to the changing characters of the site, therefore helping determine the programme and the quality of their external spaces.

The active edges and activity routes become elongated public squares which encourage or rather determine the qualities of space along them. Understanding and therefore plugging into the existing activities on site help determine proposed programmes and qualities of space thereof.

Articulation of internal spaces on the outside and of external spaces on the inside create conducive environments for better legibility of place and therefore identity of place.
6.2.1 ZONING STUDY

The zoning diagrams take stock of the existing structures and nodes within and next to the site. Major routes are noted and these are what the design starts to grow from and along. These routes are what the existing built fabric is anchored along. As illustrated in the diagram above there are quite a few voids within the fabric, these voids are undesigned and left desolate. Community members utilise these spaces according to what their needs are at the time.

This particular site is bordered by a major vehicular and pedestrian gravel route/road, parts of this site is built up by unplanned vegetation and parts of it is built up by crop fields belonging to the nearby residents.

Although the vegetation within the site is dense, it is perforated by smaller footpaths which have grown organically from the need of creating short cuts from one end of a settlement to another.

There is currently sufficient interaction and engagement with existing resources on site. The current resources are the community water tank and the community tented church, which is a multi purpose space during the week.

As it is the open space on the northern part of the site is used as an informal community gathering area, during the times when this space is not being utilised for gatherings, it becomes a parking spot for car pools which serve the creche’s in the area and mechanical work needed to be done on the cars.

This site has a rich quality of spaces underlying in the dense fabric of the informal settlement. A currently undesigned active core bordered by residential buildings. This becomes the optimal area to design a catalyst which will effectively infiltrate its surroundings and eventually the greater neighbourhood.

This is effective because of how the current resources plug into the built fabric so strategically that different parts of the community are able to reach and utilise the resources needed with better ease.

That is an already existing example of a fragmented community being stitched back together.
6.2.2 METAPHYSICS OF THE SITE

This organically formed settlement pattern contains small bursts of life within its cracks, the cracks being the undesigned openings amongst the shacks where the children get to play and where dumping sites have been designated or where the community gathers or even where one has decided to start a small vegetable patch to help sustain their family.

These bursts of life are interruptions in the fabrics’ tightly woven threads, they embed and solidify specific underlying characters of the area and therefore start to subtly suggest an underlying genius loci of the place.

This is a heavily vegetated area. Vegetation then starts to become a multi-functional element, where it is utilised as a demarcator of space, shelter from the elements, food and to hang washing.

The sense of individuality within this community which was made evident on the edges analysed in Chapter 4 show how houses and their yards are treated as separate units - that which is not part of a person’s yard; be it the pavement or a neighbour’s property is left unattended. This becomes another layer of segregation, separateness and defragmentation within the community.

Existing underlying patterns within this community already indicate the extensive reliability on multifunctional elements and spaces, these are what form the backbone of this community and these elements are major informants in the design process which aims to further strengthen the spirit of this place and therefore its identity.

Illus 6.16a Contextual analysis

Illus 6.16b New energy is dependent on its surrounding activity
6.2.3 THE STITCH

Tapping into the existing energies on site aids in eventually creating a well informed design which embodies the underlying elements and principles of its context, both tangible and intangible.

The proposal utilises already existing energies on site to locate and ground itself as part of the community, this grounds it because it feeds off what’s already existent on site, this creates a more legible environment where there was an undesigned void. The new energy placed in this site also in turn feeds back into the community, slowly revitalising it and further strengthening the bonds which the already existent resources had started to do as was explained earlier in 6.2.1. The major focus of the analysis and therefore design is to understand and therefore articulate the edges in such a way that the passers by are easily able to engage with the building in meaningful thresholds before finally being a part of the building whole (refer to Textures and Thresholds in 5.2.4 to 5.2.5.1)

The edges around the site and therefore the building, differ due to the different characters of the many edges to the community, this also says that the proposed design will be engaging with different activities on most of its edges, if not all of them. The activities which grow along these routes will border the already existing community open space, this being a method used by the design to formalise the space and demarcate it appropriately.

The civic space is bordered by the proposed sports field, stalls and the hybrid clinic. Just like in the existing fabric, the proposal contains elements of multi functional use, multifunctional in their strategic placement on site and their intangible influence adding and enriching to that of the sites’.
It is all well and good for a project to fit in well with its surrounding context and feedback into the community it’s found within, but care must also be taken in how the internal spaces of this project configure themselves into legible spaces which connect to the external spaces.

This connection is a critical element to the design of this project because this project is founded within an agricultural community which aims to first, provide the basic necessity of food for their families and second, engage in economic activities for their sustenance. The designed structure then acts as a mediator between these two important commodities, therefore thresholds become of great importance. These thresholds as discussed in Chapter 6 are of differing qualities, some are permeable and some are semi-permeable, therefore thresholds encourage different types of interaction be it visual, physical or even emotional in this project.

Utilising energy from the site to develop the design allows for a legible environment as discussed before in this chapter, therefore drawing people to the building, this become a ‘plane of confluence’, where people are drawn form their places of comfort, perception and experiences but end up within the same core, this core being the hybrid clinic embodying some of the resources needed by the community. By providing mutual resources which serve the majority, a platform for chance meeting is created, this further encourages social interaction and aids in the internal upliftment of the community by the community members themselves.

This core then becomes the catalyst thread which begins to stitch the fragmented pieces of the Mshongo community together and eventually the other greater surrounding communities which border Mshongo.

Different edges of the building respond uniquely to the different edge and boundary conditions of the community. These edges are filters which interact sensitively and legibly with the user eventually leading them to the core functions of the building.

Internal spaces interact with external spaces through “threshold filters”. These are places of pause within the building as different qualities of spaces are introduced to each other, merge and form a whole new coherent quality.

Internal spaces then converge with external spaces this interaction allows for a cohesive mediation to occur as The Hybrid Clinic.
6.2.3.1 CONCLUSION

Illus 6.22 The stitch
6.2.4 SPATIAL STUDY

Mediator:
Agriculture and Economy
- Active Edges
- Thresholds
- Social Interaction
- Existing Pedestrian Flow
- New Public Spaces connect to existing public spaces

Location:
Strategic placement of the building
- Environmental factors influence internal functions of the building as will be discussed in Chapter 7
- Internal spaces are influenced by current movement patterns, borrowing this pattern from the existing built fabric. This leads to organic formation of the building’s internal spaces.

Plane of confluence:
Convergence of routes
- Connectivity
- Breathing edges
- Activated Cores
- Life in the Cracks
6.3 DESIGN RESOLUTION
6.3.1 DESIGN PRINCIPLES

Internal secondary spaces connect to main circulation spaces. This connects the interior to the exterior.

Building edges respond uniquely to the surrounding edges, therefore creating responsive edges. This encourages peripheral activity around the building, therefore feeding back into its surroundings whilst stitching the different edges/areas of the community back into one another.

The new energy embodied within the site is created by the merger of the different characters within the surrounding communities. Therefore the spaces created become a legible place which feeds back into its surrounding environment and eventually stitch the different communities into one another.
6.3.2 DESIGN SOLUTION

1. Public ablution
2. Point of arrival
3. External cafe area
4. Cafe
5. Giant steps
6. Waiting area
7. Government offices
8. Garden shed
9. Clinic reception area
10. Clinic waiting area
11. Clinic ablutions
12. Clinic courtyard
13. Nurses station
14. Medical storage
15. Doctor's rooms
16. Treatment room
17. Housekeeping
18. Seminar room overflow
19. Pharmacy
20. Seminar room
21. Driveway to pharmacy
22. Organic laboratory
23. Vegetable fields
Illus 6.35 View of Organic laboratory from the road

Illus 6.35 View of Public ablutions from driveway to pharmacy
Illus 6.37 View of Clinic courtyard

Illus 6.38 View of waiting area
Illus 6.38 View of Point of Arrival

Illus 6.39 View of Giant steps
Illus 6.40 Section through cafe and entrance

Iliss 6.41 Section through seminar room and doctors rooms

Iliss 6.42 Section through Clinic waiting areas
...it seems to be well established that physical space has no ‘reality’ without the energy that is deployed within it...When we evoke time, we must immediately say, what is it that moves or changes therein. Space considered in isolation is an empty abstraction likewise energy and time...

Everyone knows what is meant when we speak of a ‘room’ in an apartment, the ‘corner’ of the street...These terms of everyday discourse are to distinguish, but not to isolate particular spaces and in general to describe a social space. They correspond to a specific use of that space, and hence to a spatial practice that they express and constitute. Their interrelationships are ordered in a specific way.” (Lefebvre, 1991:12 and 16)

The design proposal aims to create a social platform - using architecture as a tool, to bring people into the same spaces, creating places of productivity and therefore enhancing social cohesion. This allows opportunity for chance meeting within conducive environments, therefore strengthening the core of the ‘plane of confluence’ (explained earlier and in Chapter 4) and so fostering healthy social interaction.
7.1 Introduction
7.2 Sustainable Construction Principles
   7.2.1 Pretoria's Climatic Conditions
   7.2.2 Waste Treatment System
   7.2.3 Natural ventilation, heating and cooling system
7.3 Technical Resolution
7.4 Green star rating and materials used
The clinic is located within a fabric of formal and informal structures, this is one of the major influences which contribute toward the structure of the building. The major influences in the design are orientation, water harvesting, waste treatment on site, use of solar energy and natural methods of ventilation, heating and cooling.
7.2 SUSTAINABLE CONSTRUCTION PRINCIPLES
7.2.1 PRETORIA’S CLIMATIC CONDITIONS

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Fig. 7.1. Pretoria’s average climate

ILLUS 7.1 Climatic Zone of Pretoria

ILLUS 7.2 Pretoria Solar Angles

ILLUS 7.3 Pretoria Wind Patterns
7.2.2 WASTE TREATMENT SYSTEM

NB: FRENCH DRAIN TO ALWAYS BE AT HIGHEST POINT POSSIBLE WITHIN ITS ZONE IN THE LAND. SCEPTIC TANK TO ALWAYS BE MIN 3000mm AWAY FROM BUILDING

Coarse screening results in separate solid and fluid components

B i o l o g i c a l treatment

Removal of Nitrogen and Phosphorus results in potable water

Fig 7.4 waste cycle

Fig 7.5 waste treatment process
7.2.2 WASTE TREATMENT SYSTEM

TYPICAL INDEPENDENT SEWERAGE DISPOSAL LAYOUT, PLAN
1:25

TYPICAL BRICK BUILT SECTION
1:25

TYPICAL FRENCH DRAIN SECTION
1:25
7.2.2 WASTE TREATMENT SYSTEM
7.2.2.1 STORM WATER RECYCLING
Rainwater harvesting on site

Over R370-billion will be needed for investment across South Africa’s water value chain, in the coming years, according to Minister for Water and Environmental Affairs Edna Molewa.

Annual Rainwater Yield = Roof area m² x Annual average precipitation - Rain water yield L/yr

- **ROOF A**: 1 128 L/yr
- **ROOF B**: 1 125 L/yr
- **ROOF C**: 1 127 L/yr
- **ROOF D/C**: 1 061 L/yr
- **ROOF D/O**: 1 108 L/yr
- **ROOF D/O**: 1 108 L/yr
- **ROOF E**: 1 080 L/yr
- **ROOF F**: 1 045 L/yr
- **ROOF G**: 1 061 L/yr

**Annual Rainwater Yield = 1 126,11 L/yr**

Therefore, excess available for irrigation is 102,994,313 L/yr.

**m² of garden needs avg. 600 L/yr**

Therefore:

4 / 1000 m² x 600 = 0.24 L/yr

On site waste water treatment system:

- As the gardens grow, the abatutions will provide a small allowance to maintain them whilst municipal services are being proposed to be installed on and around the site.
- Abatutions within the project will contribute toward this system.
- The aim for this is to provide self-sustainable methods of maintaining the vegetable fields.

![Waste water from abatutions](image1)

**SOLAR POWERED ELECTRICITY**

With rising electricity costs and a volatile energy future in South Africa we all need to find ways of cutting down on electricity consumption which ultimately affects our finances. Eskom is building new power plants, but these are years away as it takes 5 - 6 years minimum from the time construction is started until a new power plant comes online. The first of South Africa’s new power plants are only scheduled to come online in 2015 if, and only if, there are no delays in construction.

The proposed system to be used to harvest solar power in order to support electricity demand is the use of PV panels connected to a battery and the thermo-syphon system. Thermo-syphon systems are based on natural circulation.

![SOLAR WATER HEATING](image2)

**SOLAR WATER HEATING**

South Africa has abundant availability of sun. Use of solar radiation to help heat water in open and closed systems will not only ease the load on electricity but the plastic materials used to hold the water also act as insulation on part of the building. Water is a good heat retainer, so during times where sun is not available, there would still be hot water available. Piping distributing hot water warm up surfaces they are chased within.
7.2.3 NATURAL VENTILATION AND HEATING AND COOLING SYSTEM

Air entering the building is cooled along the vegetated edges of the building. The cool air in the building is warmed by the occupants and other elements. The warmed up air naturally rises and is released from the high clerestory window opposite.

The clinic courtyard is constantly kept cool because the ground is vegetated and is in shade most of the day, this space is where rain water runoff from the roof is collected and pumped back up to the rain water tank next to the clinic ablutions.

The cool air enters the waiting areas and the doctors rooms, the cool air gets warmed up by the occupants and other elements - it rises and is released out the clerestory at a higher position than it had initially entered.

The clear roof sheeting over the sun shading device on the roof allows sunshine into parts of the building for most of the day because it is at the highest point.

This creates a warm pocket in hate zone indicated in red and cooler air is drawn to this area, this starts the movement of air (air circulation). The rain catcher indicated in blue provides a level of cool surface through which the warm air entering the waiting area is cooled and drops; this causes air to circulate.
The diagrams alongside indicate principles used in the design to naturally facilitate the sustainability of parts of the building. These principles will be communicated in better detailed in the rest of the chapter and integrated with the technical solution of the building as a whole.
Illus 7.8b Technical documentation process
ROOF PLAN AND CONTEXT PLAN

SPECIFICATIONS:

BATTENS AND BRACING
- All battens and bracing to comply with SANS 1193:2007
- All bracing to comply with SANS 1783:2007

ROOF
- All timber trusses to be in accordance with SANS 10243:2004
- All timber trusses to comply with SANS 10237
- All framing to be completed in accordance with SANS 10237
- All flashing to be of the same material as the roof covering, to be applied according to manufacturer's instructions under supervision of a competent person
- All gutters and downpipes to be welded in accordance with SANS 30:1999 and SANS 10241

General notes:
- This drawing is not to be scaled, use figured dimensions only
- All dimensions and heights to be checked and verified before any work is to start on site, any discrepancies shall be reported to the project architect
- All building work to be carried out in accordance to the local by-laws and regulations
- All habitable rooms to have minimum 10% natural light and 5% natural ventilation in accordance to the national building regulations (SABS 0400)
- All glass shall be free from any defects and where applicable set in putty and epoxied where necessary, or fixed in accordance with manufacturer's specifications
ELEVATIONS

WEST ELEVATION

NORTH ELEVATION

east waiting area

SOUTH ELEVATION

EAST ELEVATION

community space

community water tank

point of access

site visitor waiting

dining and kitchen

garden shed

staff facilities

meeting room

office space

staff offices

doctor's rooms

frontage

frontage

community and public area

play area

plant area

site access

north parking

site access

site access

south parking

site access

site access

site access

site access

site access

site access
75x50 SAP timber purlins fixed onto timber laminated beam and sealed
222X 75 laminated timber beam fixed into wall @ 1350 cc
250x150 steel 'I' beam fixed onto steel plate fixed onto steel column
300x150x2250 steel 'I' column fixed onto concrete footing

500x2500 hexagonal wire mesh steel framed stone wall, filled with locally harvested stone fixed onto steel end plate fixed onto strip foundation. Erection to comply thereof with SANS 1580

110 thick support wall to be checked and approved by engineers

0.6 corrugated aluminium roof sheet fixed onto timber purlins
75x50 SAP timber purlin fixed onto timber beam @ 1200 cc
222X 75 laminated timber beam fixed into wall @ 1350 cc
derbigum fixed onto roof sheet, purlin and timber beam

38x114 SAP timber wall plate fixed onto wall insulation
3x50 SAP timber battens fixed onto timber @ 400 cc
75 x 230 reinforced concrete lintol on edge thick gypsum ceiling board fixed onto timber battens

aluminum frame sash window
220 x 110 stretcher, on edge
0.375 polyolefin damp proof course
225 x 25 reinforced insitu segmental concrete sill on edge screeded
loose paving
bedding sand
50 sand sub-base

75 x 230 reinforced concrete lintol on edge
t.i.e.d. encased lights fixed along steel cable
plaster reveal
6 toughened glass fixed onto steel angle
360 x 75 timber plank fixed onto steel angle, sealed
750 x 360 steel angle fixed onto brick wall @ 750cc
t.i.e.d. lighting fixed onto wall

steel foot rest fixed onto concrete surface bed
t.i.e.d. lighting fixed onto wall, surrounded by toughened pvc light diffuser

150 reinforced concrete surface bed on 0.25 polyolefin membrane
5 x 1500 polystyrene sheet
230 brick foundation wall reinforced concrete strip foundation to be checked
and approved by qualified engineer and geologist
0.25 polyolefin waterproofing
membrane on sand-blinded layer
150 compacted earth layers to be handled in accordance with MOD-AASH TO standards

DETAIL BB
1.20

100 x 90 x 10 fibre cement fascia board, fixed onto exposed end of timber beam
100 x 90 x 1 galvanised steel sheet gutter
70Ø x 0.6 galvanized steel sheet rain water down pipe

222X 75 laminated timber beam fixed into wall @ 1350 bc
75x50 SAP timber purlins fixed onto timber laminated beam and sealed
0.6 corrugated clear polycarbonate sheeting fixed onto timber purlins
250x150 steel 'I' beam fixed onto steel plate fixed onto steel column
300x150x2250 steel 'I' column fixed onto concrete footing

OUTSIDE COURTYARD SEATING SPACE

DETAIL CC
1.20

loose paving bedding sand
50 sand sub-base
150 compacted earth layers to be handled in accordance with MOD-AASH TO standards
230 brick foundation wall
reinforced concrete strip foundation to be checked and approved by qualified engineer and geologist

precast concrete seat fixed into planter wall
precast concrete coping fixed onto brick wall
Details:

- 0.6 corrugated aluminium roof sheet fixed onto timber purlins
- 75x50 SAP timber purlin fixed onto timber beam @ 1200 cc
- 225 x 300 x 6 steel "T" section fixed onto steel beam

- 222X 75 laminated timber beam fixed into wall @ 1350 cc
- 100x100x10 steel 'I' section beam fixed onto steel 'I' section fixed onto end walls
- 50x50 SAP timber battens fixed onto timber beam
- 6.4 thick gypsum ceiling board fixed onto timber battens
- 1180 high openable louvre clerestory fixed @ 750cc
- 0.6 corrugated aluminium roof sheet fixed onto timber purlins
- 75x50 SAP timber purlin fixed onto timber beam @ 1200 cc
- 114x74 SAP timber beam fixed onto steel beam @ 1350 cc

- 2000x75 photovoltaic panel fixed onto roof

- 75x220 R/C lintol on edge
- 1300 high aluminium framed openable glass
- Louvre window fixed onto concrete lintols plaster reveal
- 220 x 110 stretcher, on edge
- 0.375 polyolefin damp proof course
- 225 x 25 reinforced insitu segmental concrete sill on edge screeded

- 1000 x 10 glazed porcelain tile on mortar
- 150 reinforced concrete surface bed on 0.25 polyolefin membrane
- 5 x 1500 polystyrene sheet

- 230 brick foundation wall reinforced concrete strip foundation to be checked and approved by qualified engineer and geologist

- 150 x 75 SAP timber purlin fixed onto timber beam
- 112 x 112 x 2 steel angle fixed onto timber purlin and beam
- 150 x 75 SAP timber beam fixed onto timber poles

500x1000x 500 hexagonal wire mesh steel framed stone wall, filled with locally harvested stone fixed onto steel end plate fixed onto strip foundation. Erection to comply thereof with SANS 1580

- soil
- loose earth
- geotextile membrane
- permeable earth
- perforated geopipe
- brick weep hole
- 110 thick support wall to be checked and approved by engineers
150 compacted earth layers to be handled in accordance with MOD-AASH TO standards

500x2500 hexagonal woven steel wire mesh gabions and revet mattresses, fixed onto planting medium, filled with locally harvested stone. Erection to comply thereof with SANS 1580

2120 high aluminium framed operable glass louvre window fixed at 750 onto concrete lintol
225 x 25 reinforced, insitu segmental concrete sill on edge screeded, 0.375 polyeolefin damp proof course
220 x 110 stretcher on edge

150 reinforced concrete surface bed on 0.25 polyeolefin membr
5 x 1500 polystyrene sheet
0.25 polyeolefin waterproofing membrane on sand-blinded layer
150 compacted earth layers to be handled in accordance with MOD-AASH TO standards
230 brick foundation wall
reinforced concrete strip foundation to be checked and approved by qualified engineer and geologist

10 support wall to be checked and approved by engineers

metal punching plate fixed onto timber beam and pole
200Ø gumpole fixed onto concrete gumpole
440 thick brick wall fixed onto concrete strip footing
reinforced concrete strip foundation to be checked and approved by qualified engineer and geologist
7.4 GREEN STAR RATING AND MATERIALS
The number of points inputted would equate to a Four Star rating, once certified.
horizontal planes

Majority of the current vertical planes consist of corrugated sheeting, this is due to easy accessibility of the material and constructability thereof. The proposal uses this readily available material for the construction of the roof. Layers are added to the roof as per technical sections to attain thermal, aesthetic and structural standards.

vertical planes

Use of naturally sourced stone is predominant in retaining walls, site boundaries and path markers. These create semi-terraced landscapes, as the surrounding built fabric exists on even terrain. These space demarcators are precedent in the proposal as threshold markers, between internal and external spaces, therefore these are to be robust due to physical interaction and activity with the public (seating, standing on them etc.)

Brick construction is used mostly in new developments such as the Atlyn Mall (Atteridgeville’s mall complex). This is a material perceived - in the area (Mshongo) to be of high standard as it is used mainly in standard construction, for those who can afford it. This material is used in the HYBRID CLINIC for the main structure (load bearing brick walls).

horizontal planes

Major routes used mostly by vehicles are tarred surfaces, this allows for the needed municipal services to reach the community efficiently and safely. These routes have dual function of supporting vehicular and pedestrian movement within the community. Tarred surfaces in the proposal are appropriate in the wider scheme (proposed urban framework) connecting fragmented urban rooms and communities. Current pedestrian through roads are undesigned, but have a quality of organically formed layers and forms. This acts as precedent in the proposal for small feeder routes connecting the HYBRID CLINIC to its surrounding major community; allowing for formalised pedestrian routes which are still legible to its user.

horizontal planes and textures

Vegetated surfaces are scarce within this community, they are mostly found at official buildings eg: the community children’s clinic. These serve the properties both aesthetically and environmentally - trapping some of the heat in the earth and preventing soil erosion being a few amongst many.
Services needed by the community are mostly created and maintained by the community members, this has been the culture of Mshongo; as is the typical model of informal settlements in 3rd world countries. Basic systems for storm water control and food production are explored and implemented by the community members with some recent and growing support from the municipality. The HYBRID CLINIC is partly self sustaining through water and waste recycling and use of solar power.

face brick
concrete
glass
timber
gravel
gabion