

# CHAPTER 6

Concept development

Dialectic Approach Between:

Nature and Science

Informal and Organization

Public and Private

The Curtain as informant

Informants Implemented on site

Concept & Parti Diagram

## Concept

### The Dialectic approach

Dialectical materialism is a philosophy of science and nature, based on the writings of Karl Marx (left) and Friedrich Engels (right), and developed largely in Russia and the Soviet Union. The main idea of dialectical materialism lies in the concept of the evolution of the natural world and the emergence of new qualities of being at new stages of evolution whether physically or mentally (Lachs, 1968).

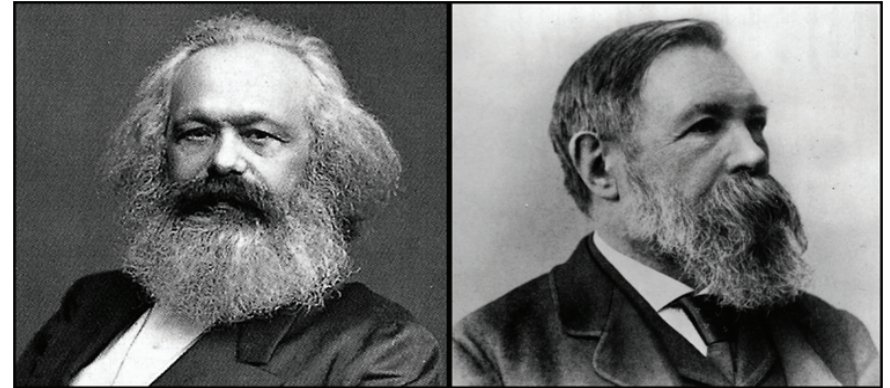


Figure 82: Karl Marx (left) and Friedrich Engels (right).

The reason for choosing dialecticism as the basis of the design concept is that it allows the opportunity of distinct opposites to exist in same time and place in harmony and even building on their opposite existences.

Zbigniew Jordan a philosopher that specialised in dialectic materialism defined it in his article 'The evolution of dialectical materialism', as an integral relationship between apparent opposites that have been kept apart and regarded as distinct but part of a whole (Lachs, 1968). This concept will form the basis and approach of three sub-concepts that each focus on two apparent opposites. Firstly between science and nature, secondly the informal and organizational layouts and thirdly the public and private domain.



## Nature and science

Dialectic materialism is steadfast in its approach to nature and science and describes them as being two very distinct elements but part of a greater whole, completely independent and yet dependent on one another. This concept outlines the approach to the program, the traditional herbalist practices at the present time and the introduction of a scientific facility which will have to coexist in one building. The traditional herbs being the nature component and the analytical facility being the scientific component.

Engels hypothesised three laws of dialectics from his reading of Hegel's Science of Logic. Engels elucidated these laws in his work Dialectics of Nature: (Engels, Dutt and Haldane, 1940)

1. The law of the unity and conflict of opposites
2. The law of the passage of quantitative changes into qualitative changes.
3. The law of the negation of the negation.



Figure 83: The intertwined relationship between Science and nature as per Engels laws. By Author

From this it's important to note that both nature and science can coexist in one entity but their unique attributes must also be emphasized in order that both parties can be identified and related to.



Figure 84: Science and nature as rational and ecological entities. by Author

## Informal and Organizational

The second dialectic approach and sub concept is that of the informal and organizational. These two urban structures are easily noticed in Mabopane and refers back to the ritual of space in an African setting mentioned in the previous chapter which focused on activity driven solutions which acts in replacing abstract space with differential 'lived' space.



Figure 85: The two spatial entities identified in Mabopane and the merger of the two. By Author

These urban forms are distinct in their own way each having good and bad attributes to their approach to defining space. Thus integrating both structures in a harmonious manner through design and form giving became an important design guideline and an attempt to create the "alpha approach" mentioned before. The dialectic approach focuses on two apparent opposites but part of a greater whole, the attempt to create the "greater whole" through design became an appropriate approach to creating form.



Figure 86: the merger of the two entities. By Author

The site as it is is completely permeable and relates back to the informal approach to space in Mabopane which is very organic in nature. The proposed scientific organization is strict in nature which relates to the organized approach to space. Overlaying these two forms created a symbiotic relationship which informed the form giving of the lower public domain and the upper private organization.

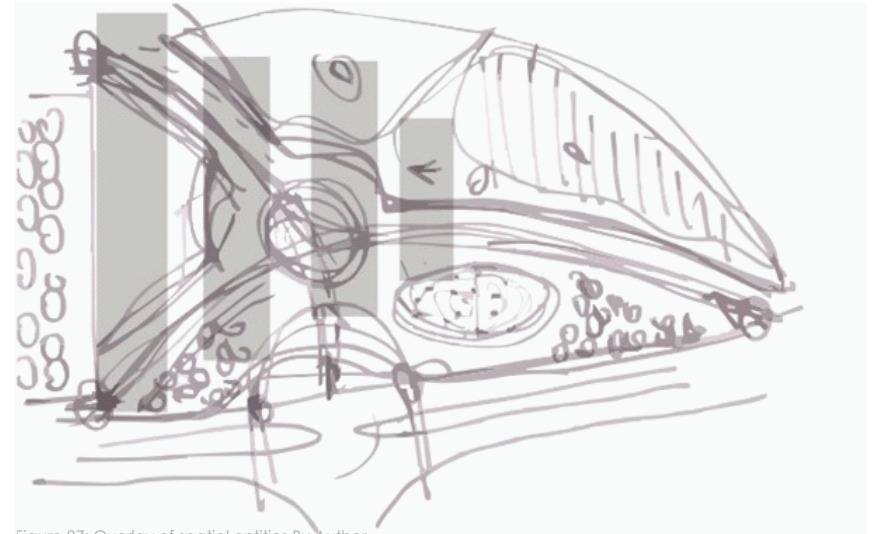


Figure 87: Overlay of spatial entities. By Author

## Public and private

The centre would consist of two elements, a completely public lower domain which houses the Indigenous herbal healers and herbal market and a private top layer which consists of laboratories, herbarium and conference facilities. This separation emphasizes the dialectic relationship between the two.

This approach to public and private space was highlighted by the requirements of the programme and the organizing of existing to proposed spaces.

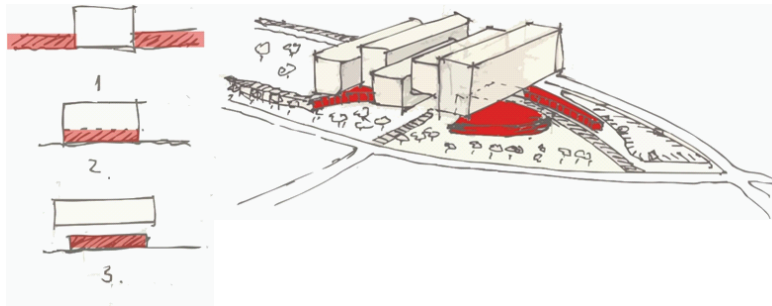


Figure 88 :The relationship between public and private space and what it could be. Illustration by Author

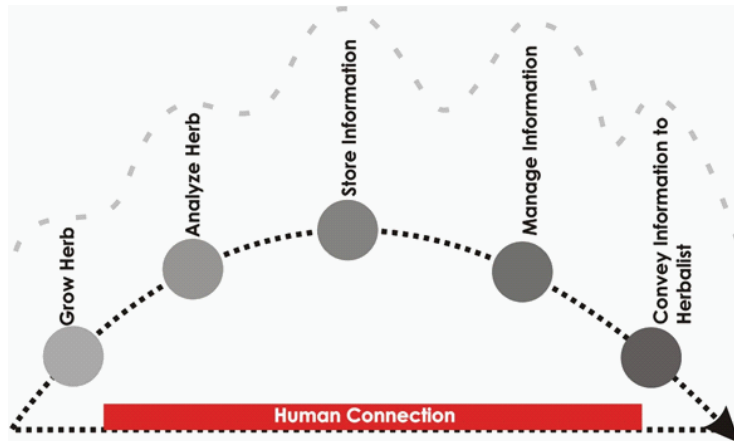


Figure 89: bllustration depicting the building requirements, structure and functions. Illustration by Author

## Curtain as Informant

The traditional healers in Africa makes use of a very interesting element to differentiate between public and private thresholds at their consultation rooms.



Figure100: Herbal healer consultation rooms, By Author

They make use of a device that is extremely simple in nature but astronomically effective in fulfilling its purpose. The herbal healers make use of a curtain which is quickly noticeable as one walks past the numerous stalls in Mabopane. This element is distinct only to their healer practices and can't be found anywhere else.

There are multiple reasons for using a curtain as discovered by questioning numerous traditional herbal healers. It is claimed that it is used because of its ventilating properties and thus is more hygienic. It is also claimed that it makes the patient more at ease because he or she is not confined in a closed room. Another is that it is dipped in certain herbs that help stop illnesses and germs from entering the consultation rooms. The contrasting spiritual healers believe it deters bad spirits and angry forefather ghosts. This element intrigued and highlighted my curiosity which lead to it becoming a design element that can be multifunctional as well as representative of the origin and characteristics of the traditional herbal healer. This element informed façade and roof design which will make use of all of the characteristics of curtain, revealing and concealing, flexible in nature, envelopes and ventilates. The curtain will also function in creating the “greater whole” by enveloping the distinct and opposing dialectic elements mentioned before thus making one entity.

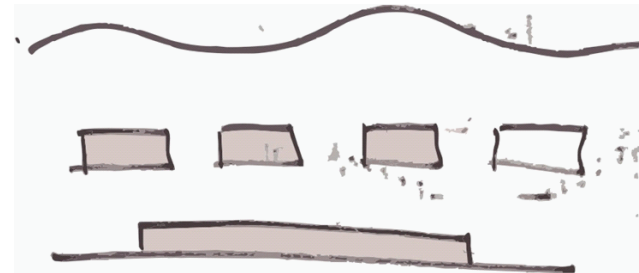


Figure101: Parti Diagram of concept,By Author

# CHAPTER 7

Design Development

# Design Development

## Concept 1 April

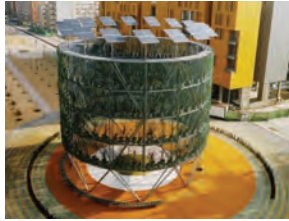


Figure 102: Rigged and organic forms intertwined, Author  
Figure 103: Air-tree structures in Madrid, Inhabitat

The idea of herbs as main informant lead to the realization that the whole building can become one entity that allows growing of herbs as can be seen in figure... representing the Air Tree which was constructed in Madrid.

The concept of the informal space and organizational space representing a dialectic relationship would be expressed using a rigged grid structure and organic forms that intertwine. The lower level would be completely public and whilst private would be raised to create a roofed market area.

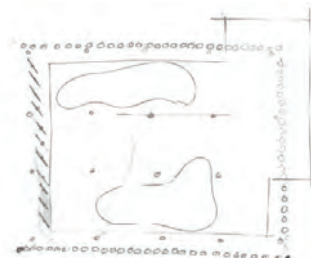
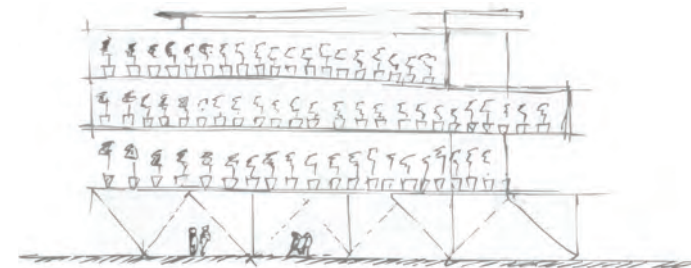


Figure 104: Rigged grid with intertwined forms concealed by organic curtain Author



Representation of public space at ground level. Author

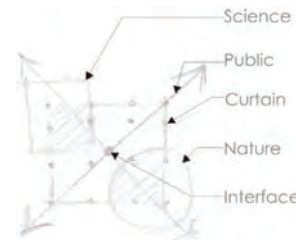
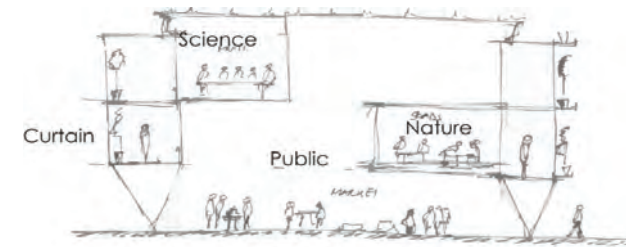


Figure 105: Nolly map, Author



Section through structure, Author

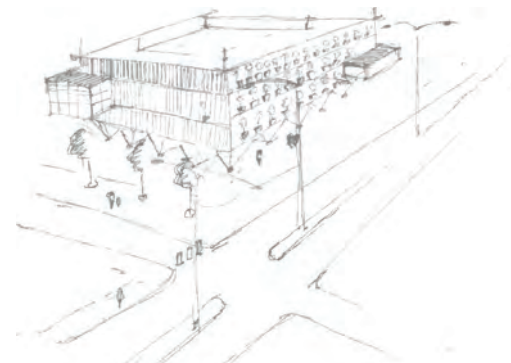
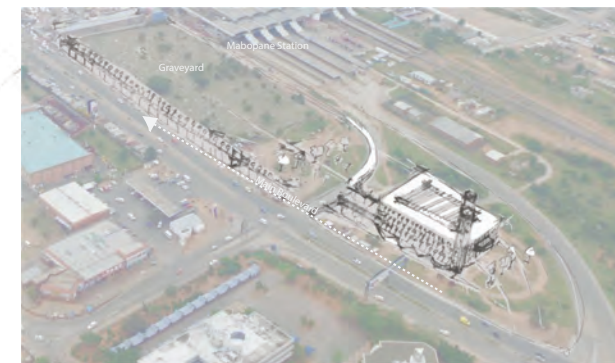


Figure 106: Concept 1 axonometric. Illustration by Author



Concept 1 axonometric. Illustration by Author



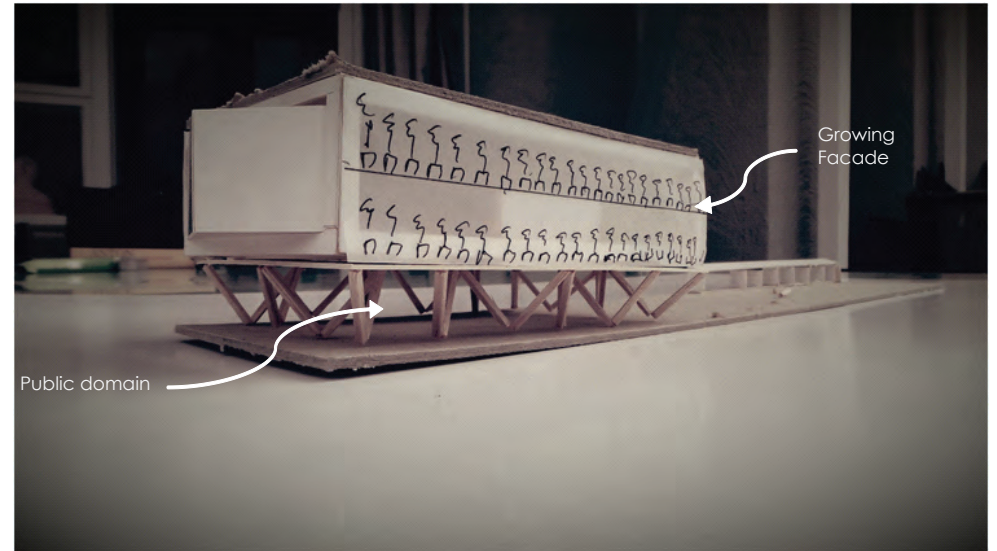


Figure 107: Concept 1 south eastern axonometric. Illustration by Author

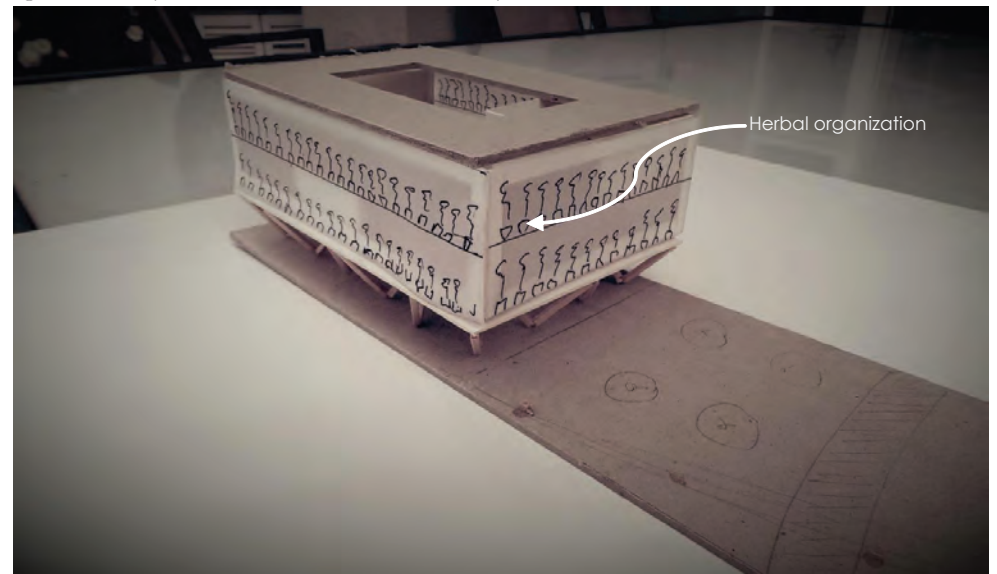


Figure 108: Concept 1 axonometric. Illustration by Author

# Concept 2 June

## Public Interface



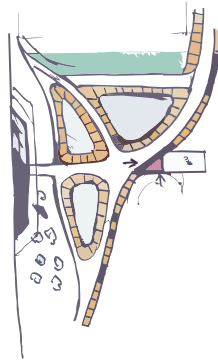
1

Public domain and desired lines on site are organic in nature.



2

Figure 109: Movement on site Urban form. Illustration by Author



3

Urban form and movement creating form. Illustration by Author



Figure 119: Ground floor model of herbal market layout, by Author

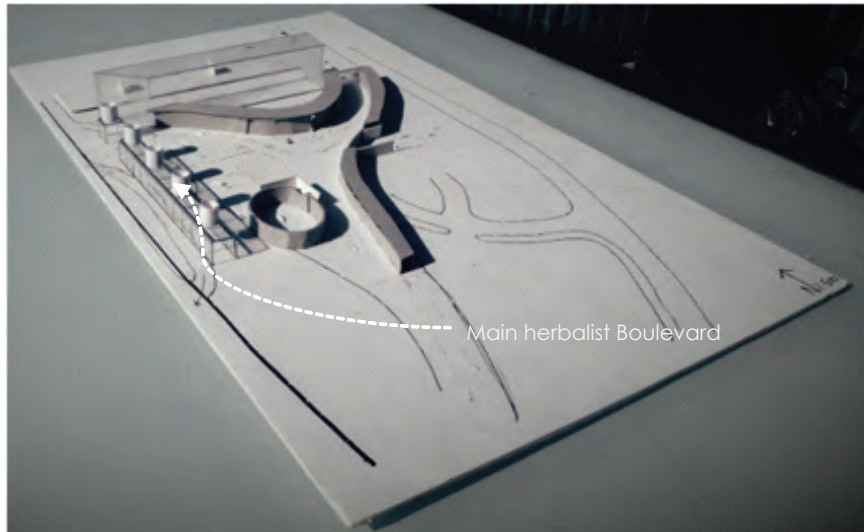


Figure 110: Oragnic ground floor, By Author

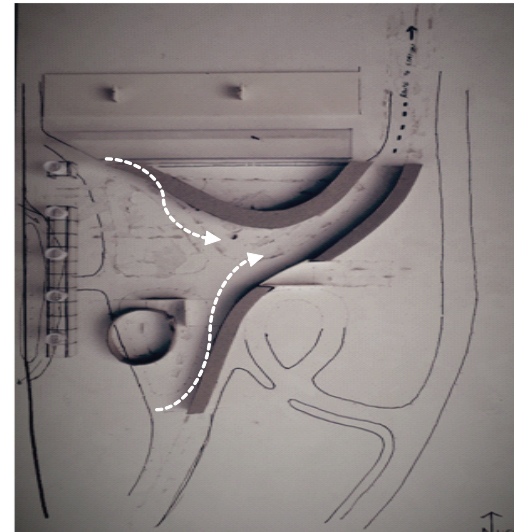
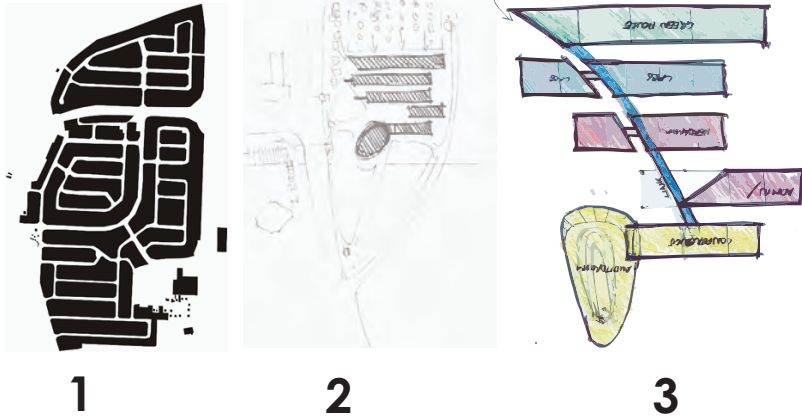


Figure 119: Oragnic ground floor, By Author



# Organizational Layout



Structured urban form.

Organization structured.

Organization Layout.

Figure 114: Proposed upper herbalist organization, structured in nature. By Author



Figure 116: Organizing the organized

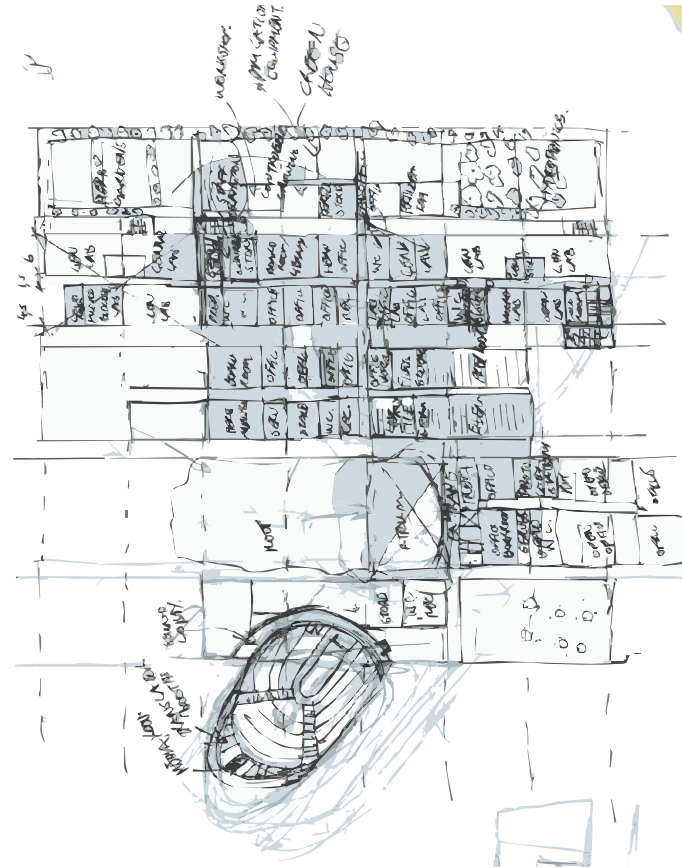


Figure 117: Organizing the spatiality

## Merging of the two orders

The second concept derived from the notion of extracting the best qualities of the two orders and merging them with one another to search for an equal ground. The concept of dialectism mentioned earlier becomes extremely important in the fact that the two orders are different in every way and must complement one another whilst still retaining their own identity.

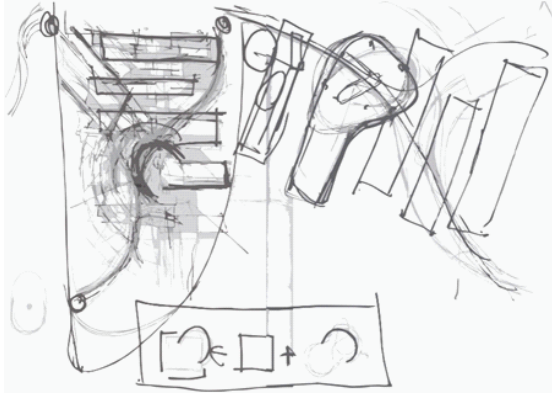


Figure 117: Merging of the two spatial orders. Illustration by Author

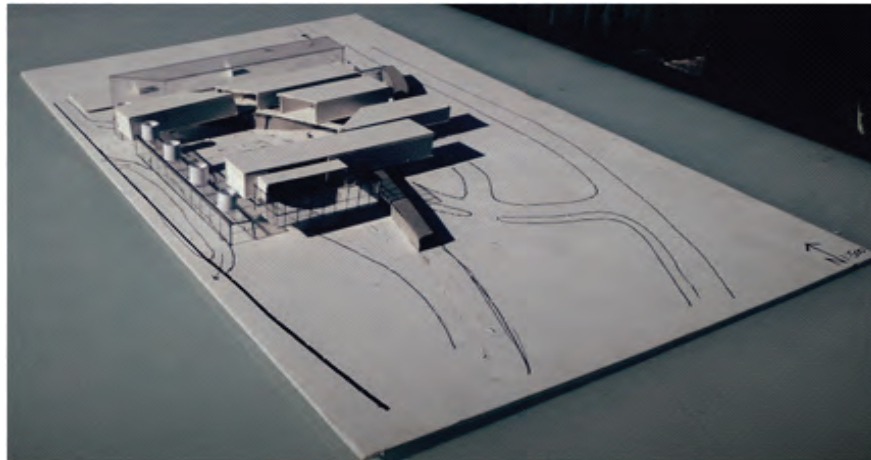


Figure 118: Merging of the two spatial orders. Illustration by Author

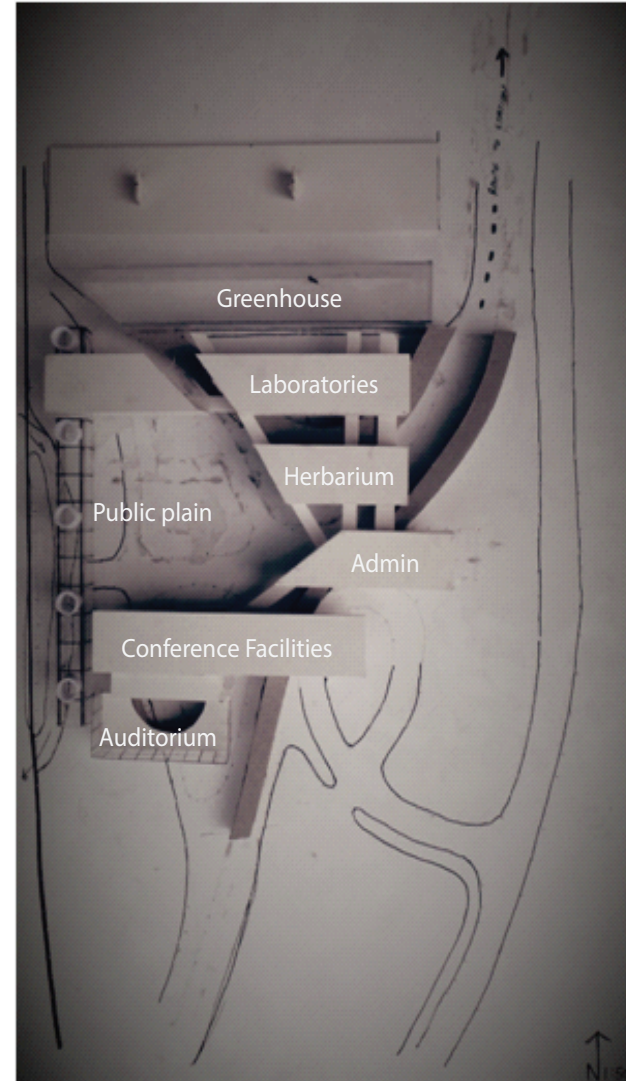


Figure 119: building layout. Illustration by Author

## Three dialectic elements

The organization is also approached in the same manner as the different functions of the building is also approach I the same dialectic manner with the greenhouse, labs a, herbarium, admin and conference and auditorium separated from one another not only to be distinguishable from one another but to allow for light to penetrate into the public space. The organization or second floor illustrated above is also placed to form an open public space and thus embracing the necessity of a public domain in Mabopane.

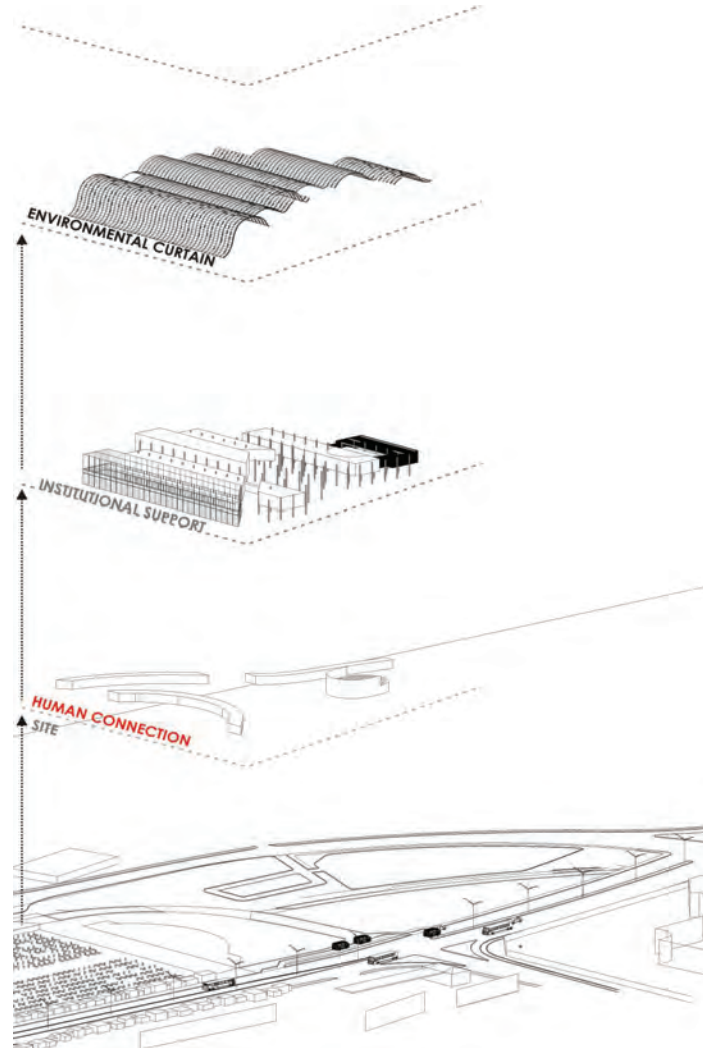


Figure 120: Three dialectic layers of the building, By Author

## The Curtain

The traditional herbalist curtain became the inspiration of a tether that would unite the two dialectic languages and also have the attributes associated with a curtain, the ability to envelope, conceal, reveal and breathe. The “curtain” would become an environmental blanket covering the entire building revealing and concealing certain aspects of the building where necessary. The curtain refers back to the notion of umbrella roofs that are highly effective in the South African climate.



Figure 121: Herbal healer curtain, By Author

The steel curtain would consist of steel members and grid panels that would ultimately be overgrown by creepers over time allowing the building to constantly change and also exhibiting its function as a herbal centre.

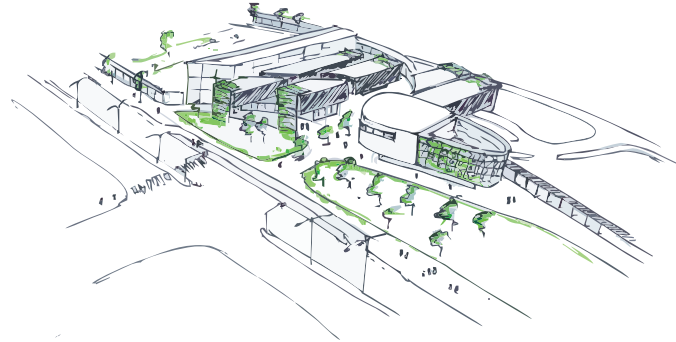


Figure 122: South western axonometric of curtain possibilities, By Author

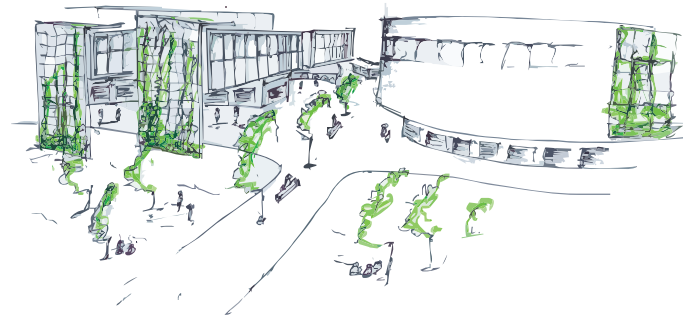


Figure 123: Public area with market and curtain possibilities, By Author



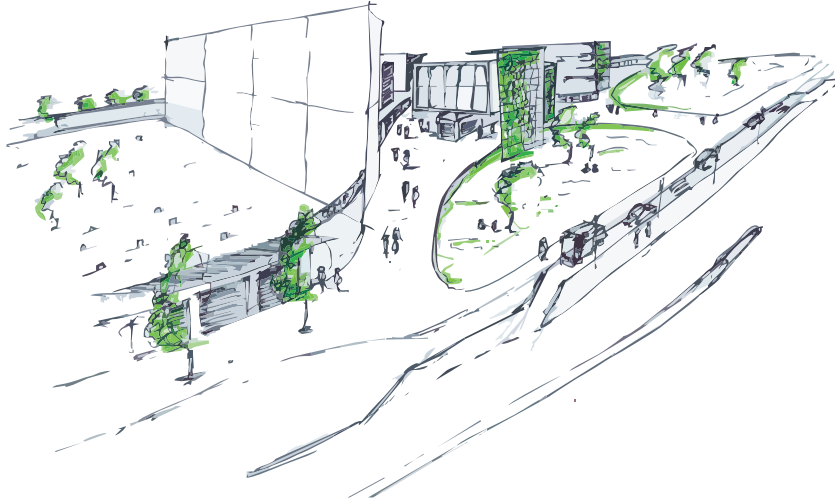


Figure 124: South eastern axonometric of greenhouse and curtain possibilities, By Author

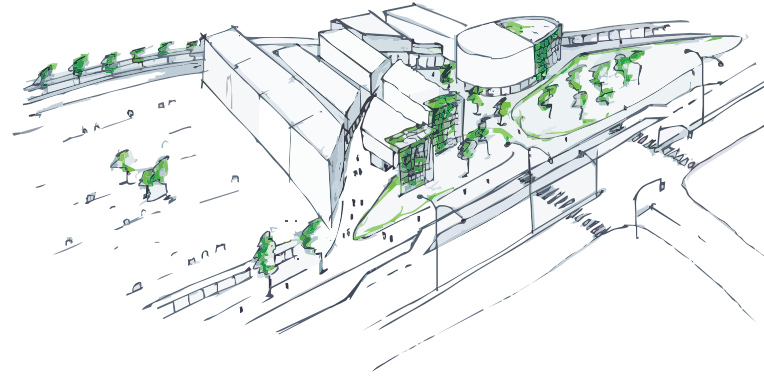


Figure 126: South eastern axonometric of entire building in landscape, By Author

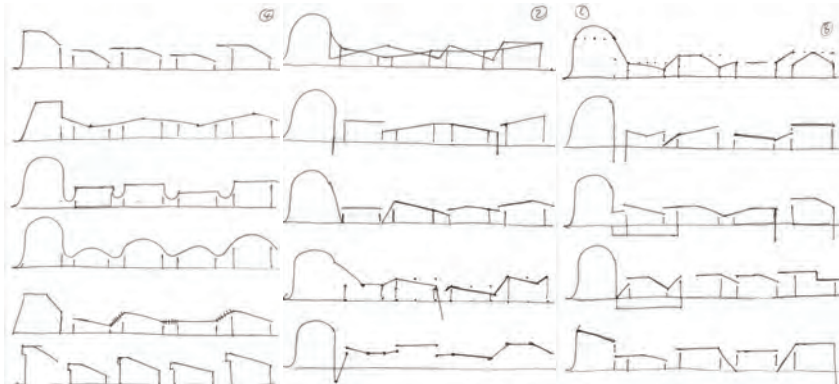


Figure 125: Roof form exploration, By Author

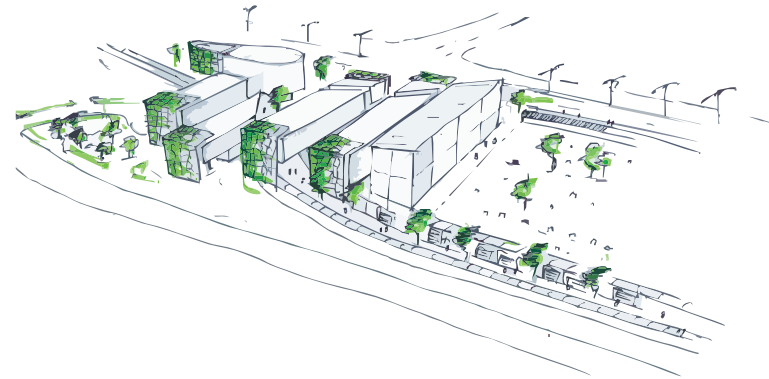


Figure 127: South western axonometric of entire building in landscape, greenhouse and route to Mabopane station, By Author

The curtain went through a number of different designs each ultimately changing the personality of the building and how the environmental blanket would perform.

## Curtain#1

Curtain 1 is flat in nature and extremely simplistic which makes it easier to be related to whilst still fulfilling the functions of a curtain.

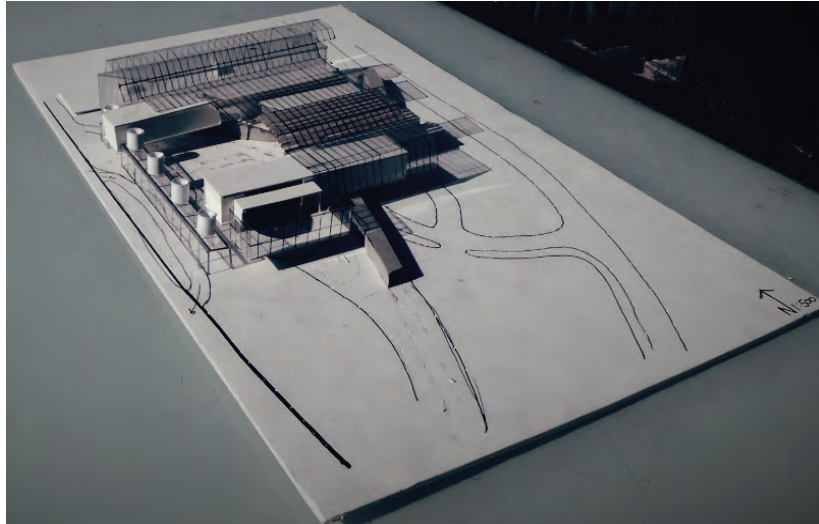


Figure 128: South western axonometric of curtain 1 exploration, By Author.

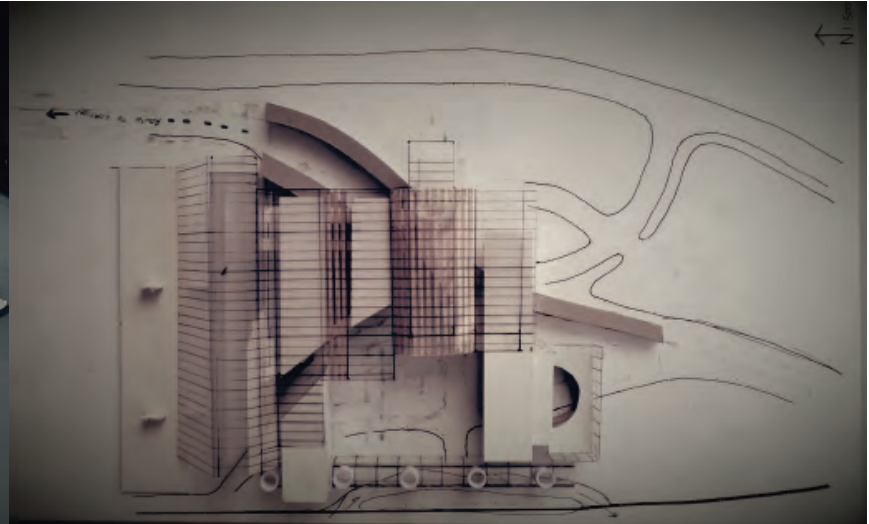


Figure 129: Plan view of curtain 1 exploration, By Author.

## Curtain #2

Curtain number two is extremely dynamic in nature and expresses the feeling of it being a woven textile much as one can see in a curtains fabric. The openings the woven pattern creates allows light to penetrate into the space whilst still being an environmental blanket.

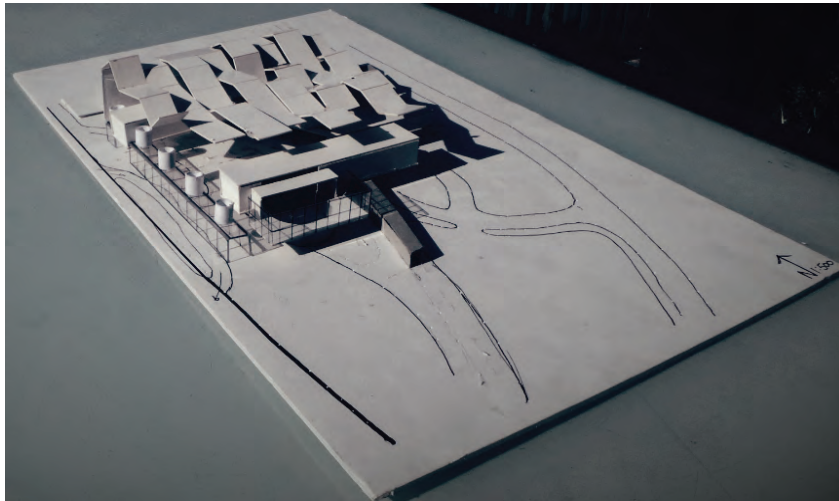


Figure 130: South western axonometric of curtain 2 exploration, By Author.

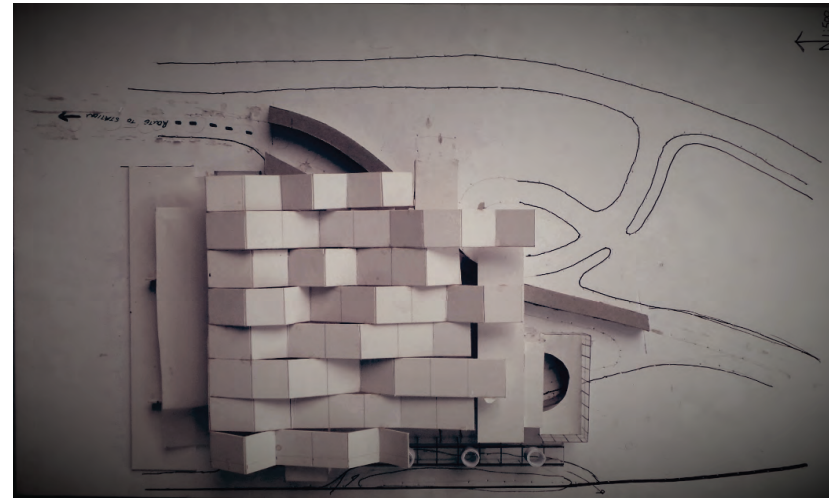


Figure 131: Plan view of curtain 2 exploration, By Author.

## Curtain #3

Curtain number three which best depicts an actual blanket that is draped over the building was chosen to be the main roof design of concept 2. The forms wrap over the building in such a way that it speaks its very own language. The blanket will be perforated at certain intervals to allow for light to penetrate at specific points.

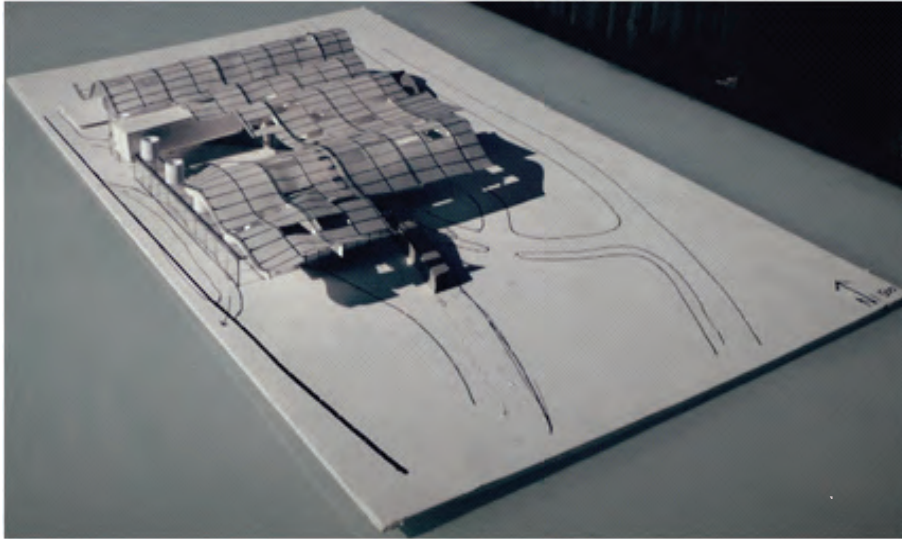
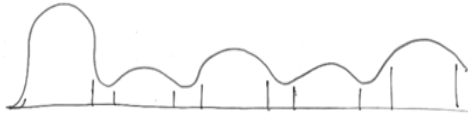


Figure 132: South western axonometric of curtain 3 exploration, By Author.

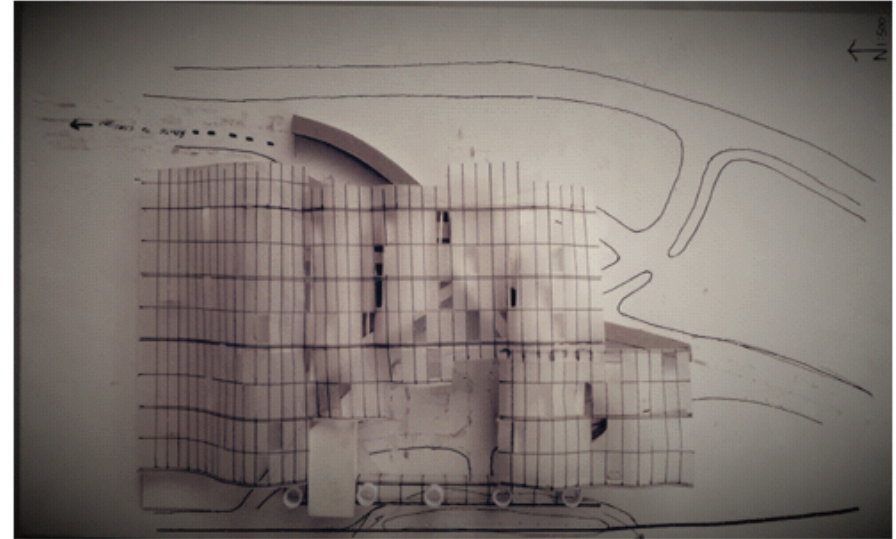


Figure 133: Plan view of curtain 3 exploration, By Author.



Figure 134: Eastern elevation, By Author.



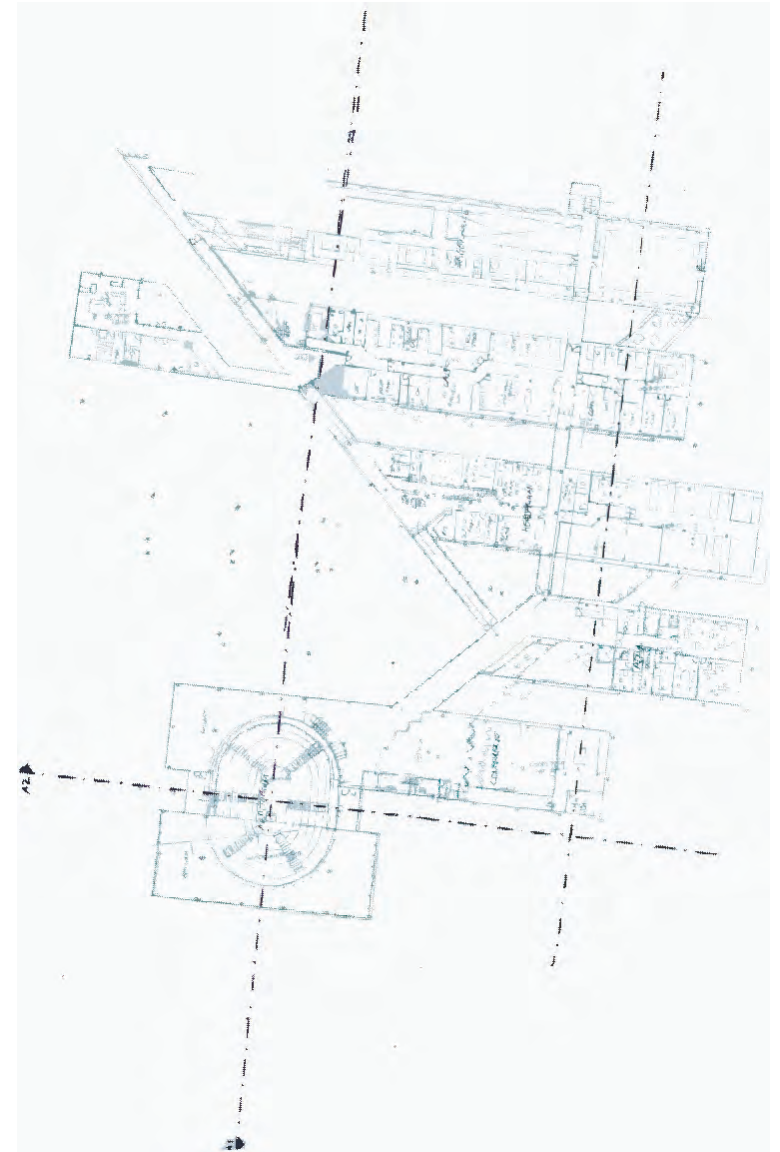


Figure 135: Second floor Plan indicating sections, Illustration by Author.

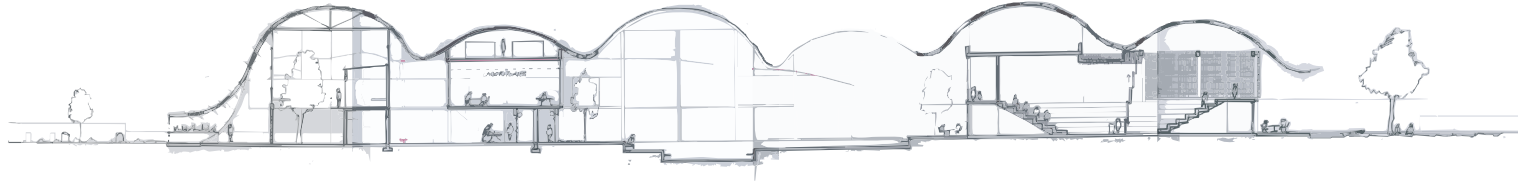


Figure 136: Section through greenhouse, laboratory, public space and auditorium, Illustration by Author.

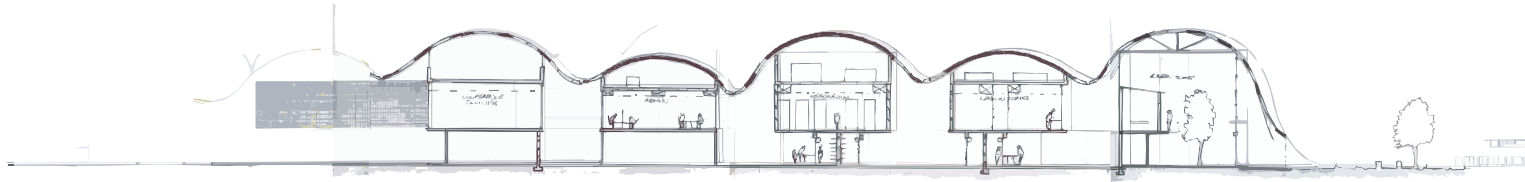


Figure 137: Section through conference facilities, administration, herbarium laboratories and greenhouse, Illustration by Author.

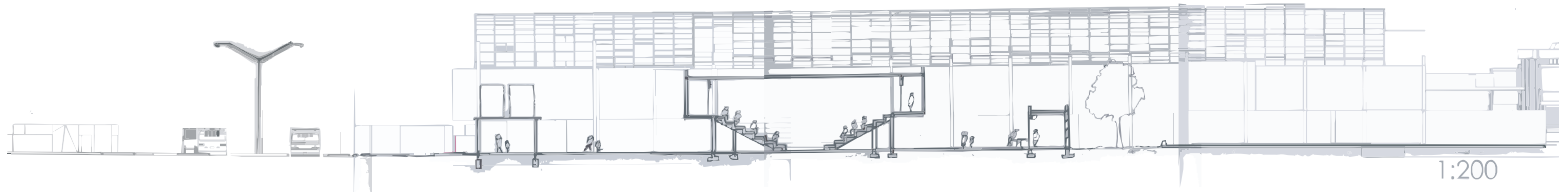


Figure 138: Section through auditorium and streetscape, Illustration by Author.

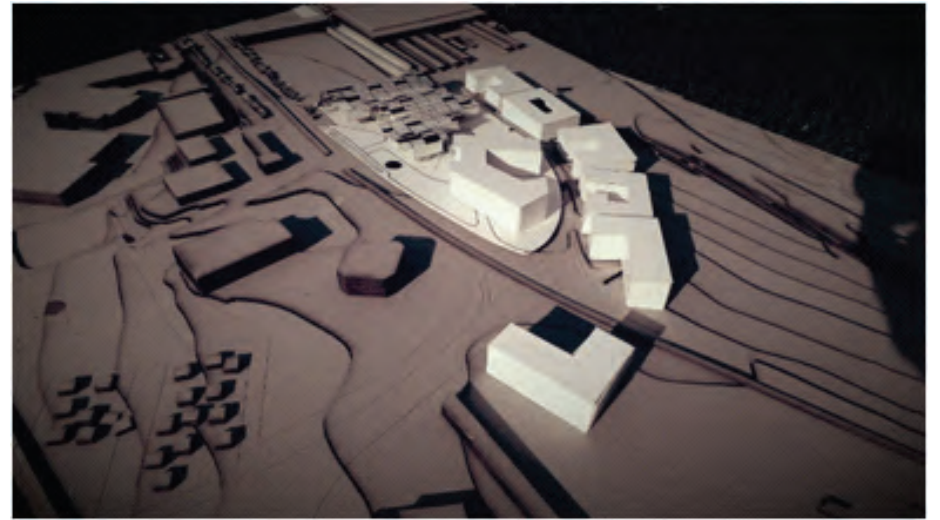
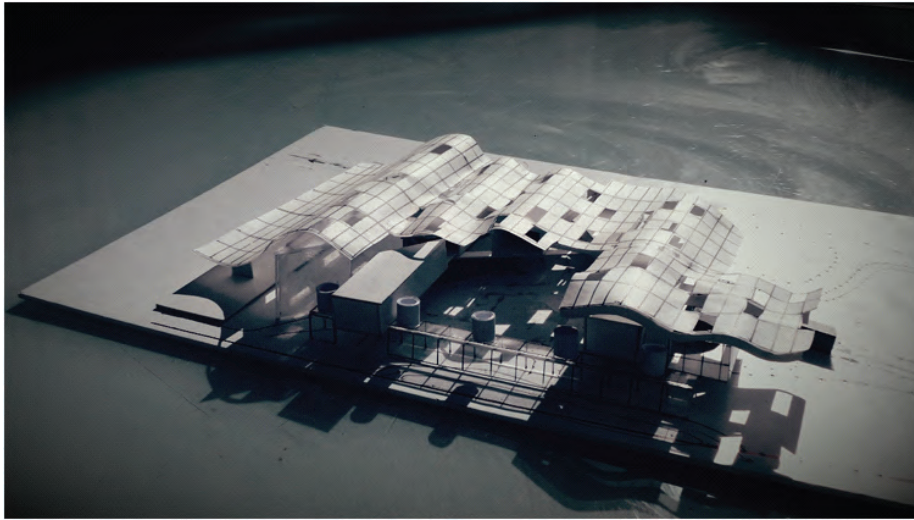


Figure 139: Concept 3 in urban context



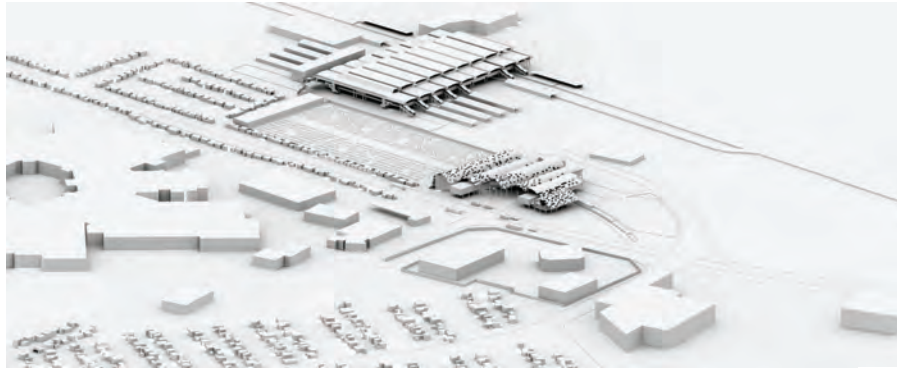


Figure 140: Ariel view building in relation to the station and shopping centre, By Author.

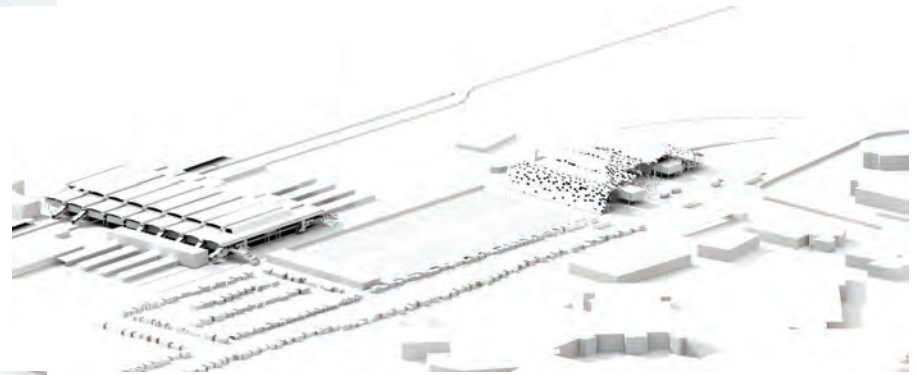


Figure 141: Ariel view building in relation to the station and shopping centre, By Author.



Figure 142: Ariel view building in relation to the station and traditional herbalist boulevard, By Author.

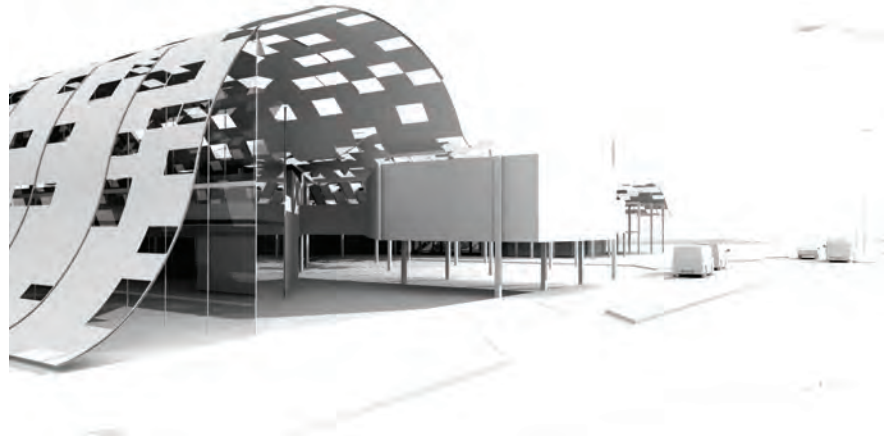


Figure 143: View from M7 road depicting entrance to building from sidewalk and roof design, By Author.

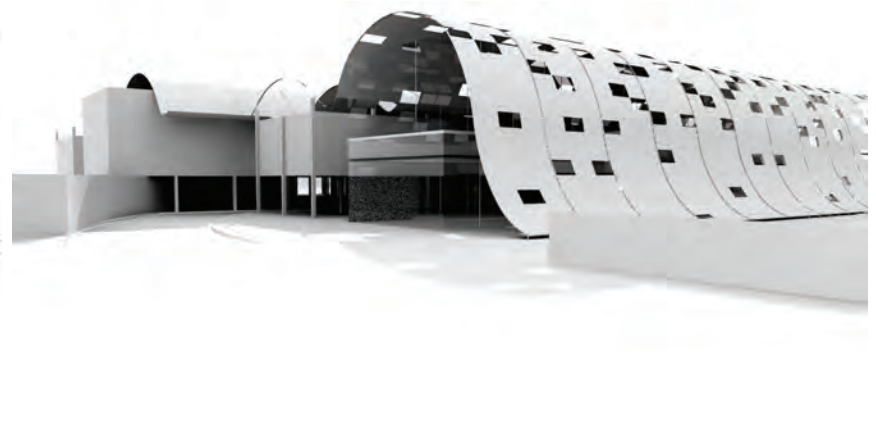


Figure 144: View from pedestrian road leading from Train station,By Author.

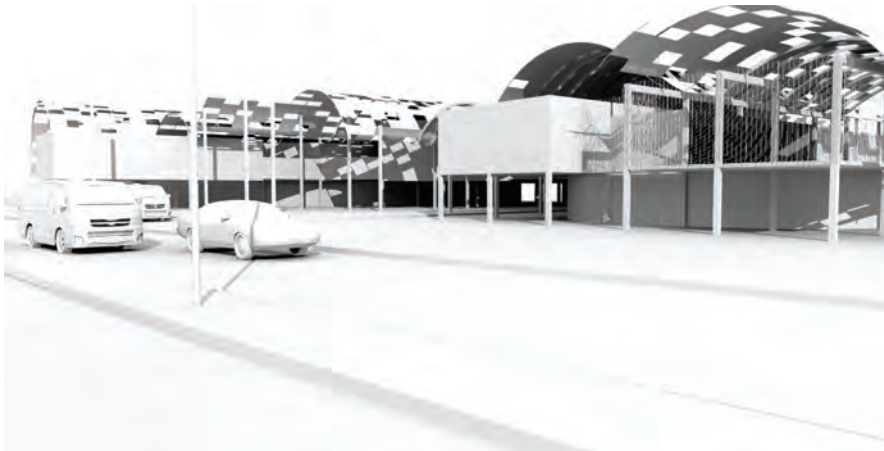


Figure 145: View from M7 road depicting outside and inside Auditorium, public space and taxi drop-off By Author.

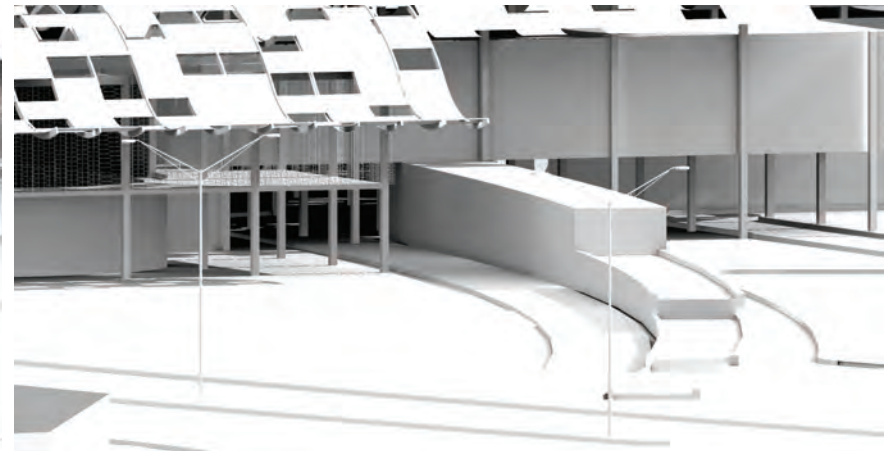


Figure 146: View from main road (M7) leading into from south entrance,By Author.

## Concept 3 Final

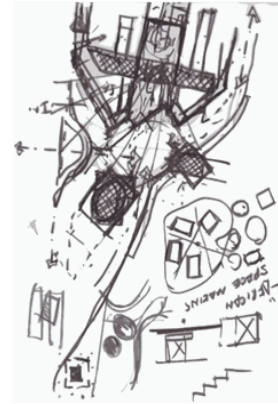
In the previous concept 2 the human connection, the market and public areas, was disjointed and wasn't defined to reflect that of a civic space. Thus a new solution was needed.

The idea that the public space must be organic in nature as stipulated in the urban form of Mabopane must still be relevant.

Thus it was sort after that the market and herbal healer quarters will have to be broken up into smaller and more intimate spaces. This "ilandification" of the public space gave rise to multiple possibilities even for the herbal organization on the second level. These individual strips would house the herbal market, public ablutions, fire escapes and services necessary on the second floor.

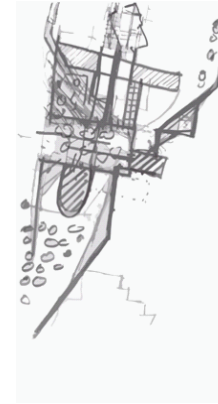


1



2

Possibilities of market layout 2,  
Illustration by Author



3

Possibilities of market layout 3,  
Illustration by Author



4

Possibilities of market layout 4,  
Illustration by Author

Figure 147: Possibilities of market layout, Illustration by Author

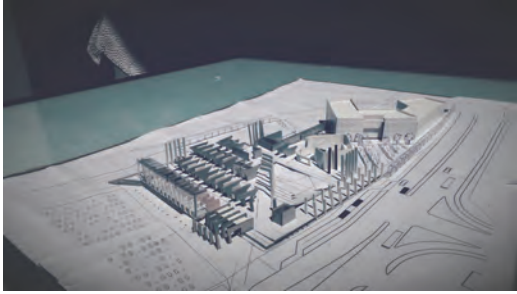


Figure 148: Human connection and market, By Author

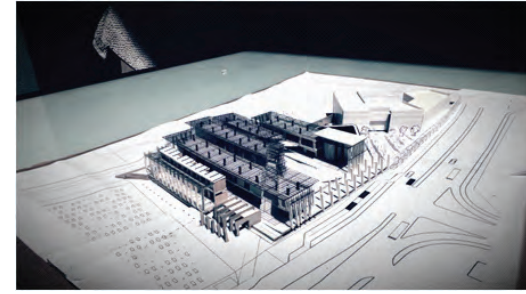


Figure 149: Herbal Organization on second floor, By Author

## The Human Connection

As the entire ground floor of the building is public domain and a linkage to the train station it had to be permeable but also allow for intimate spaces. The idea of using covered walkways parallel to one another came to mind, allowing quick movement through the space but still catering for the herbal market's slow and social circulation.

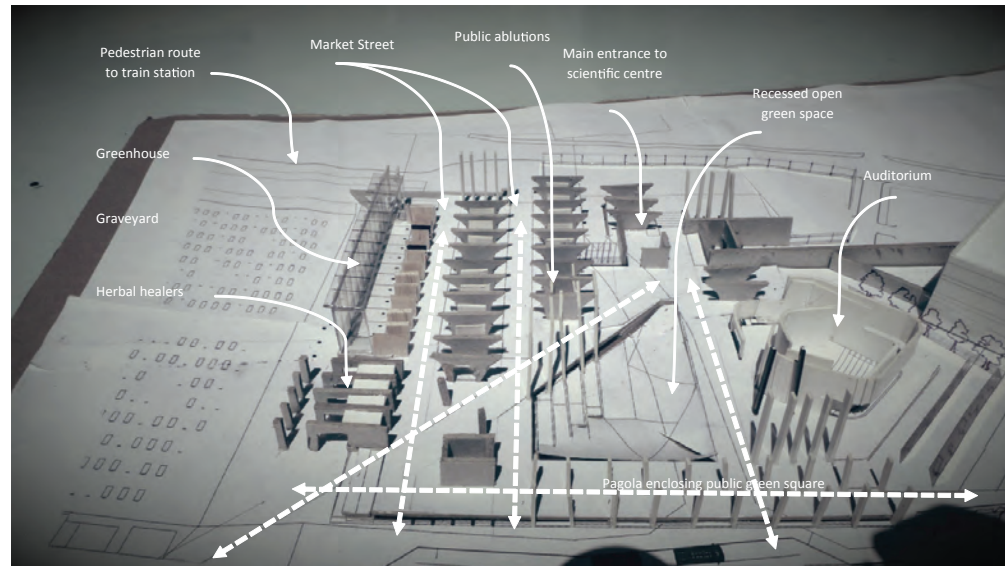


Figure 150: Ground floor layout By Author



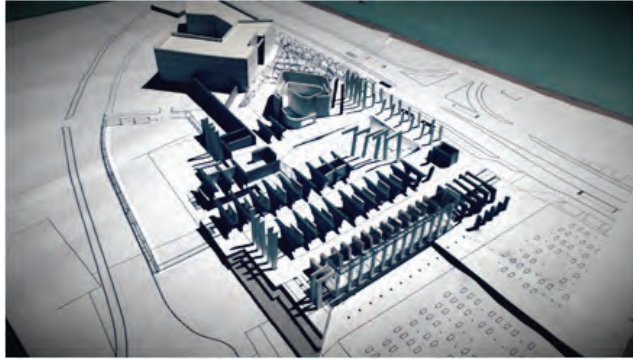


Figure 151: Axonometric indicating movement and uses of ground level in relation to graveyard, By Author

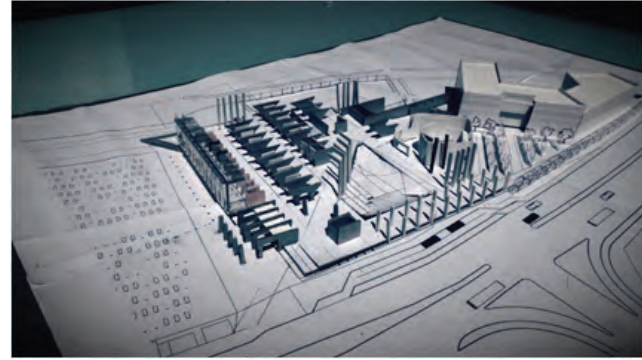


Figure 152: North western axonometric indicating relation to streetscape of ground level, By Author

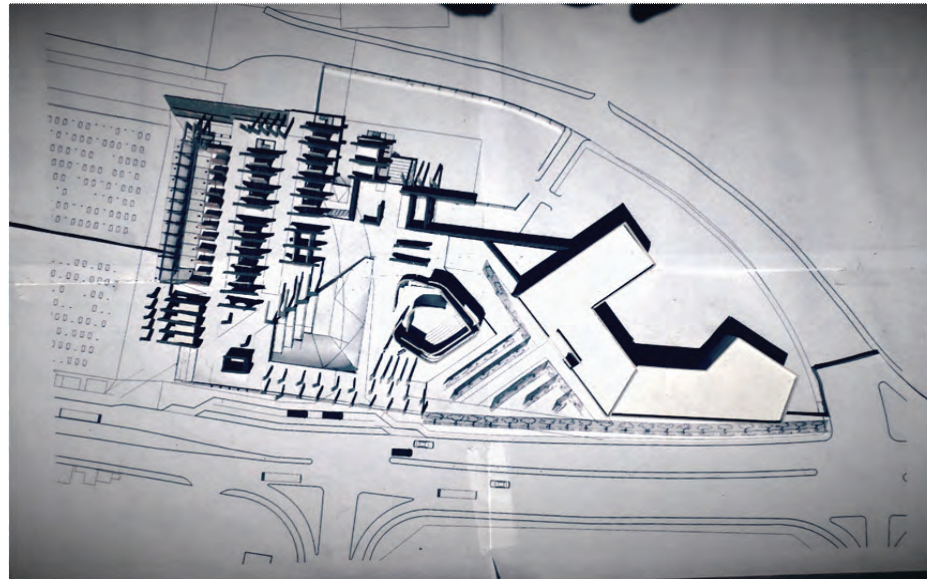


Figure 153: Plan view of ground level, By Author



# The Herbal Organization

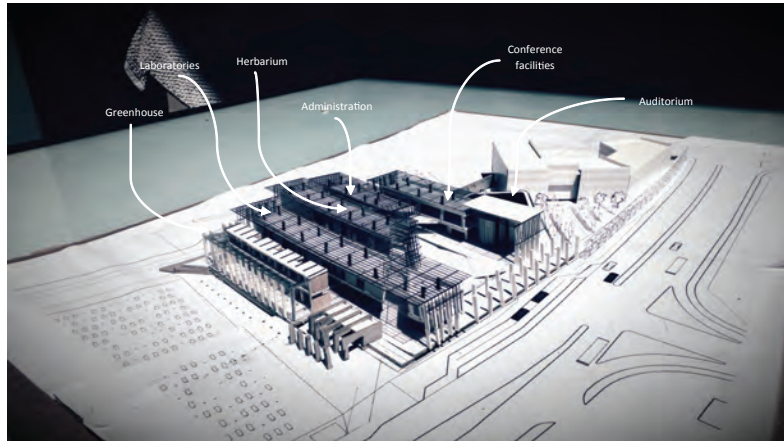


Figure 154: Axonometric indicating uses of second level in relation to graveyard, By Author

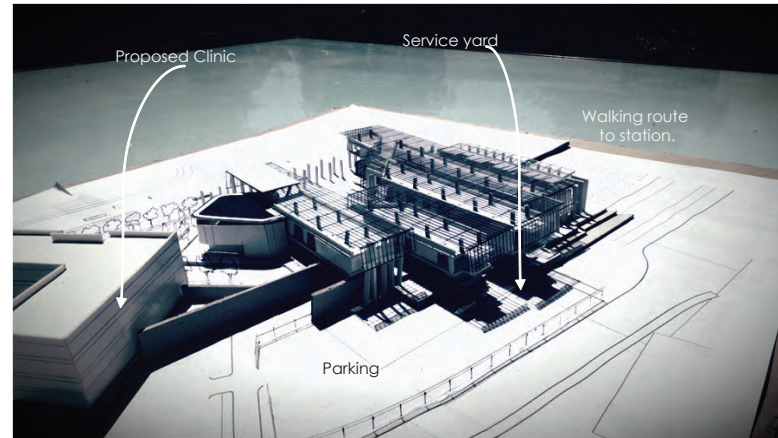


Figure 155: Axonometric indicating parking and service area in relation to building, By Author

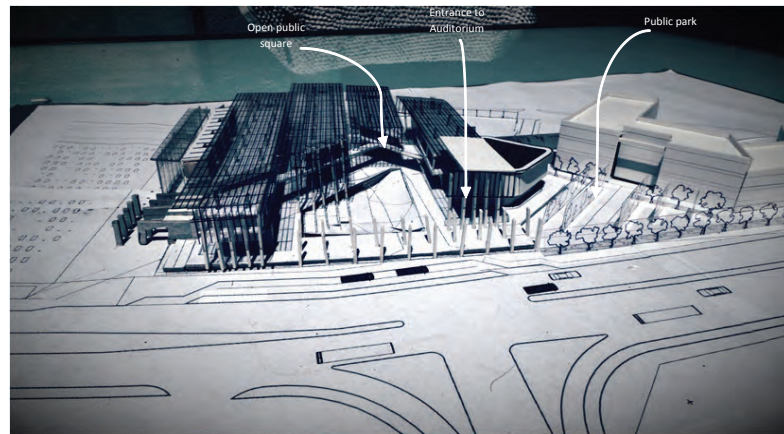


Figure 156: Axonometric view from Main Boulevard M7, intersection, taxi rank, public square and Public Park, By Author

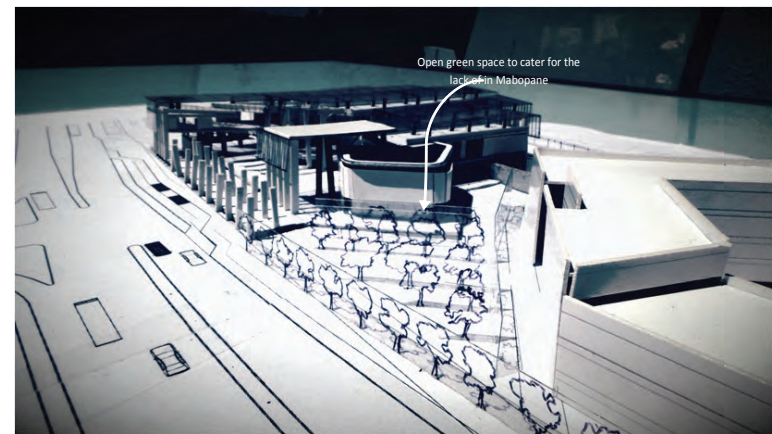
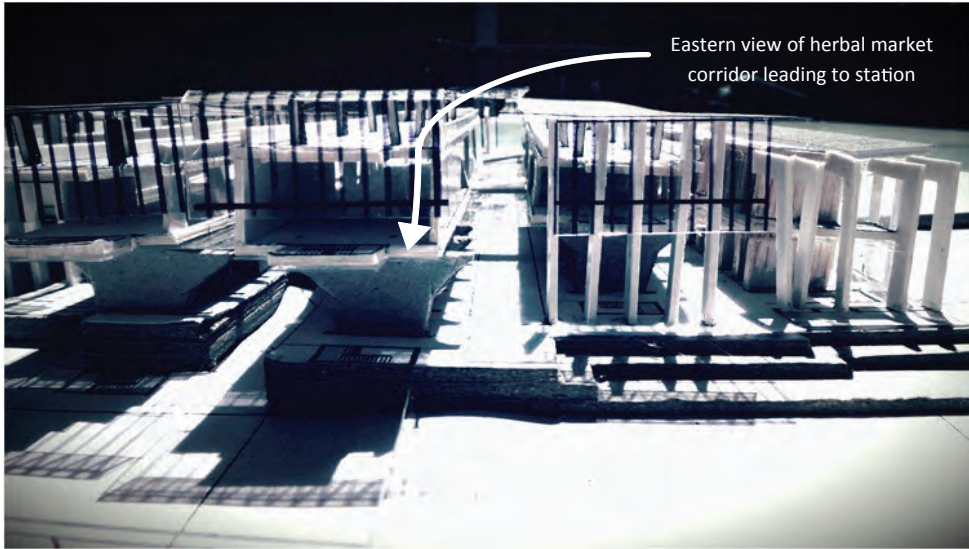
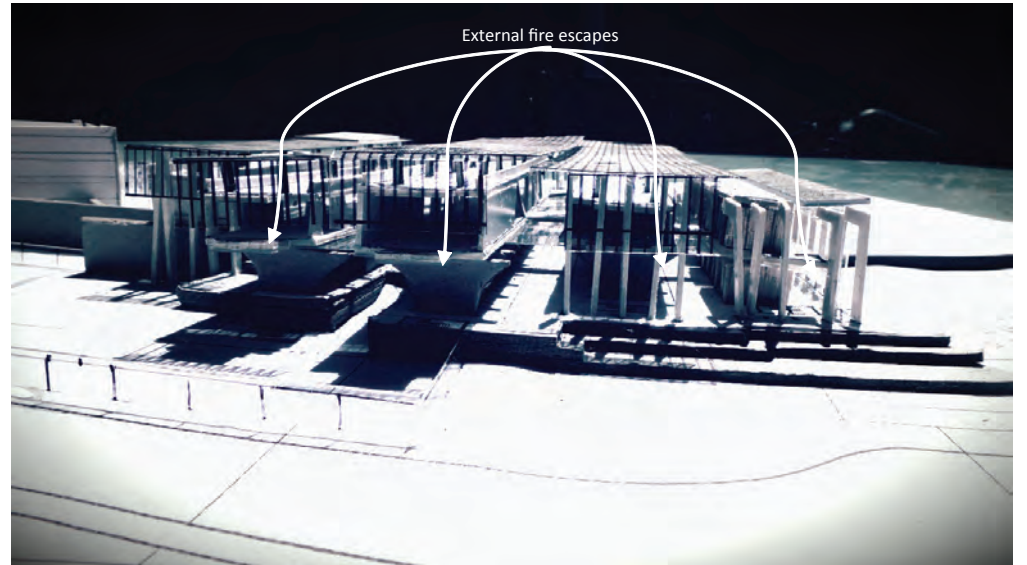


Figure 157: View in relation to adjacent clinic and open public green space, By Author



Eastern view of herbal market  
corridor leading to station

Figure 158: Eastern view of market corridor and building separation.. By Author



External fire escapes

Figure 159: Eastern view depicting fire escapes at the end of the. By Author