UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

+

REFORMATION LANDSCAPE

RE-CULTIVATING THE HISTORIC LANDSCAPE OF THE BOTSHABELO MISSION STATION

STEPHANIE NEL

2017

Study leader: Johan N. Prinsloo
Studio master: Johan N. Prinsloo
Course co-ordinator: Dr. Arthur Barker

Submitted in fulfilment of part of the requirements for the degree Master of Landscape Architecture (Professional)

Department of Architecture
Faculty of Engineering, Built Environment and Information Technology (EBIT)
University of Pretoria

Dissertation title: Reformation Landscape: Re-cultivating the historic landscape of the Botshabelo mission station

Site description: A neglected Lutheran mission station established by the Berlin Missionary Society in 1865 situated 9 km outside the town of Middelburg, Mpumalanga.

Users: The proposed Botshabelo Community Trust beneficiaries who are to return to live on the property and the everyday visitor and tourist.

GPS co-ordinates: 25o 41′ 09.07″ S; o 29o 25′ 17.99″ E.

Research field: Heritage and Cultural Landscapes

In accordance with Regulation 4 (e) of the General Regulations (G57) for dissertations and theses, I declare that this dissertation, which I hereby submit for the degree Master of Landscape 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 another tertiary institution. I further state that no part of my dissertation has already been, or is currently being submitted for any such degree, diploma or other qualifications. I further declare that this dissertation is substantially my own work. Where reference is made to the work of others, the extent to which work has been used is indicated and fully acknowledged in the text and list of references.

Stephanie Nel
October 2017

ABSTRACT

REFORMATION LANDSCAPE

The Berlin mission station Botshabelo, situated nearby the town of Middelburg presents a multi-cultural landscape that is emblematic of the complex questions facing heritage sites in South Africa today. Botshabelo mission station (hereafter referred to as Botshabelo) is a historically, physically and culturally layered landscape with a shared heritage and an assemblage of narratives. The following dissertation is an exploration of two cultures and their embedded layers of impact, meaning and heritage within Botshabelo's landscape.

The aim of this dissertation is to generate a design proposal which conserves the narrative of the landscape, and simultaneously revives a community and a lost sense of place. This investigation explores the potential of the productive landscape as a means to preserve what is found to be a fundamental part of both of the cultural groups that once occupied the site. The richness of our African landscape heritage is to be conserved, harnessed and celebrated, and the intentions of the German missionaries considering the landscape of Botshabelo are to be revisited

There are a number of dualities or contrasting approaches to the cultivation of the land when dealing with various cultures. There is also a tension that exists between the enhancement of a living landscape and the preservation of a historic landscape. This proposal intends to mediate between notions of then and now, the global and local and ultimately serves as an intermediary between conservation and revival.

THANK YOU

To Ferdinand, you are a true example of God's love and grace; my biggest blessing and my best friend. Thank you for being by my side every day, and with every page.

To Johan N. Prinsloo, for the incredible insight, guidance and inspiring a renewed passion for design.
To Prof. Piet Vosloo for all of the assistance in helping me to grasp the practicalities of the project.

To my generous and gracious Dad, Mom and Sister for the gift of family, love and an education. Thank you for carrying me through twenty four years with your love, support and prayers.

To Megan and Wilme for being my home away from home and blessing me with many years of true friendship.
To Anita for working alongside me, helping me and showing me how to smile throughout it all.

To my Heavenly Father who so generously created us with the ability to create. You are my place of refuge, my rock and my redeemer.

[01] Seeking Refuge

List of figures 10
Prologue 17

23
1.1 A brief introduction 24
1.2 Statement of significance 26
1.3 Problems identified 29
1.4 Problem statement 29
1.5 Research questions 29
1.6 Thesis statement 30
1.7 Project intentions 31
1.8 Research and design methodology 33
1.9 Assumptions and delimitations 33

[02] Reformation to Ruin

2.1 Regional context 39
2.2 African agrarian traditions in Mpumalanga 40
2.3 A regional relationship to Botshabelo 42
2.4 Historic context 45
2.5 The Berlin Mission Society 46
2.6 Botshabelo Mission Station 49
2.7 Botshabelo over time 52

[03] Reaping the Stories

3.1 Analysis & mapping approach 60
3.2 Cultural landscapes 61
3.3 Reading and imagining the past (mapping) 66
3.4 Stories by Alexander Merensky (1859-1882) 69
3.5 Stories by Otto Karl Papke (1937) 73
3.6 Stories by Dan Rakgoathe (2000) 75
3.7 Stories by Gerard Sekoto (2004) 77
3.8 Stories by Lot Rantlha (2017) 79
3.9 Documenting the existing 81

[04] Re-cultivating

4.1 Commemorating a shared heritage 95
4.2 Phenomenology in landscape architecture 97
4.3 Critical regionalism in landscape architecture 97
4.4 Botshabelo precinct development 99
4.5 Botshabelo's future community 102
4.6 Programme development 111
4.7 The Botshabelo Ethnobotanical garden and organic farm 112
4.8 Two agrarian histories 112
4.9 The African orphan crops 112

[05] Re-forming

5.1 The conceptual approach 120
5.2 The layered informants 123
5.3 Typological design investigation of two cultural traditions 129
5.4 Concept 138
5.5 Design development 140
5.6 Final sketch plan design 144
5.7 Experiences within the landscape 145

[06] Refining

6.1 The tectonic concept 152
6.2 Learning from examples 155
6.3 Materiality explorations 157
6.4 Detailing moments 160
6.5 Moment one: medicinal herb courtyard 162
6.6 Moment two: vegetable garden 172
6.7 Moment three: sorghum fields and beer courtyard 184
6.8 Moment four: the kraal 194
6.9 Systems and flows 202

[07] Resolution

7.1 Conclusions 208
7.2 Final Presentation 210
7.3 List of references 212

Appendixes 214

"You visit the earth and water it, you greatly enrich it; the river of God is full of water; you provide their grain, for so you have prepared it. You water its furrows abundantly, settling its ridges; softening it with showers, and blessing its growth. You crown the year with your bounty; your wagon tracks overflow with abundance. The pastures of the wilderness overflow, the hills gird themselves with joy, the meadows clothe themselves with flocks, the valleys deck themselves with grain, they shout and sing together for joy."
PSALM 65:9-13 [ESV]

LIST OF FIGURES

CHAPTER ONE

Fig 01: Re-imagining the landscape of Botshabelo, digital collage (Author 2017)
Fig 02: Visual introduction to the place of refuge, digital collage (Author 2017)
Fig 1.1: The first house along the main route (Author 2017).
Fig 1.2: Locality of Botshabelo (Author 2017)
Fig 1.3: Seminary building at Botshabelo: male mission students doing physical exercises under supervision of mission teachers (Hoffmann Collection, BMW Archive bmw2_102)
Fig 1.4: Chapungu - The Day Rhodes Fell (Sithembile Msezane 2015).
Fig 1.5: Botshabelo seminarists building a house (Hoffmann Collection, BMW Archive bmw2_124)
Fig 1.6: Gerard Sekoto photograph (Dolby n.d.) Accessed at http://www.revisions.co.za/biographies/gerard-sekoto/#.WeCP2WiCzIU
Fig 1.7: Isaac Mogase photograph (unkown 2007) Accessed: http://www.sowetanlive.co.za/sowetan/archive/2007/08/31/mogase-to-beat_anc-mps-into-line
Fig 1.8: Photograph of Ken Gampu (unkown 2014) Accessed at http://entertainment.iafrica.com/movies/912536.html
Fig 1.9: Photograph of Wally Serote (unknown 2017) Accessed: http://jacana.bookslive.co.za/blog/2017/04/27/%E2%80%9Ci-wanted-to-understand-my-being-a-black-person-from-a-positive-point-of-view-mongane-wally-serote-on-why-he-writes/
Fig 1.10 - Fig 1.12: The Ndebele tourist attraction introduced to Botshabelo later in the 20th century - a failed attempt. (Author 2017).
Fig 1.13: Botshabelo Master group structure (Author 2017).
Fig 1.14: Initial outline of the research and design methodology (Author 2017).
Fig 1.15: Development of the rural village at Botshabelo underway as of 2017 (Google Maps 2017).
Fig 1.16: Proposed community statistics for the rural development of Botshabelo studied by Clean Stream Enviornmental servces (Author 2017).
Fig 1.17: Journey through space: Tree-lined main road to historic core of Botshabelo mission station (Author 2017).
Fig 1.18: Journey through space: 1865 Botshabelo Lutheran church (Author 2017).

CHAPTER TWO

Fig 2.1: Map showing estimated Bokoni areas (Author 2017).
Fig 2.2: Adam's Calendar: remnants of an ancient civilisation in Mpumalanga, photograph (Author 2017).
Fig 2.3-2.4: Drawings of Bakoni settlements adapted from Tim Maggs 2015 (Author 2017).
Fig 2.5-2.7: Photographs of the Bakoni ruins (Delius et al. 2015).
Fig 2.8-2.9: Drawings of Bakoni settlements adapted from Tim Maggs 2015 (Author 2017).
Fig 2.10 - Fig 2.12: Drawings of stone walls and spatial ordering principles at Botshabelo (Author 2017).
Fig 2.13-2.16: Forms in cultivation, drawings (Author 2017).
Fig 2.17: Martin Luther and his 95 theses, painting. Artist unknown, retrieved from Hawener, 2017 at http://cphpost.dk/activities/inout-activities/mid-march-art-reformation-remembered-and-reimagined.html.
Fig 2.18: Painting of Luther at Worms in the Lutherhaus museum in Wittenberg (Steves 2015).
Fig 2.19- Fig 2.20: Paintings by Wangemann 1867 of Transvaal Missionary activity (Ditsong National Museum of Natural History).
Fig 2.21 - Fig 2.23: Paintings by Wangemann 1867 of Transvaal Missionary activity (Ditsong National Museum of Natural History).
Fig 2.24: Locality of Botshabelo in relation to the nearest town of Middelburg (Author 2017).
Fig 2.25 - Fig 2.26: Paintings by Wangemann 1867 of Botshabelo (Ditsong National Museum of Natural History).

Fig 2.27: Timeline of significant events during Botshabelo's lifetime (Author 2017).
Fig 2.28: Interior of Botshabelo church with pulpit and benches, photograph (Hoffmann Collection source no. bmw2_115)
Fig 2.29: Lutheran church at Botshabelo February 2017, photograph (Author 2017).
Fig 2.30: The Botshabelo landscape narrative from past to present (Author 2017).

CHAPTER THREE

Fig 3.1: Theory and research that is to effect design decisions (Author 2017).
Fig 3.2: Photograph of old wagon making space (Author 2017).
Fig 3.3: Photograph of interior wallpaper of Merensky's house (Author 2017).
Fig 3.4: Photograph of a degraded missionary's house (Author 2017).
Fig 3.5: Photograph of the existing seminary building (Author 2017).
Fig 3.6: Diagram showing possible outstanding universal value of Botshabelo (Author 2017).
Fig 3.7-3.9: Photographs of region, existing residents and stone construction (Author 2017).
Fig 3.10: Vision of Motse ruins (Author 2017).
Fig 3.11: Diagram showing mapping process followed (Author 2017).
Fig 3.12: Handwritten map: birds eye view of Botshabelo complex with church, school, Bapedi and Bakopa villages (Hoffmann Collection Source no. bmw2_316).
Fig 3.14:Rev Alexander Merensky (Wangemann n.d.)
Fig 3.15: Exerpt from handwritten letter with small drawing of local rondavel (Hoffmann collection source no: bmw2_320)
Fig 3.16: Handwritten map: bird's eye view of Botshabelo complex with church, school, Bapedi & Bakopa villages (Hoffmann collection source no: bmw2_318)
Fig 3.17: Initial zoning and layout of Botshabelo adapted from Merensky's map (Author 2017).
Fig 3.18- Fig. 3.23: Morphology diagrams of Botshabelo based on Merensky's writings (Author 2017).
Fig 3.24 - Fig.3.29: Changes and decline of Botshabelo adapted from Swanepoel, 2015 (Author 2017).
Fig 3.30: Image of sand road to Botshabelo (Author 2017).
Fig 3.31: Circular letter concerning e.g. description of Botshabelo and Marie Merensky (Hoffmann Collection MISCELLANEOUS/PAPKE_1937_Circular letter (Marie Merensky, Botshab).
Fig 3.32 - Fig.3.35: Illustrations inspired by missionary Papke's description of Botshabelo (Author 2017).
Fig 3.36 - Fig.3.38: Illustrations inspired by Dan Rakgoathe's description of Botshabelo (Author 2017).
Fig 3.39: Illustration of church (Author 2017).
Fig 3. 40: Local band playing on a rock in a kloof near Botshabelo (Hoffmann Collection, Source No. bmw2_111).
Fig 3. 41: Design response to gathering of people for music or event (Author 2017).
Fig 3.42 - Fig. 3.43 : Illustration of landscape moments based on Sekoto's writing (Author 2017).
Fig 3. 44: Design response to gathering of people in fields with cattle and beer (Author 2017).
Fig 3.45 - Fig.3.47 Photographs during group fieldwork (Author 2017).
Fig 3.48 Photographs of Lot (Author 2017).
Fig 3.49 - Fig.3.51 Illustrations based on interviews with Lot (Author 2017).
Fig 3.52 - Fig.3.54 Cultivated fields, buildings and medicinal plants (Author 2017).
Fig 3.55 Plan of existing conditions (Author 2017).
Fig 3.56 Plan and photographs of existing buildings (Author 2017).
Fig 3.57: Existing road network (Author 2017)

Fig 3.58: Tributary streams through site connecting to Olifants River (Author 2017).
Fig. 3.59: Existing agricultural allotments (Author 2017).
Fig 3.60: Sacred spaces in Botshabelo's landscape (Author 2017).
Fig 3.61: Places of memory - ruins of Motse (village) and first houses (Author 2017).
Fig 3.62: Agricultural allotment area: prominent vistas (Author 2017).
Fig 3.63: Agricultural allotment area: existing vegetation (Author 2017).
Fig 3.64: Agricultural allotment area: entry points (Author 2017).
Fig 3.65: Geology of the site adapted from Botshabelo Environmental Impact by Clean Stream Services (Author 2017).
Fig 3.66: Model exploration and chosen focus area (Author 2017).
Fig 3.67: Stream running through agricultural allotment (Author 2017).
Fig 6.38: Main street to seminary building (Author 2017).

CHAPTER FOUR

Fig 4.1: Informants from the previous mapping chapters on the development process (Author 2017).
Fig 4.2 - Fig. 4.3: A true experience of the landscape as multi-sensory (Author 2017).
Fig 4.4 - Fig. 4.7: Phenomenological design explorations (Author 2017).
Fig 4.8: Voids in the landscape to be re-programmed (Author 2017).
Fig 4.9: Re-introducing everyday ritual to the landscape (Author 2017)
Fig 4.10-4.12: Photographs of Genadendal (Western Cape Archives J 4535, accessed in Du Preez 2009).
Fig 4.13: Botshabelo Rural Village development in relation to historic core (Google Earth 2017).
Fig 4.14-4.15: Statistics adapted from Botshabelo Community Trust socio-economic impact assessment by Erasmus et al. (2012) (Author 2017).
Fig 4.16: Community members' existing skills adapted from Botshabelo Community Trust socio-economic impact assessment by Erasmus et al. (2012) (Author 2017).
Fig 4.17: Botshabelo Masters Group 2017 initial framework vision strategies (Group 2017).
Fig 4.18: Zoning development (Author 2017).
Fig 4.19 - Fig.4.20: Three core zones to be restored and developed (Author 2017).
Fig 4.21 - Fig.4.23: Three precincts developed from three core principles (Author 2017).
Fig 4.24: Botshabelo masterplan (Group 2017).
Fig 2.25: Historic routes restored and new routes added (Author 2017)
Fig 2.26: Existing links between buildings and landscape (Author 2017)
Fig 2.27: Chosen focus area for design development (Author 2017).
Fig 4.28 - Fig.4.32: Photos of Babylonstoren (Author 2017).Fig 4.33 - Fig.4.36: African orphan crops (African Orphan Crops Consortium 2017).
Fig 4.37 - Fig 4.39: Diagrams explaining various zones of cultivation (Author 2017).
Fig 4.40: Zone two of the focus area: Informal cultivation for learning through experience (Author 2017).
Fig 4.41: Zone three of focus area: Livestock farming and the ancient grains (Author 2017).
Fig 4.42: Zone four of focus area: Historic garden and fruit and nut forests (Author 2017).
Fig 4.43: Conceptual vision of productive landscape (Author 2017).
Fig 4.44: Conceptual vision of cattle avenues and sorghum fields (Author 2017).
Fig 4.45: Journey into the agricultural allotment/ focus area_1, photograph (Author 2017).
Fig 4.46: Journey into the agricultural allotment/ focus area_2, photograph (Author 2017).

CHAPTER FIVE

Fig 5.1: Main informants on design development (Author 2017).
Fig 5.2: Design intention (Author 2017).
Fig 5.3: The remaining layers of the Botshabelo landscape (Author 2017).
Fig 5.4 -5.6: Stone wall informant (Author 2017)
Fig 5.7 -5.9: Water as informant (Author 2017)
Fig 5.10-Fig. 5.12: Existing buildings as design informant (Author 2017).
Fig. 5.13: Model indicating connection between buildings and landscape (Author 2017).
Fig 5.14: Agricultural education and ritual as spatial informants (Author 2017).
Fig 5.15: Medicinal tea making process (Author 2017).
Fig. 5.16: Sorghum beer making process (Author 2017).
Fig 5.17: Bakoni agricultural layout (Author 2017).
Fig. 5.18-19: Clearing in the field/ forest for human gathering (Author 2017).
Fig 5.20: Illustrations indicating three steps of typological study (Steenbergen 2008).
Fig 5.21: Study of Royal Gardener's Institute (Author 2017).
Fig 5.22: Composition scheme of Royal Gardener's Institute (Author 2017).
Fig 5.23: Composition elements of Kibbuts Delgania (Author 2017).
Fig 5.24: Composition scheme of Kibbuts Delgania (Author 2017).

Fig 5.25: Composition elements of the Parisian Botanical Gardens (Author 2017).

Fig 5.26: Usable elements for a new design of Parisian Botabical Gardens (Author 2017).
Fig 5.27:Composition scheme of a complex Bakoni agrarian settlement (Author 2017).

Fig. 4.28: Composition elements of Bakoni agrarian settlement (Author 2017).

Fig 4.29: Stone wall typologies of Bakoni agrarian settlement adapted from Widgren et al. (Author 2017).
Fig 5.30:Composition scheme of a simpler Bakoni agrarian settlement (Author 2017).
Fig 5.31: Concept diagram (Author 2017).
Fig 5.32-Fig 5.38: Design generation drawings (Author 2017).
Fig 5.39: Initial zoning of the proposal (Author 2017)

Fig 5.40: Summary of sketch plan development throughout the year (Author 2017).

Fig 5.41: Model development throughout the year (Author 2017).

Fig 5.42: Sorghum fields and cattle kraal initial design (Author 2017).

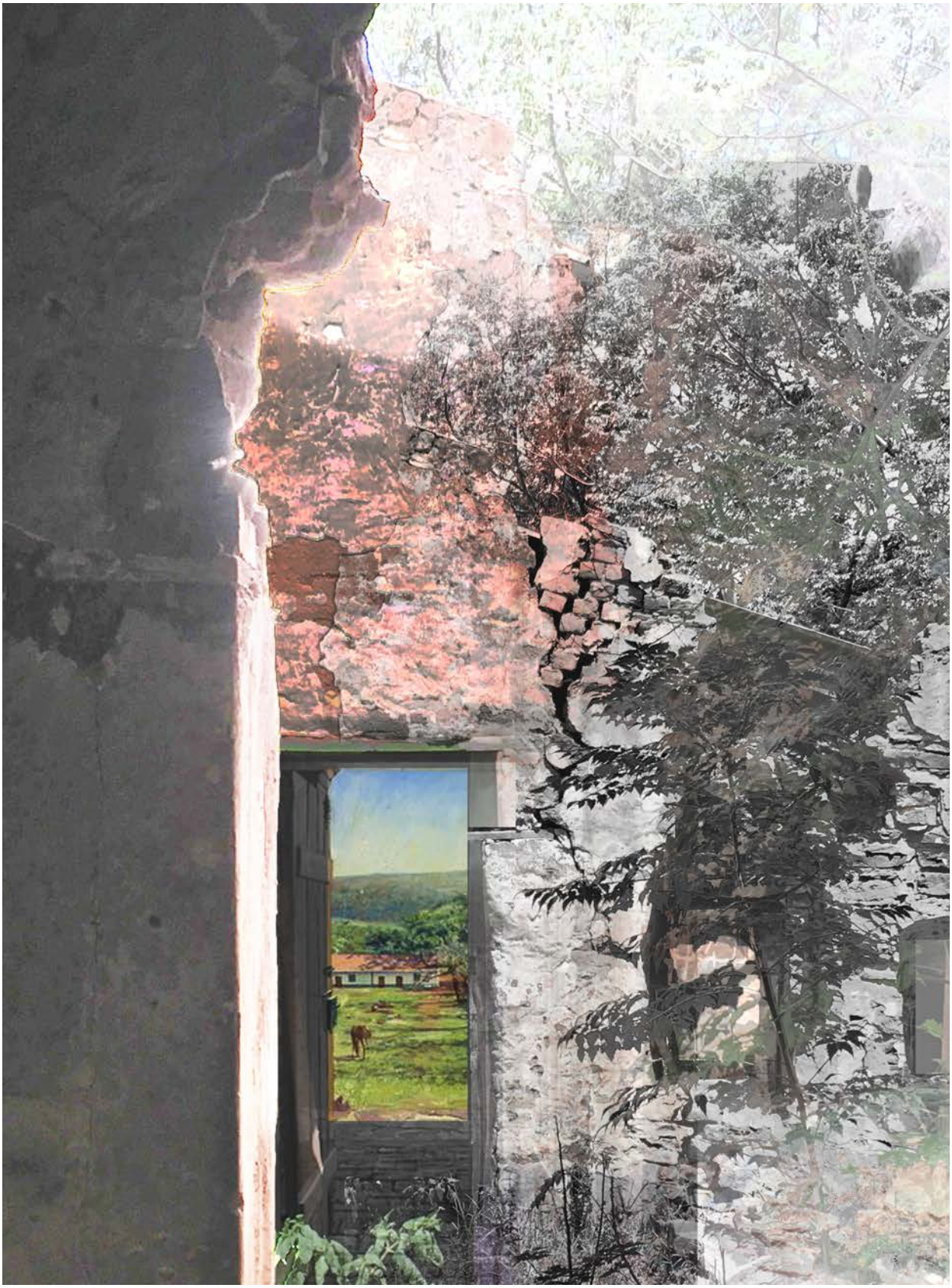
Fig 5.43: Formal cultivation fields (Author 2017).

Fig 5.44: Cattle kraal design development (Author 2017).

Fig 5.45: Sketch plan [NTS] (Author 2017).
Fig 5.46:Moments of sensory experience (Author 2017).
Fig 5.47- Fig 5.49: Rough sections exploring moments within the landscape (Author 2017).
Fig 5.50: Routes between existing buildings, photograph (Author 2017).
Fig 5.51: Vista from church doorway, photograph (Author 2017).

CHAPTER SIX

Fig 6.1: Main informants on technical resolution of design (Author 2017).
Fig 6.2 - Fig 6.5: Existing stone on site, photographs (Author 2017).
Fig 6.6: Sourcing of stone on site (Author 2017).
Fig 6.7 - Fig 6.10: Dominus Winery after completion (Herzong & de Meuron 1997).
Figures 6.11 -6.14: Walden studios use of stone (Andrea Cochran Landscape Architects 2006)
Fig 6.15 - Fig 6.20: Existing materiality on site photographs (Author 2017).
Fig 6.21- Fig 6.26: Proposed language of materiality, own photographs and precedent studies (Varied).
Fig 6.27: Varying densities and stone sizes of gabion wall, revit model (Author 2017).
Fig 6.28: Gabion solar study, revit model (Author 2017).
Fig 6.29: Modular gabions, revit model (Author 2017).
Fig 6.30: Solar study, revit model (Author 2017).
Fig 6.31: Tea route linking building and landscape (Author 2017).
Fig 6.32: Tea making process (Author 2017).
Fig 6.33: Section A-A through medicinal tea courtyard [NTS] (Author 2017).
Fig 6.34: Design detail sketches (Author 2017).
Fig 6.35: Axonometric views of tea courtyard, sketchup model (Author 2017).
Fig 6.36: Herb garden planting plan (Author 2017).
Fig 6.37: Herb garden planting palette (Author 2017).
Fig 6.38: Herb garden planting characteristics (Author 2017).
Fig 6.39: Vegetable garden on plan (Author 2017).
Fig 6.40: Vegetable walking route axonometric view (Author 2017).
Fig 6.41: Section through vegetable garden (Author 2017).
Fig 6.42: Detail of pergola and gabion wall (Author 2017).
Fig 6.43: Detail of custom stone bench (Author 2017).
Fig 6.44: Vegetable garden planting plan (Author 2017).
Fig 6.45: Vegetable garden planting palette (Author 2017).
Fig 6.46: Vegetable garden plant characteristics (Author 2017).
Fig 6.47: Sorghum fields and beer courtyard on plan (Author 2017).
Fig 6.48: Section C-C through sorghum field terraces [NTS] (AUthor 2017).
Fig 6.49: Details of primary and secondary water channels (Author 2017).
Fig 6.50: Axonometric view of flood irrigation system (Author 2017).
Fig 6.51: Section D-D through sorghum beer courtyard (Author 2017).
Fig 6.52: Routes to the cattle enclosure (Author 2017).
Fig 6.53: The kraal on plan (Author 2017).
Fig 6.54: Axonometric view of the kraal (Author 2017).
Fig 6.55: Section of pergola and gabion walkway (Author 2017).
Fig 6.56: Axonometric of pergola and gabion walkway (Author 2017).
Fig 6.57: Section of the cattle avenue (Author 2017).
Fig 6.58: Pedestrian movement on site (Author 2017).
Fig 6.59: Water strategy on site (Author 2017).
Fig 6.61: Diagram showing biogas and biofertilizer process to be implemented at Botshabelo (Author 2017).
Fig 6.62: Main church being restored in June 2017 (Author 2017).



01

Fig 01: Re-imagining the landscape of Botshabelo (Author 2017).

PROLOGUE

“It is hard to explain how this sunlit land was different from the Old Narnia as it would be to tell you how the fruits of that country taste. Perhaps you will get some idea of it if you think like this.

You may have been in a room in which there was a window that looked out on a lovely bay of the sea or a green valley that wound away among mountains. And in the wall of that room opposite to the window there may have been a looking-glass. And as you turned away from the window you suddenly caught sight of that sea or that valley, all over again, in the looking glass. And the sea in the mirror, or the valley in the mirror, were in once sense just the same as the real ones: yet at the same time they were somehow different - deeper, more wonderful, more like places in a story: in a story you have never heard about but very much want to know.

The difference between the Old Narnia and the New Narnia was like that. The new one was a deeper country: every rock and flower and blade of grass looked as if it meant more.“

C.S. Lewis, *The Chronicles of Narnia: The Last Battle* (1978)

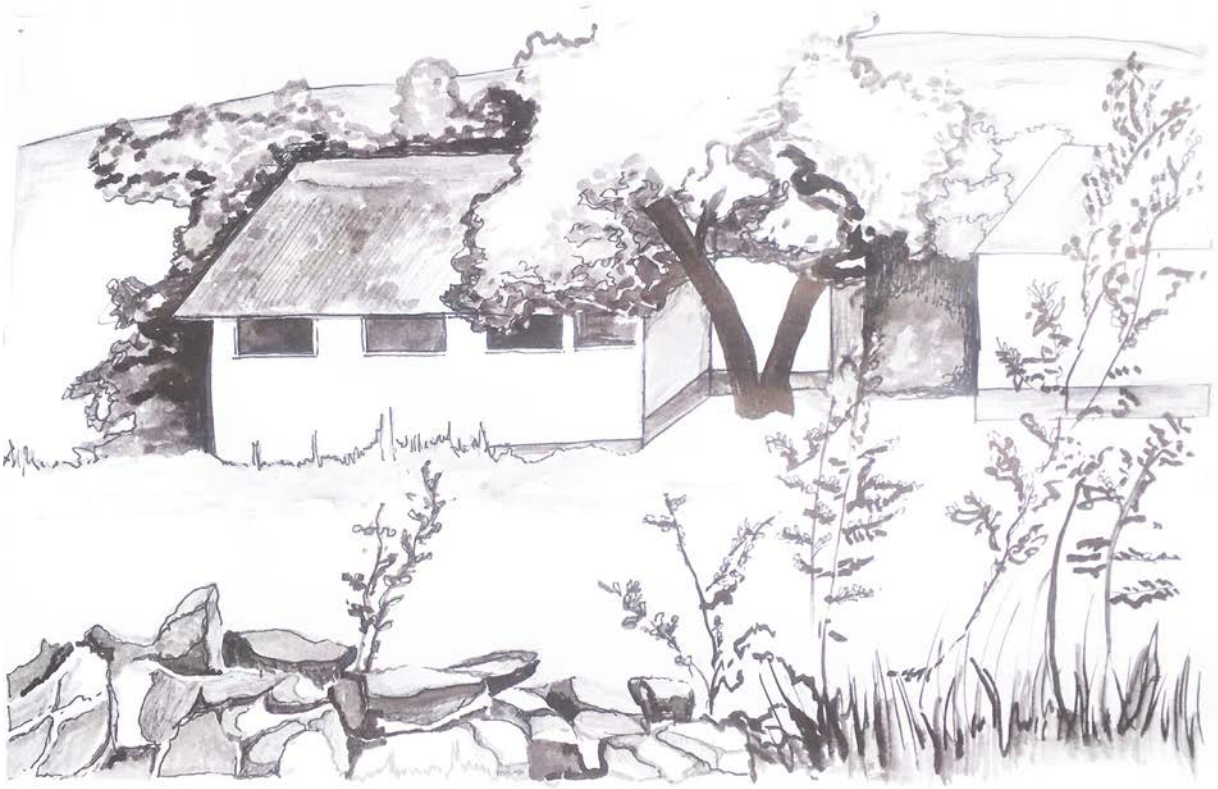
02

Fig 02: Visual introduction to the place of refuge (Author 2017).

01

SEEKING REFUGE

In the following chapter, an initial introduction to the
Botshabelo mission station and the intentions of the dissertation are discussed.



1.1

Fig 1.1: The first house along the main route (Author 2017).

THE PLACE OF REFUGE

1.1 A BRIEF INTRODUCTION

A process of reformation can be defined as the state of being reformed, or in other words, transformed. Its origin translates from the latin *reformare* meaning to "shape again". When meandering through the silent landscape of the historic mission station, the ancient trees, white-walled buildings and low stone walls begin to tell a story of a forgotten, yet important past. The silence begins to ignite one's imagination as dreams of what used to be begin to form. The tree-lined avenues greet you as you arrive, the fertile valley providing quiet and coolness, serving as a peaceful escape hidden within the rolling grasslands.

The Protestant Reformation was a 16th century religious movement initiated in Germany by Martin Luther in 1517; an act occurring exactly five hundred years ago today. Luther sought to reform the ideals of the Roman Catholic Church back to a complete reliance on the scriptures of the Bible. This resulted in the later establishment of Protestant churches worldwide, including many regions within South Africa. Botshabelo, situated 10 km outside the town of Middelburg in Mpumalanga (historically referred to as the Transvaal) was a result of the reformation and its global influence. Established in 1865, it is in inherently a landscape that has been transformed multiple times throughout history, and still remains today a result of the religious Reformation that influenced nineteenth century Southern Africa.

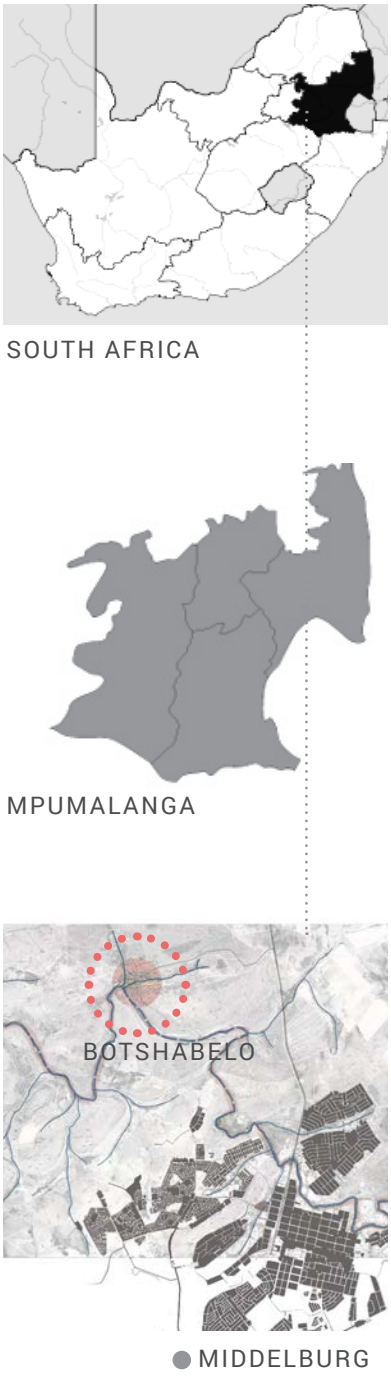
Botshabelo, established by Berlin missionaries Alexander Merensky and Heinrich Grützner, stands as a reminder of an important period in South Africa's history. During the 19th century where there existed a state of immense cultural upheaval in the eastern Transvaal, the German mission station is said to have provided refuge to all of those under cultural and religious persecution. Botshabelo functioned as a self-sustaining, creative and vibrant community and ultimately became an educational masterpiece, equipping many residents, including well-known public South African figures, with a high standard of education and a deep faith.

The decline of Botshabelo

The relationships between the landscape of Botshabelo and its inhabitants were unfortunately disturbed by a number of external influences. Both the first and second world wars had a direct impact on German mission stations worldwide as funding became restricted (Swanepoel 2015:12).

TERMS

Cultural landscape:
According to O'Hare (1997:47) "The cultural landscape consists of a dialogue between the natural physical setting, the human modifications to that setting and the meanings of the resulting landscape to insiders and outsiders. The continuous interaction of these three elements takes place over time (in a continuous state of becoming), and thus it includes and connects the past, present and future" *(Müller & Gibbs 2011:2)*.



1.2

The Bantu Education Act of 1953 abolished Botshabelo's role as an education provider, and in 1971 the remaining residents of Botshabelo were removed and resettled under the Apartheid regime.

Within the biography of Gerard Sekoto, a well-known South African artist and former pupil of Botshabelo, author N. Chabani Manganyi (2004:3) describes the state of Botshabelo today:

"Today, time and history have joined hands to marry the old and the new. Botshabelo can be approached along modern highways from Pretoria and Johanessburg in the south and the farming town of Groblersdal in the north-east. Modern day Botshabelo is a wooded enclave a short distance off the roads that run between Middelburg through a spine of mountains and valleys on the way to Groblersdal. The place seems to come to life unexpectedly as one encounters a number of ancient-looking buildings, tree-lined walkways, stonewalled courtyards and huge exotic trees. The village, ensconced between the brows of two low-lying hills and bounded by a river, appears to be a self-contained enclave. What secrets, hopes, scandals and achievments lie buried in the overarching sombreness that attacks one's senses in this enchanted place? We will never know."

Today, Botshabelo stands almost desolate and frozen in time. Through an attempt to preserve only the historic buildings, the residents and important narrative of the site are slowly being forgotten. Question are thus to be addressed around the concept of *preservation* and the *cultural landscape* or in Botshabelo's case, a desolate and static cultural landscape.

1.2 STATEMENT OF SIGNIFICANCE

Many mission stations were established throughout South Africa by the Berlin Mission Society in the 1800s, although those of the Transvaal were mentioned to be the "backbone and crown" of the society, and Botshabelo the most important Berlin Mission Station in South Africa (Mminele 1983:22). In 1900 the Botshabelo Training Institute was built which ultimately served as a teachers' training facility, the secondary school following in 1940. The Botshabelo High School became one of the successful and stable mission boarding schools, where an education was provided that far outweighed the other educational facilities at the time. In 1910, four thousand residents were living

Fig 1.2: Locality of Botshabelo (Author 2017).

1.3

in the settlement, the largest mission settlement in the old Transvaal at the time. "The mission dwarfed the nearby town of Middelburg, and its workshops and stores served the needs of the wider population, both white and black" (Langhan and Rakgoathe, 2000).

"Fundamentally the mission ideology supported the belief that black pupils had as much potential for spiritual and intellectual improvement as their white counterparts. Many notable people were educated at Botshabelo, notably Archbishop Desmond Tutu, the actor Ken Gampu, the artist Gerard Sekoto, the poet and novelist Wally Serote, the radio and television personality Justus Tshungu, and the 1998 Mayor of Johannesburg, Isaac Mogase" (Langhan and Rakgoathe, 2000).

Founder Alexander Merensky "opposed Europeanisation and advocated the protection and maintenance of a distinct national character for the Black residents[...]" (Mminele 1983:29). The previous quote by Mminele introduces an important quality of Botshabelo, distinguishing it from many other settlements and indicating that it is not merely colonial in nature; the site must therefore not be placed within that general argument as it is unique in its character. In order to contextualise the ongoing debates around decolonisation, a brief discussion is provided next.

Fig 1.3: Seminary building at Botshabelo: male mission students doing physical exercises under supervision of mission teachers (Hoffmann Collection, BMW Archive bmw2_102).

1.4

TERMS

Eurocentrism:
reflecting a tendency to interpret the world in terms of European or Anglo-American values and experiences

Dualism:
the division of something conceptually into two opposed or contrasted aspects

Genius loci:
the prevailing character or atmosphere of a place.

Tabula rasa:
a neglect in acknowledging the existing; a clean slate

1.3 PROBLEMS IDENTIFIED

1.3.1 General issue: a political conversation

In 2015, a number of South African students and academics began a campaign known as Rhodes Must Fall in search of a decolonised tertiary education system. The argument of decolonisation stemmed from an acknowledgement of and disappointment in the Eurocentic and colonial influences and dominance upon our education in a democratic and reconciled society. When the statue of British imperialist Cecil John Rhodes fell at the University of Cape Town, it portrayed a deep frustration towards the public commemoration of a grand narrative; its symbolism and prominence undermining the many heritages and histories of the nation. South African artist Sethembile Msezane remarked that this moment was part of a process of identity construction within an African locale that continues to be in flux (Asmal 2016:13).

Thereafter in 2017, Western Cape Premier Helen Zille initiated a nationwide debate on colonialism, as she attempted to reveal the manner in which it had possibly benefited the nation. Her public comments were infuriating to the majority of the members of the South African society as this was argued to be a public display of celebrating white supremacy (Ngwena 2017).

Fig 1.4: Chapungu - The Day Rhodes Fell (Sithembile Msezane 2015).

1.5

Although the concept of decolonisation has its roots in the education and linguistic sectors, this topic has indeed infiltrated into conversations within and about the South African built environment, as well as our tertiary education institutions and their respective approach to design in twenty first century, post-apartheid, post-colonial South Africa.

Today the topic of decolonisation, cultural significance and the subsequent criticism of Eurocentricism has become a prominent theme amongst students in various schools of architecture across the country, however it is not entirely a new conversation as can be found in many relating discussions and their resultant built expressions throughout the past decades in South Africa. Through colonisation, indigenous traditions such as those found in pre-colonial Mpumalanga and Mapungubwe were largely ignored and the re-interpretation of place-making models from countries such as Germany, Holland and England prevailed (Prinsloo, 2017).

According to Zahira Asmal (2016:12) colonial narratives across the world share a similar principle known as *tabula rasa*. This is simply an absence of acknowledging the existing and the important relationships between a group of people and their environment. It therefore allows a new order and culture to emerge, trading an existing *genius loci* for a blank slate. Where colonisation on the one hand explicitly and destructively ignored indigenous cultural groups, decolonisation is not necessarily about doing the same. According to Achille Mbembe (2016:35), "decolonisation is not about

Fig 1.5: Botshabelo seminarists building a house (Hoffmann Collection, BMW Archive bmw2_124).

closing the door to European or other traditions. It is about defining clearly what the centre is'. The Kenyan novelist Ngugi (1981:93) mentioned prior to 1994 already that Europe cannot remain at the centre of the universe at African universities; Africa must be at the centre, indicating that this topic had been in conversation for many years prior to 2015 (Mbembe, 2016). Asmal (2016) further states that "importantly, we need to remember the past equally and recall that we all have diverse heritages; no single narrative is greater or carries more worth than another." It is through these conversations that the importance of understanding the diverse experiences, the shared memories and the multi-cultural history of Botshabelo is to inform the future design proposal.

1.3.2 Heritage issue

Botshabelo is a supreme example of a singular site containing multiple narratives, a shared heritage as well as varying individual cultural heritages. Dr. Natalie Swanepoel (Department of Anthropology and Archaeology, University of South Africa) states that Botshabelo can be considered a palimpsest containing within it the mission station's 150-year history; the layers further reflecting the broader social, political, economic and religious forces that shaped its formation (Swanepoel 2015).

Today we find the European artefacts of Botshabelo have been preserved. However, according to the famous artist and former pupil of Botshabelo, Dan Rakghoate, as stated in his book *The Unfolding Man*, "the existence of the vibrant local community, on which the mission was founded was virtually ignored. Antique wooden agricultural implements, wagon wheels, photographs of wild game and photographs of eminent personalities involved in the mission history were all prominently displayed in the central museum, which previously housed the high school and teacher's training institute. The museum offered little, if any, evidence of the generations of pupils who passed through its doors" (Langhan and Rakgoathe, 2000).

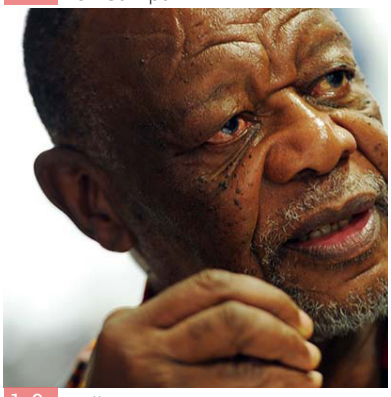
The dominance of visual heritage preservation

There is a link therefore between Botshabelo's important and forgotten legacy and the earlier addressed notion of celebrating singular narratives within a multi-cultural society. This can be seen in the persistence of a Eurocentric approach to the preservation of certain narratives, indicating an ignorance of the layered and diverse heritage of a cultural landscape.

1.6 Gerard Sekoto

1.7 Isaac Mogase

1.8 Ken Gampu



1.9 Wally Serote

Fig 1.6 - Fig 1.9: Past residents of Botshabelo (varied).

1.10

1.11

1.12

Fig 1.10 - Fig 1.12: The Ndebele tourist attraction introduced to Botshabelo later in the 20th century - a failed attempt. (Author 2017).

A landscape cannot be 'preserved' as one moment in time in the author's opinion as it is constantly a living system, naturally adapting to an ever changing environment. A *landscape* by its very definition requires constant engagement with people. Botshabelo's potential to be a site of active engagement with local residents, daily visitors and tourists is evident. The frozen layers of the landscape are in need of revival and re-interpretation.

Critique on the current heritage conservation approach of Botshabelo is given, as the duplication of an artificial Ndebele village on the property can be concluded as a failed attempt to conserve the African narrative of the site. This is possibly due to a lack of social engagement, educational or informative facilities and authenticity. This approach ignores the intangible qualities of Botshabelo and embodies an 'object-focussed' approach to heritage conservation based purely on tourism.

1.4 PROBLEM STATEMENT

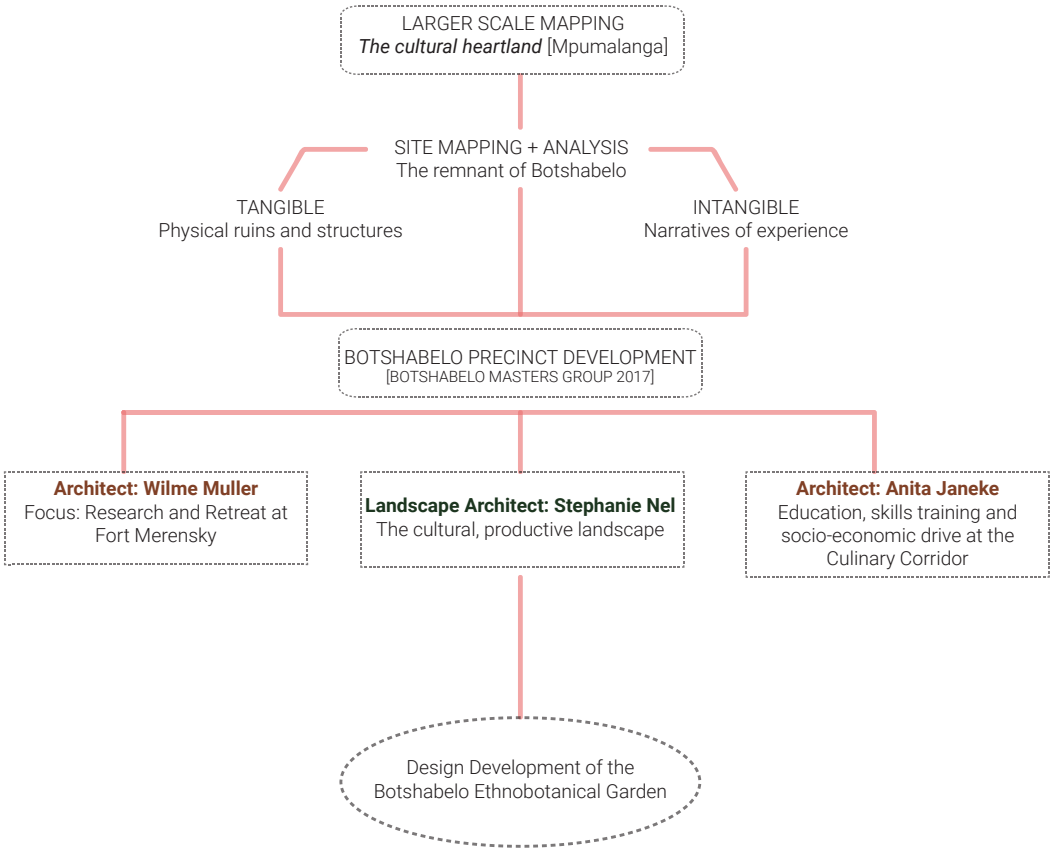
Initially receiving 2000 visitors a week once opened as museum, over time Botshabelo has become almost desolate and increasingly degraded. The exact reason for this is not clear, however it is argued that the unsuccessful attempts of preserving only the physical and static objects of Botshabelo have resulted in a deteriorating cultural landscape. The initial intent for Botshabelo to be a multi-cultural, self-sustaining and creative community has been lost, and the potential of the landscape overlooked.

1.5 RESEARCH QUESTIONS

1. What design process can be followed as an alternative to the static museum approach when dealing with a neglected cultural landscape?
2. How can the approaches to landscape shown by the different cultural groups at Botshabelo be syncretised in a contemporary design?
3. How are the intangible stories and experiences of the former inhabitants of Botshabelo to guide the design of a new landscape experience?

1.6 THESIS STATEMENT

A contemporary landscape architectural intervention at Botshabelo can reform the current neglected site to once again become an active cultural landscape, once the design is rooted in an understanding of the historic relationship between a people and a place, determined by both the tangible and intangible connections to the land.



1.13 Broad outline of the intentions of the Masters Botshabelo Group 2017 (Author 2017).

1.7 PROJECT INTENTIONS

By *uncovering significance*, *restoring purpose* and *harnessing potential* of the static landscape of Botshabelo, the past relationship between people of Botshabelo and their environment is used to guide the design of the landscape and be re-interpreted into a contemporary context.

This dissertation intends to address questions around the conservation of African landscape heritage and cultural landscapes. It is concerned with finding an approach to a heritage site through the lens of landscape architecture that does not lock the inherent potential of the landscape but rather harnesses it for the communal good of those who are to visit and reside on the site in the future.

Botshabelo is significant because it resembles a hybridity of two cultures in one place. A study of both of these cultures is to be undertaken and used in the design development.

Fig 1.13: Botshabelo Master group structure (Author 2017).

TERMS

Hybridity:
a cross and combination of between two different elements

Landscape:
area of the earth's land surface that has been modified by human activity

Significance:
the quality of being worthy of attention; importance

1.8 RESEARCH AND DESIGN METHODOLOGY

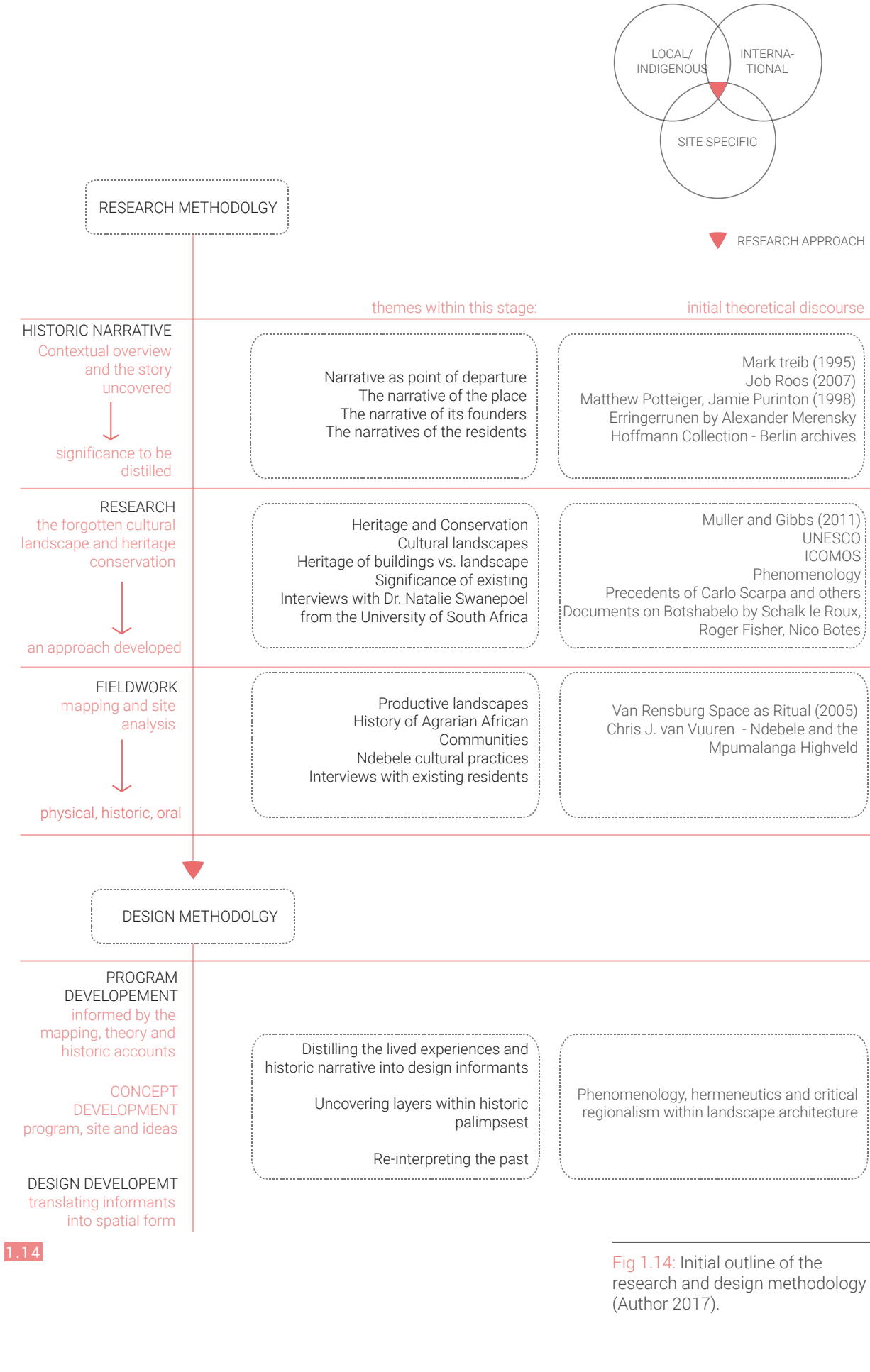
Following the research questions that deal with finding an approach to a historic cultural landscape in order to enable cultural interaction to continuously evolve, and then generating a design that is contemporary yet rooted in a historical narrative, the following process was formulated:

Mapping: tangible and intangible
Through the quest to gain a holistic understanding of Botshabelo, a variety of mapping techniques are to be utilised, including a method developed by Liana Müller and David Gibbs called *Reading and Representing the Cultural Landscape: A toolkit* (2011), as well as the use of storytelling as a mapping technique.

Research and fieldwork
Research undertaken on cultural landscapes both globally and within the South African context are to assist in the approach to a design proposal for Botshabelo. Additionally, theories of phenomenology and critical regionalism in the landscape architectural context will be explored as a means to understand lived experience and daily ritual, and re-interpret the dynamic functioning and lived memories of the site through introducing a sensory experience rooted in the historic narrative, local materiality and culture.

Program development (planning)
Because the formulation and introduction of a programmed landscape that encourages continuous engagement with people is sought after, the initial findings and influence of theory and precedents are to assist the programmatic development.

Concept and design development (form)
Based on the new program of the historic site, the design is to draw from the history and the significance discovered through mapping, research and interviews had with the few remaining local residents on site. This aims to address the research question of generating contemporary form in landscape architecture through an understanding of the past.



1.14

Fig 1.14: Initial outline of the research and design methodology (Author 2017).

1.9 DELIMITATIONS AND ASSUMPTIONS

Botshabelo is situated on the farm Toevlugt 320 JS. The property is 2 755 ha in extent, and is owned by the city council of Middelburg known as the Steve Tshwete Local Municipality. Part of this property is currently part of a land claim by the Botshabelo Community Trust where approximately 130 ha will be utilised for a rural village (Erasmus & Janse van Rensburg 2015). The dissertation takes this into consideration in the precinct development stage, and it is accepted that the community members are to return to Botshabelo in the near future.
- This community is therefore considered to be stakeholders in the development, however interviews were only possible with one of the community members.
- The physical design will focus on the historic core of the property and not the entire extent of the site.
- The housing component of the relocation of people to Botshabelo does not fall within the scope of this study.

According to Mr. Barlow of the South African Heritage Resources Agency (SAHRA), the Botshabelo Nature Reserve, village and fort are classified by the South African Heritage Resources Agency as a Class 1 heritage site (Erasmus et al. 2015). Motivations are to thus be provided in terms of development and usage of natural resources on site, and it is acknowledged that a water use licence would have to be obtained.

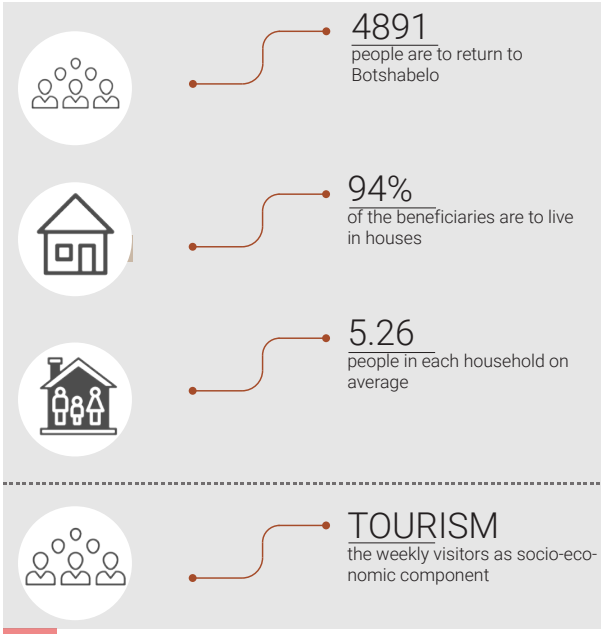
Because the site was once utilised as agricultural land, it is assumed that the zoning is correct for the proposed productive landscape and that the physical conditions of the site and suitable for growing food crops.

1.10 NORMATIVE POSITION

A normative approach is taken that *culture* should not be artificially duplicated or superficially reduced to physical objects or form. The prevailing argument is centred on a need to harness the potential of the landscape of Botshabelo so that it once again benefits all those who encounter it. It is believed that the act of harnessing the earth's potential is a mandate for humankind. Culture and meaning are formed when we invest and sew work into the landscape and thereafter harness its produce for further development.

1.15

Fig 1.15: Development of the rural village at Botshabelo underway as of 2017 (Google Maps 2017).



1.16

Fig 1.16: Proposed community statistics for the rural development of Botshabelo studied by Clean Stream Enviornmental servces (Author 2017).

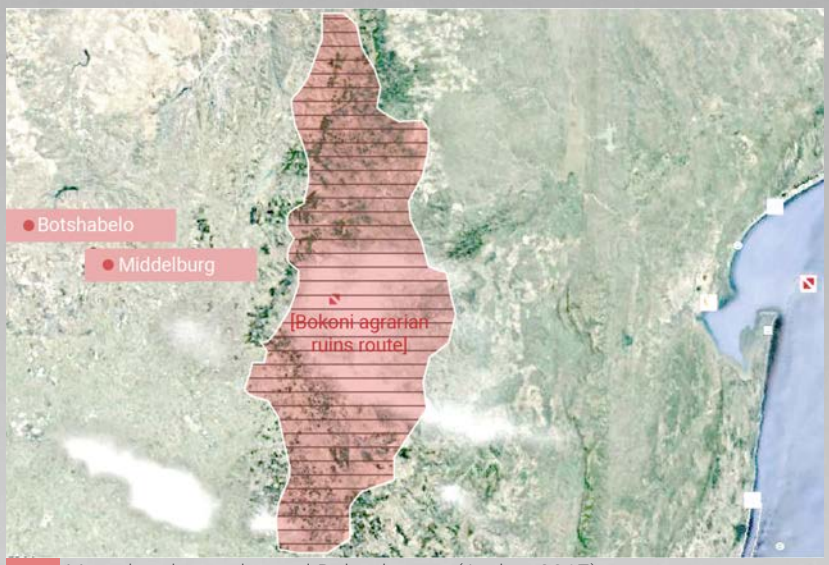
1.17 Journey through space: Tree-lined main road to historic core of Botshabelo mission station (Author 2017).

1.18 Journey through space: 1865 Botshabelo Lutheran church (Author 2017).

02

REFORMATION TO RUIN

The following chapter provides a detailed background into the historic, physical, and social context of Botshabelo over time, as well as the larger Mpumalanga cultural heartland in which it is situated.



2.1 Map showing estimated Bokoni areas (Author 2017).

2.1 REGIONAL CONTEXT:
The Mpumalanga cultural heartland

Delius, Maggs and Schoeman (2015) have termed the Mpumalanga cultural heartland within which the Botshabelo mission station sits a “forgotten world”. According to them, it is representative of an extremely vast cultural landscape of ancient vernacular agrarian ruins and spaces of former cultivation and ritual. Although described as one of the most remarkable archaeological sites in Southern Africa, the sites have not been recognized as heritage sites, and one of South Africa’s most extensive and remarkable legacies are overlooked by the public and heritage authorities.

2.2 Adam’s Calendar: remnants of an ancient civilisation in Mpumalanga (Author 2017).

2.2 AFRICAN AGRARIAN TRADITIONS IN MPUMALANGA

In the past 15 years research on the terraced agriculture of the Mpumalanga region has advanced significantly (Maggs, Plikk, Lars-Ove Westerberg, Risberg, Schoeman, Widgren 2016:2). The Bokoni sites were only identified in the early 20th century and have since become a renewed focus amongst archaeological study in South Africa. “Imbued with a message from the past, the historic monuments of generations of people remain to the present day as living witnesses of their age-old traditions” (ICOMOS 1965). Through studying the regional context in which the Berlin missionaries arrived, one is able to understand the deeper layers of the landscape palimpsest.

The complex stone-walled agricultural system expanded across 150km of the Mpumalanga escarpment and the Bakoni were found to be the earliest group of people to have inhabited the Mpumalanga region, described by the neighbouring Pedi communities through oral tradition. Although over time, it was the Pedi and other external threats which caused the Bakoni to abandon their open air sites and find refuge within more defensive sites. The initial layout of the agricultural system has been said to have shaped the architecture of the region (Maggs et al. 2016:3).

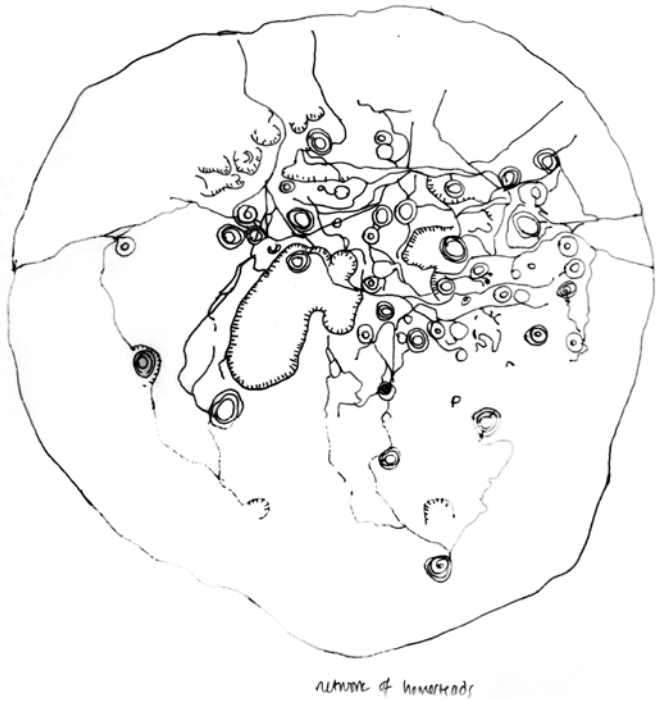
“The extensive agricultural terracing, as well as the long, walled cattle roads, stand witness to a close integration between animal husbandry and the cultivation of crops” (Maggs et al 2016:4).

This intensified agricultural production was unique to pre-colonial South Africa and although highly significant, the ruins of the early agricultural sites are yet to be termed heritage sites. According to Article 1 of the ICOMOS International Charter (1965),

“The concept of a historic monument embraces not only the single architectural work but also the urban or rural setting in which is found the evidence of a particular civilization, a significant development or a historic event. This applies not only to great works of art but also to more modest works of the past which have acquired cultural significance with the passing of time.”

Within this chapter, a brief understanding of the important context in which Botshabelo sits is discussed and its connection to Botshabelo uncovered.

2.3



2.4

2.5

2.6

2.7

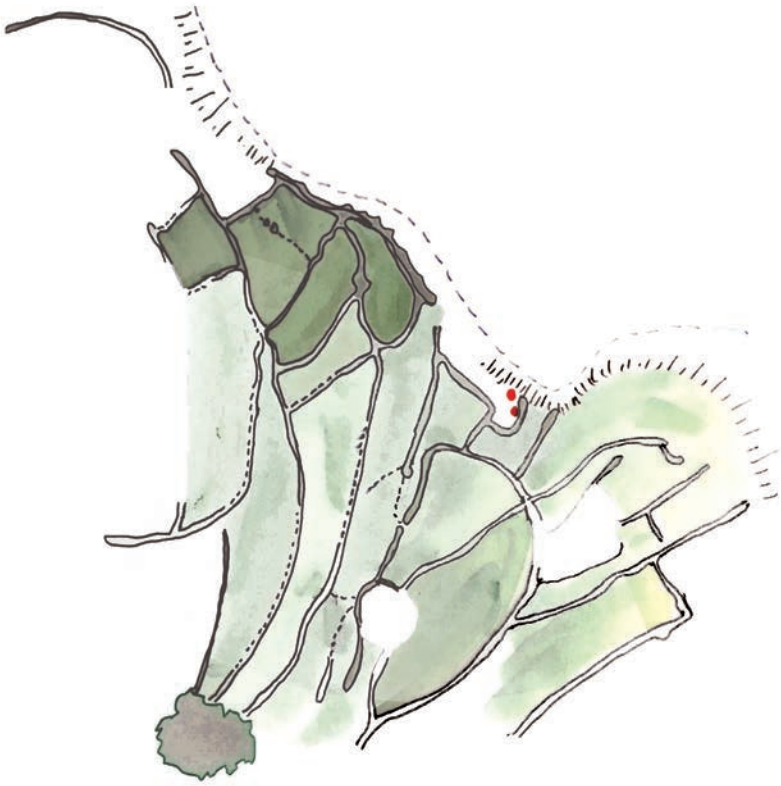
Throughout the expanses of Highveld landscape, subtle remnants of stone structures are visible; endless stone circles that appear as mazes linked by long stone passages can be traced over 10 000km's of the Mpumalanga escarpment (Delius, Maggs, Schoeman 2015:2). "In 1948, as Apartheid transformed the intellectual landscape, pre-colonial African farmer archaeology was all but abandoned" (Delius et al. 2015:4). The specialised agricultural system was the only one of its kind developed in pre-colonial South Africa, understood through the first comprehensive investigation of the site to be structures built by ancestors of the Pedi and Ndzundza groups, indigenous black South African citizens named the Bakoni. Furthermore, according to Delius et al. (2015) scholars agree that the site could be attributed to the Pedi society as it shows a close resemblance to the modern Pedi patterns; namely cattle enclosures at the centre of homesteads, and terraces for agricultural purposes, as well as the fact that the powerful BaPedi kingdom dominated that area in the 18th and 19th centuries. A homestead typically had a circular cattle pen in the centre with a variety of usually smaller structures around it, and often a roughly circular outer wall enclosing the entire homestead. Many homesteads are surrounded by terraces, and an area of terracing may extend for several kilometres along gentle slopes of valleys. The homesteads were joined to one another by a system of roads defined by a stone wall on either side.

Fig 2.3-2.4: Drawings of Bakoni settlements adapted from Tim Maggs 2015 (Author 2017).
Fig 2.5-2.7: Photographs of the Bakoni ruins (Delius et al. 2015).

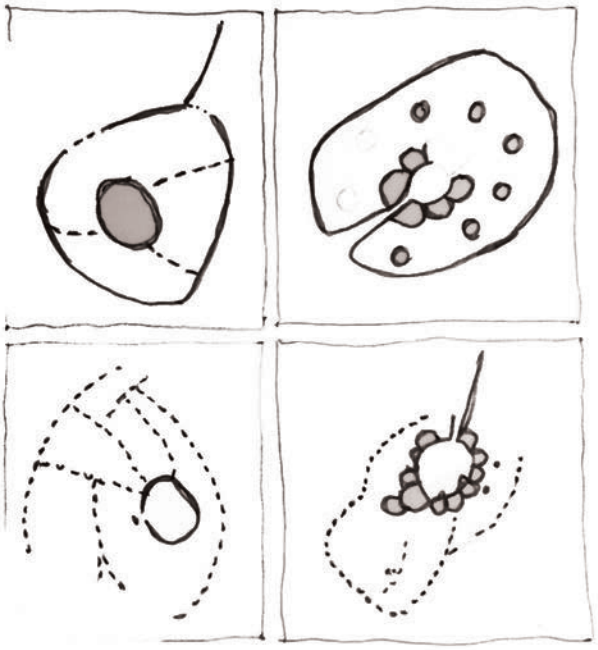
The stone walls protected the terraces from grazing animals and a ritual existed of releasing the cattle out to the pastures in the morning for grazing, and returning them to the homestead in the evening (Delius et al. 2015).

2.3 A REGIONAL RELATIONSHIP TO BOTSHABELO

The Botshabelo Mission Station can be seen as a historic moment along the timeline of this cultural landscape, where the materiality of the regional stone walled civilizations were translated to form the physical and metaphorical foundations for the Germans' influence upon the landscape.
The function of the mission station has become redundant in our contemporary society, the church, workshops and stone structures degraded and the landscape left to natural decay. This statement is further confirmed by a study done by Mauritz Naudé on the vernacular stone buildings of the Mpumalanga province where he states that "Vernacular architecture in settlements such as mission stations and particularly on farmsteads is slowly disappearing because of mega-scale developments and through natural decay" (Naude n.d.).

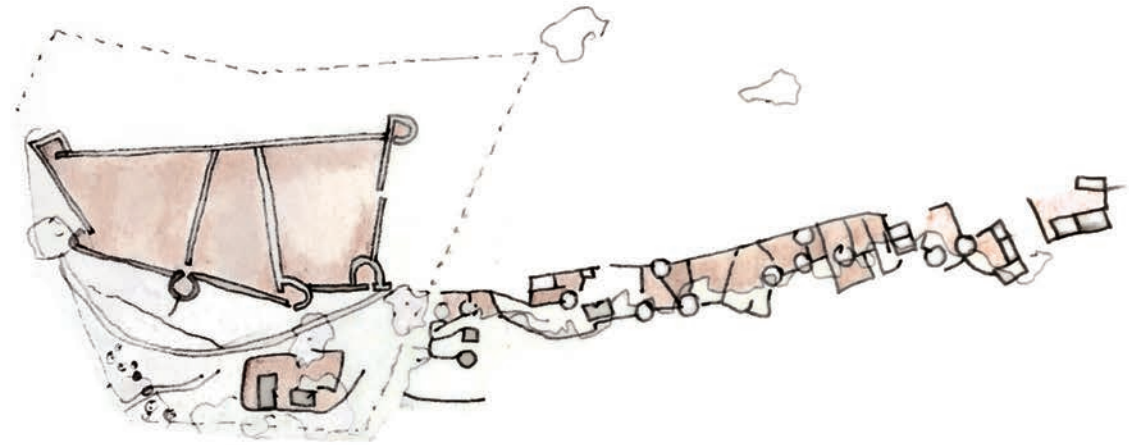


2.8



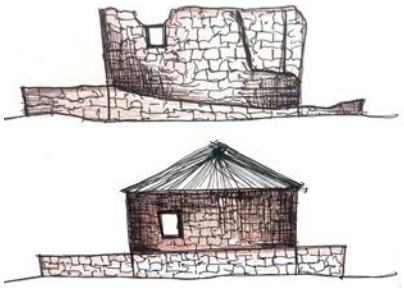
2.9

Fig 2.8-2.9: Drawings of Bakoni settlements adapted from Tim Maggs 2015 (Author 2017).



2.10

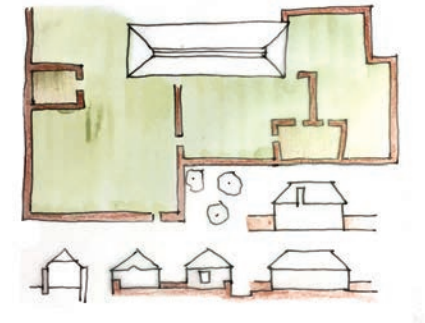
The Bakoni agrarian society is estimated to have been at its peak in the early decades of the 18th century. During the 19th century however, external threats were prominent, the stone walling responding as a means of refuge that begun to dig into the densely forested locations and cut into the escarpment. Oral traditions collected by the Berlin missionary Albert Nachtigal in the 1860s recall the cultural feuds between varying African tribes in the area at the time. There were increasingly close geographic and political connections between the Pedi and the Bakoni. The Bapedi were influenced by fear of cultural feuds and sought refuge as they migrated to mountainous lands abundant in cattle and grain, transforming the sites into villages and homesteads. "Initially, they transplanted the architecture and spatial layouts of the open valley sites, with terraces, roads and homesteads. Women tried to maintain normal lives and grew crops such as millet" (Delius et al. 2015:120).



2.11

Fortresses became walled refuge sites in the landscape. The surviving Bakoni members settled on the mission stations that were established in the region, a "huge native village" is described at Botshabelo in particular. According to Delius et al. (2015) :

"The fact that Koni groups settled at Botshabelo within two years of its establishment may have played a part in its emergence as a major centre of agricultural production and innovation".



2.12

2.3.1 The significance of agriculture at Botshabelo

In 1868 the gardens and fields of the residents produced 3 000 bushels of grain, and the harvest of 1869 allowed Merensky to rejoice that Botshabelo was now the 'corn store for the entire region" (Delius et al. 2015).

Fig 2.10 - Fig 2.12: Drawings of stone walls and spatial ordering principles at Botshabelo (Author 2017).

In 1870, despite drought and swarms of locusts, the residents produced 3 460 bushels of grain over and above legumes, gourds and melons. "In the following years Botshabelo played a central role in satisfying the growing demands for grain emanating from the Eastern Transvaal gold fields" (Delius et al. 2015:132). Merensky described areas of the landscape at the mission station as zones dedicated to the growing of mielies, millet, beans, sweet potatoes, pumpkin and other vegetables. There were also cattle which contributed fertilizer to the fields (Booth 2017:63).

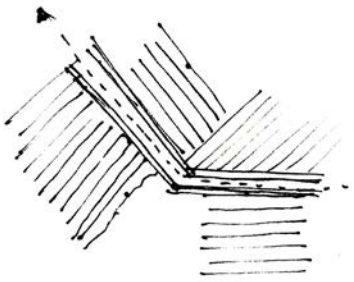
2.3.2 Cultural hybridity discovered

The significance of the plant species being cultivated for food can be seen in the growing of crops such as millet, distinctive to the African communities; a grain that had been cultivated for many years prior to the Germans' arrival. Fort Merensky (Figure 2.10) situated on the highest point of Botshabelo was a place of refuge and sanctuary from local attacks, and is said to be a "fascinating combination of European and African influences, with walls fifteen foot high and two feet thick pierced with loopholes and built of iron stone... all of this built using local stone-building techniques!" (Delius et al 2015:132).

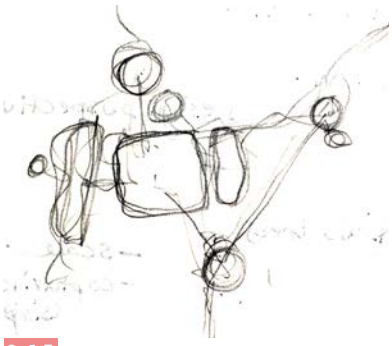
2.3.3 Conclusions

In conclusion, the African settlements at Botshabelo were a major influence in the functioning and ordering of the landscape. In the larger cultural landscape of Mpumalanga, "the walls stand in mute but eloquent reproach to the host of commentators who have suggested that prior to the arrival of settler farming African agriculture was rudimentary, subsistence orientated, transient and barely capitalised" (Delius et al 2015:144). The vernacular stone walled typologies which have been translated from centuries ago to the existing, intricately woven remnants we find throughout the landscape of Botshabelo today are reminders of an African heritage in a predominantly European site. Although the Bakoni narratives are ancient, and occur kilometers away from Botshabelo itself, the argument can be made that there is a direct influence of the vernacular language present at Botshabelo today. It is my opinion that the stone walls, water channels and enclosed exterior spaces are the most significant and distinctive feature of the past Botshabelo landscape. It is discovered through this study that the ritual of cultivation of the land at Botshabelo once united the two cultural groups and served as 'common ground'. Thus, understanding the role of agrarian heritage and its translation to contemporary spatial design are to be explored as programmatic informants.

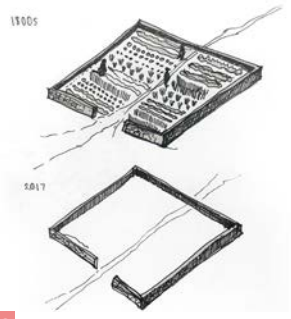
2.13



2.14



2.15



2.16

Fig 2.13-2.16: Forms in cultivation (Author 2017).

2.17

2.4 HISTORIC CONTEXT:

The Reformation | 500 years | 31 October 2017

Dr. Martin Luther, a German monk and professor of philosophy began the protestant reformation movement in 16th century Germany. In 1517 on the 31st of October, Luther nailed his *95 theses* to the door of the Castle Church in Wittenberg, Germany, in protest of the indulgent nature of the Catholic Church at the time. This was spurred on by a belief that the bible, and not tradition or money, should be the foundation of the Christian faith and its leaders (History 2009). With a skilful use of the printing press, these ideas were spread to a wider audience, along with the translation of the Bible into German. Lutherism ultimately became the state religion throughout much of Germany, later affecting much of Europe and then the rest of the world, including South Africa. The 31st of October 2017 marks five hundred years since Luther initiated the Reformation. As revelations of the Reformation spread rapidly throughout Germany in the sixteenth century, the Protestants, expressing their beliefs throughout Europe became influential in their missionary activity in the eighteenth and nineteenth centuries, spreading the Gospel to many distant places. Training schools for missionaries were then established, and on the 29th of February 1824 a school for the training of missionaries in Berlin was founded, this was known as the Berlin Mission Society (Mminele 1983:8).

Fig 2.17: Martin Luther and his 95 theses (Hawener 2017).

2.18

2.5 THE BERLIN MISSION SOCIETY

The main objective of the Berlin Mission Society was to spread the gospel. Martin Luther had reminded the church of the importance of the scriptures, and this was to inspire the translation of the bible to many languages and the availability of the word to many cultures. Along with the emphasis on the scriptures of the Bible, the importance of education and manual and honest work was a prominent feature. The Berlin Mission Society trained young men to become missionaries through a thorough knowledge of the bible, and equipped them with skills in carpentry, building and agriculture (Mminele 1983:19).

2.5.1 Mission stations in South Africa

The Berlin Mission Society was not the first to arrive in South Africa. The Dutch were considered to be the first to establish a church, called the Dutch Reformed Church in 1652. This was followed by the Moravian Missionary Society in 1737, then the London Missionary Society in 1799, the Wesleyen Missionary Society in 1816, the Scottish Missionary Society in 1820, the Paris Evangelical Missionary Society in 1829. The Berlin Mission Society then appeared and was followed by Scottish Presbyterian Mission Society, the Anglican Mission and the Hermannsburg Missionary Society in 1855 (Mminele 1983:20).

Mission stations played an important role as "pioneer settlements", and some contested the colonial incentive by providing shelter and sustenance for the oppressed (Franklin 2015:5). The first members of the Berlin Mission Society landed in Cape Town on the 17th April 1834 and the first station was established in the Orange River Colony (Free State), where a chapel and school were erected – the first of 106 schools to emerge from the Berlin Mission Society which would eventually educate 17 058 students in the Transvaal alone.

Gerlachshoop was the first to be established and *Kgalatlou* in Sekhekhuneland following after. Due to complex cultural and religious feuds amongst the Chief Sekhukhune and the new converts, both these mission stations were compromised and given up. Persecutions occurred for a period of time after this

Fig 2.18:Painting of ***Luther at Worms*** in the Lutherhaus museum in Wittenberg (Steves 2015).

2.19

2.20

within this specific area within the Transvaal, and the Christian members of the communities found asylum within the mountains, where they were more protected from external threats (Mminele 1983:26).

Around 1860, two members of the Berlin Mission Society, Alexander Merensky and Heinrich Grutzner, were designated a place near Lydenburg to begin a new mission station in present day Mpumalanga. Within a picturesque valley with a pleasant climate, existed a farm with plenty of water and adequate trees for timber. This farm was purchased by Merensky on the 21st January 1865 from a local farmer. Along with Merensky, and his wife and child, dozens of Bapedi and Bakopa families from the area joined to establish the new mission station called *Botshabelo*.

Fig 2.19- Fig 2.20: Paintings by Wangemann 1867 of Transvaal Missionary activity (Ditsong National Museum of Natural History).

2.21

2.22

2.23

Fig 2.21 - Fig 2.23: Paintings by Wangemann 1867 of Transvaal Missionary activity (Ditsong National Museum of Natural History).

2.24

2.6 BOTSHABELO MISSION STATION

The Berlin Mission Society established a number of Mission Stations in South Africa, and arguably the most significant was Botshabelo, established in 'Sekhukhuneland' within the old Transvaal (present day Mpumalanga), where the meeting of the German missionaries and the Bapedi and Bakopa people occurred.

The establishment of Botshabelo occurred amidst a cultural feud between indigenous African communities and then a later feud between German missionaries and the nearby Chief Sekhukhune, who strongly opposed Christianity and its influence within his tribes. The station was given its name by Merensky and the Pedi people who migrated there.

Botshabelo, translated from northern Sotho as 'place of refuge' served as a spiritual refuge in a time of great religious and cultural conflict, not to displace people but to provide a place for anyone who was searching for an alternative way of life.

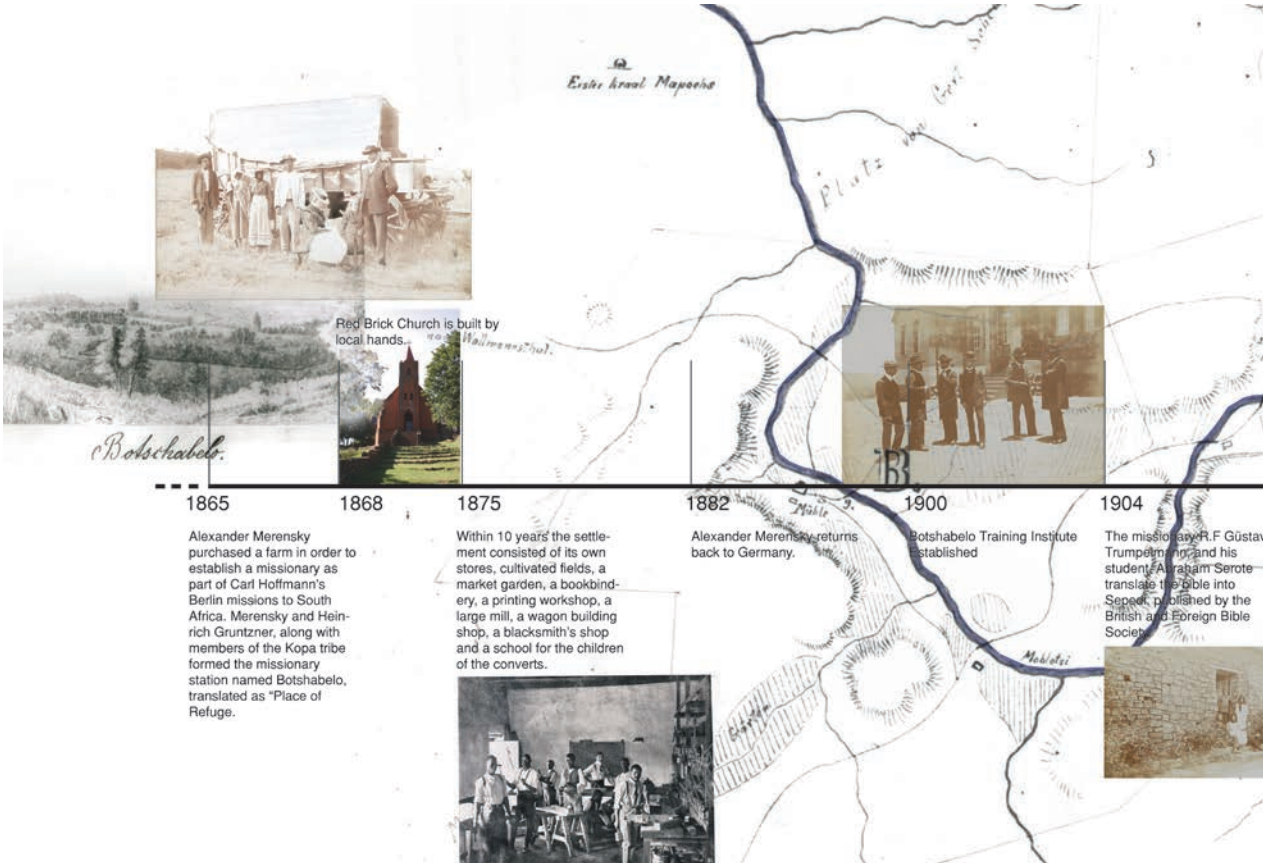
The community, self-sufficient, creative and an educational showpiece survived many years of growing and learning in a multicultural environment, translating the cultural collaboration of ideas and methods into their place making (Fisher & le Roux, 1991).

Fig 2.24: Locality of Botshabelo in relation to the nearest town of Middelburg (Author 2017).

2.25

2.26

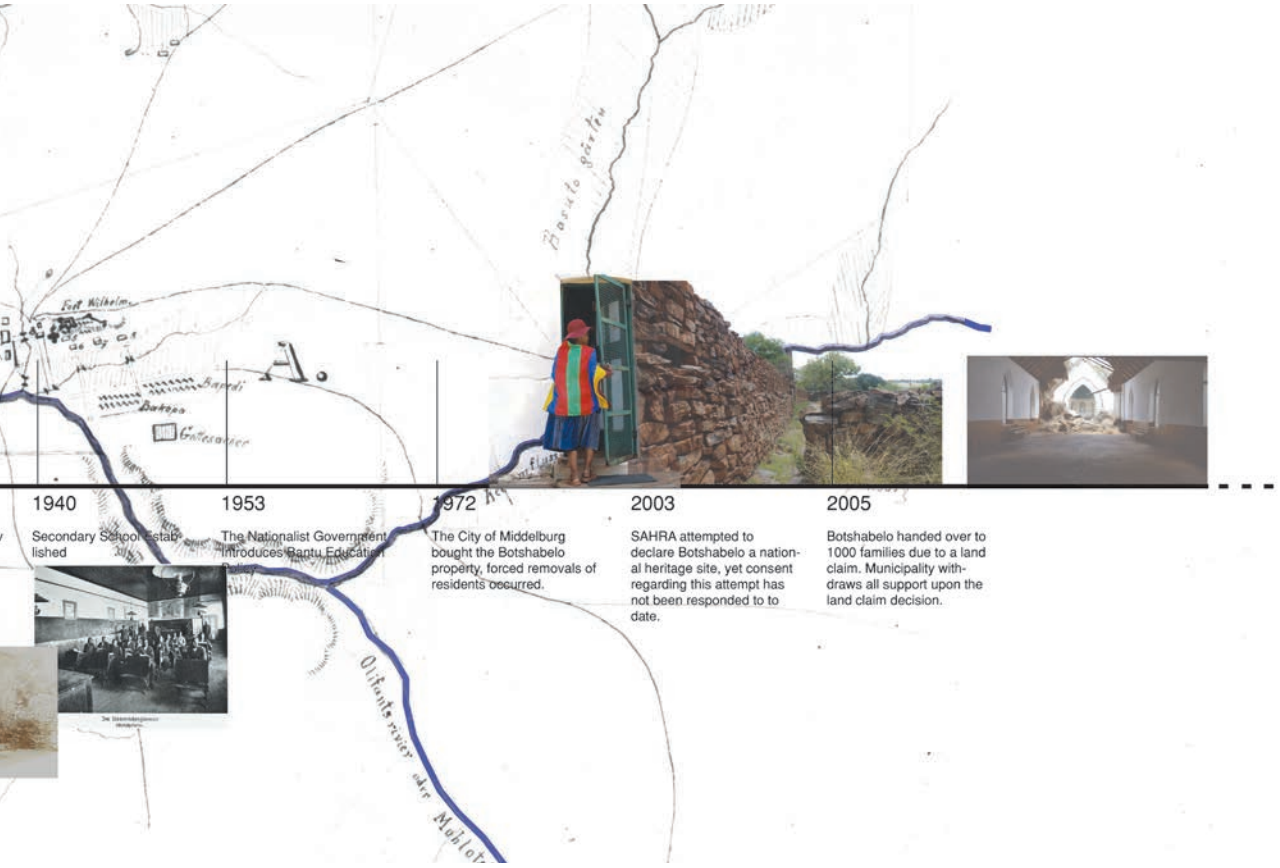
Fig 2.25 - Fig 2.26: Paintings by Wangemann 1867 of Botshabelo (Ditsong National Museum of Natural History).



2.27

2.7 BOTSHABELO OVER TIME

Within the first ten years after its founding, Botshabelo had become completely self-sufficient and consisted of its own stores, cultivated fields, a market garden, a bookbindery, a printing workshop, a large mill, a wagon building shop, a blacksmith's shop and a school for the children of the converts (Langhan & Rakgoathe, 2000:25). There were initially around 250 people at Botshabelo, and this increased to 200 families by 1970. Many developments occurred over the first few years at Botshabelo and the constant growth in members resulted in a larger church being erected in 1865 by local hands and materials. A large school structure was then established, equipping people with a high standard of knowledge and skills training. Even after its functioning as a mission station, the Botshabelo Training Institute was built in 1900 which ultimately served as a teachers' training facility, the secondary school followed in 1940. The Botshabelo High School became one of the successful and stable mission boarding schools, an education was provided that far outweighed the other educational facilities provided in the Apartheid era. In 1910, four thousand residents were living in the settlement. "The mission dwarfed the nearby town of Middelburg, and



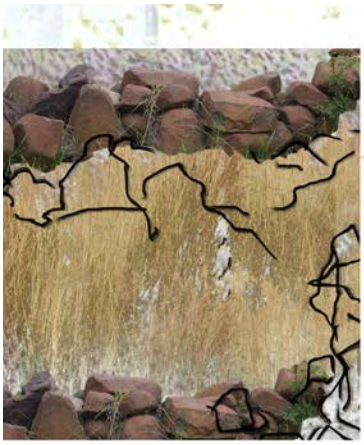
its workshops and stores served the needs of the wider population, both white and black" (Langhan and Rakgoathe, 2000).In summary of the unfortunate decline of the thriving settlement, one discovers that during the 1950s the Bantu Education Act pressurised the education system at Botshabelo and the land was sold to the Middelburg Municipality in 1970. On 28 August 1972 the last 200 African families were forcibly removed to Groblersdal. It is thus observed that the removals of the African community members of Botshabelo, and the resultant loss of purpose of the station, led to a steady decline and degradation of the site and its meaning.

During the 1980s and 1990s the site served as a museum and many of the buildings were restored during this period (Swanepoel 2015:2). From that time, Botshabelo has been run as a heritage site and an open-air museum. "During this phase, many of the buildings were restored with an interpretive focus on what can be described as 'white endevour' i.e. the heroic role of Merensky, as opposed to the areas of the site more closely aligned with the station's African residents" (Swanepoel 2015: 15). "More than anything else, apartheid-era legislation re-moulded the form and destiny of Botshabelo" (Swanepoel 2015: 14).

Fig 2.27: Timeline of significant events during Botshabelo's lifetime (Author 2017).

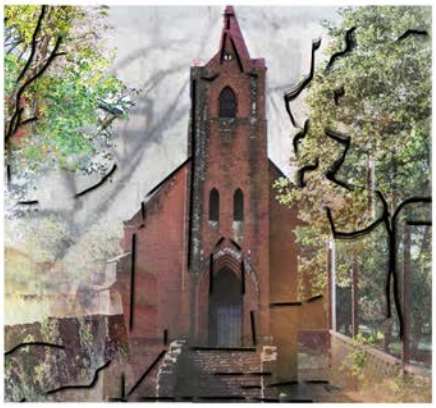
2.28 Interior of Botshabelo church with pulpit and benches (Hoffmann Collection source no. bmw2_115)

2.29 Lutheran church at Botshabelo February 2017 (Author 2017).



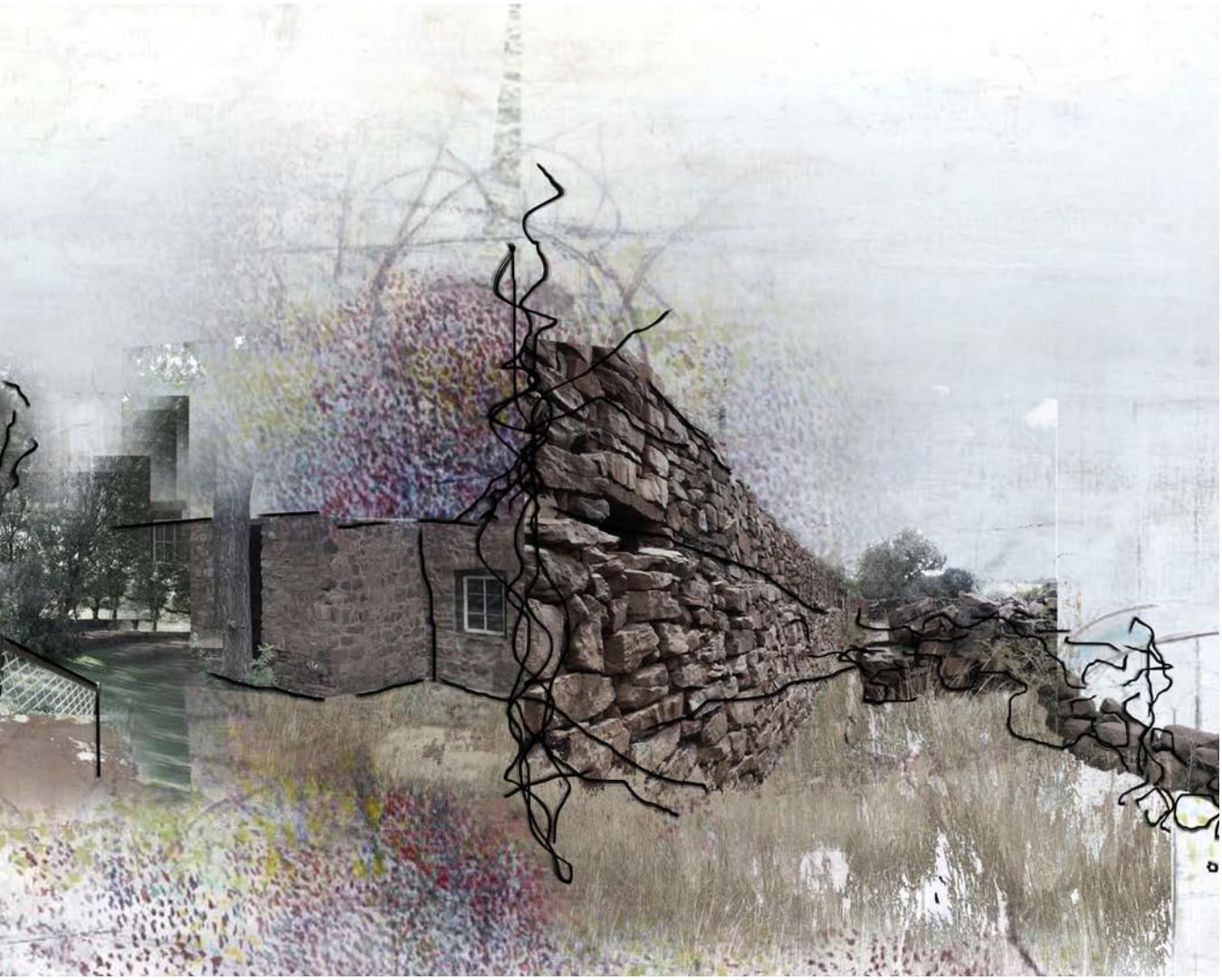
the land

became a dwelling place

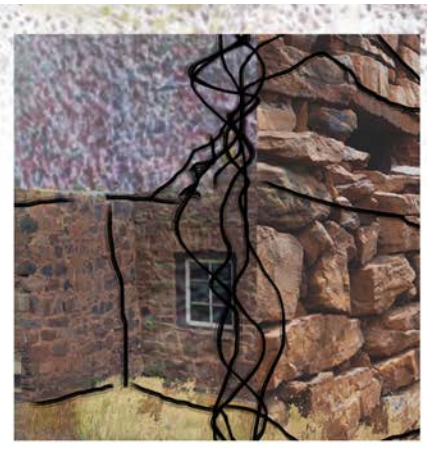


became a spiritual refuge

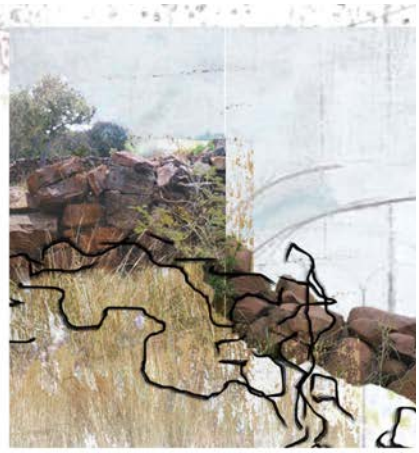
2.30 The Botshabelo landscape narrative from past to present (Author 2017).



became a garden



became broken



became a remnant

03

REAPING THE STORIES

MAPPING AND ANALYSING THE BOTSHABELO LANDSCAPE

The regional and historic context of Botshabelo has been provided. A detailed understanding of Botshabelo's tangible and intangible components becomes an important further step and will be explored in this chapter.

3.1 ANALYSIS AND MAPPING APPROACH

It is important to understand why and *how* one analyses, maps and attempts to understand the cultural landscapes surrounding us. Through a process of mapping the tangible and intangible heritage of a historic cultural landscape, significance is distilled and a sensitive design response becomes possible. When dealing with heritage conservation, the late Professor Karel Bakker, architect and former Head of Department of Architecture at the University of Pretoria, defined the term *conservation* as the "retention of cultural significance'. As indicated by the National Heritage Resources Act (NHRA) (Act 25 of 1999), *cultural significance* is described as being aesthetic, architectural, historical, scientific, social, spiritual, linguistic or of technological value (Müller & Gibbs 2011:9).

The analysis and mapping of Botshabelo therefore aims to further distil the cultural significance embedded within the landscape as an initial step towards the future planning and development of the sensitive historic site, through an approach that acknowledges the both tangible and intangible aspects to the site.

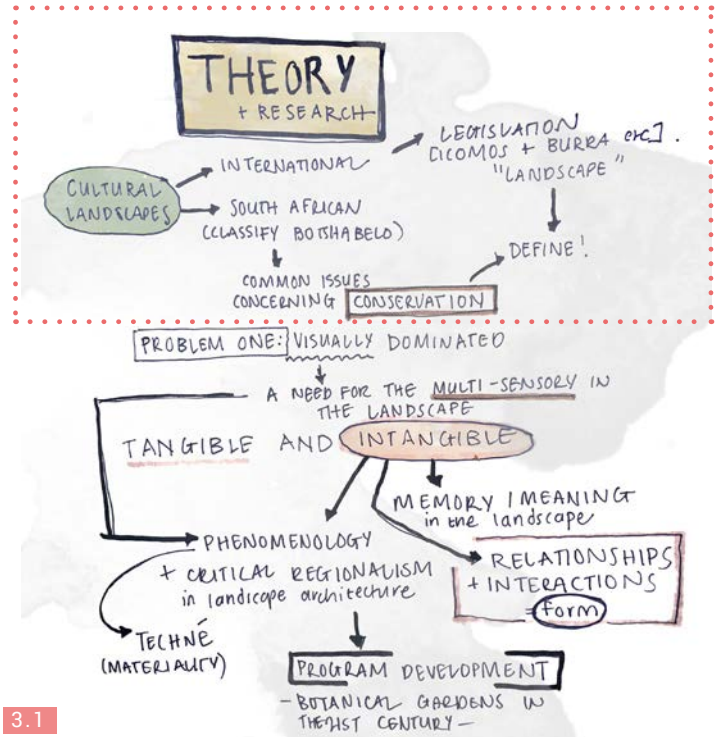
Storytelling as a tool for planning

When one enters Botshabelo, it is perceived that the physical remains of the site stand as manifestations of meaning and represent a multitude of stories. A narrative approach to mapping and planning is not a new technique. Forester (2006) believes storytelling can be used as a means to learn from one another, and stresses the importance of listening to stories in the field. Telling stories may then enable audiences to be reminded of what is important about a particular place (van Hulst 2012:303). According to Jean-Paul Sartre's phenomenological ontology, imagination is suggested as an important experiential dimension for architecture. Furthermore, he suggests that **absence is the unconditional principle of all imagination** (Herrington 2008:51). The initial part of the mapping phase of the project was guided by a narrative method, where the stories of available lived experiences of past residents of Botshabelo became a lens through which to view the remaining built artefacts present on the site today and re-imagine the former *genius loci* of the site.

The process was further guided by appropriate heritage legislation and guidelines as well as a South African specific work on cultural landscapes titled *Reading and Representing the Cultural Landscape: A toolkit by* Liana Müller and David Gibbs (2011).

3.2 CULTURAL LANDSCAPES

Legislation and guidelines



3.1

3.2.1 Defining the terms

Landscape

According to landscape theorist John L. Motloch (2001) the definition of 'landscape' is understood as the "area of the earth's land surface that has been modified by human activity". This definition can be traced back to the Germanic root word *landschaft*; a term describing "a small collection of buildings as a human concentration in a circle of pasture or cultivated space surrounded by wilderness" (Murphy 2005:11).

According to Müller & Gibbs (2011:2) "The concept of landscape connects people to nature by recognising their interaction with the environment and understanding their place within it" . In essence, the natural environment becomes a "landscape" when humankind has engaged with it. It can then be argued that if no form of cultivation presently occurs, the landscape returns merely to an environment, where memories may still occur, yet an ongoing relationship has been lost.

Cultural landscape

As we grapple with the term 'cultural landscape' it becomes clear that the addition of the adjective 'cultural' emphasises the interaction of humans and the land, describing a significant place of **interaction** between people and their environment where meaning and specific associations are embedded. These meaningful associations are often made tangible through resulting built form.

"Cultural landscapes - cultivated terraces on lofty mountains, gardens, sacred places ... -- testify to the creative genius, social development and the imaginative and spiritual vitality of humanity. They are part of our collective identity" (UNESCO 1997).Today, the concept of the 'cultural landscape' encompasses a wide range of definitions.

Fig 3.1: Theory and research that is to effect design decisions (Author 2017).

As part of the normative position taken, it is believed that a site can be termed a cultural landscape when there is a continuous interaction between people and the environment. Although a number of relating definitions exist, for the purposes of this dissertation and argument; the following definition of 'cultural landscape' defined by O'Hare(1997:47) was accepted and quoted from Müller & Gibbs (2011:2):

> "The cultural landscape consists of a dialogue between the natural physical setting, the human modifications to that setting and the meanings of the resulting landscape to insiders and outsiders. The continuous interaction of these three elements takes place over time (in a continuous state of becoming). The concept of 'cultural landscape' therefore embodies a dynamic understanding of history, in which the past, present and future are seamlessly connected."

3.2.2 The conservation of cultural landscapes in South Africa

The protection of cultural landscapes gained popularity in the past few decades to ensure the preservation and transmission of heritage to future generations. *Conservation* according to ICOMOS (1999, Article 1.4) is defined as: "All the processes of looking after a place so as to retain its cultural significance".

In many discussions concerning the conservation of cultural landscapes in South Africa, criticism is often given regarding the sufficient retention of the *intangible heritage* of place. According to Bakker and Müller (2009), due to a lack of guidance in South Africa regarding intangible heritage , static monuments tend to manifest as a superficial understanding of the cultural layers embedded in the landscape, the simplistic use of symbolism occur and the cultural dimensions of a place are often not successfully interpreted (Stoffberg et al., 2012:8). In cases where development does occur, there has often been little appreciation and acknowledgement for the meaning of place, memory and especially local African intangible heritage. The latter is always considered to be "living heritage", one that must continue to be actively created, enabled and protected (Müller 2011:8). It has been identified that both the tangible and intangible aspects of a heritage site are given equal importance according to international legislation such as ICOMOS. The South African NHRA25/1999 does not identify the importance of the intangible qualities of a site as explicitly (Bakker 2007:18).

More recently however, ideas surrounding intangible landscapes, memory and meaning have been integrated into South African heritage legislation, influenced by various international conventions.

3.2.3 Applicable heritage legislation concerning cultural landscapes

A large number of charters, principles, and guidelines – including the Nara Document on Authenticity (1994), the Burra Charter (1999), the International Charter on Cultural Tourism (1999), and the Principles for the Conservation of Heritage Sites in China (2002)—have placed emphasis on the fundamental role of sensitive and effective interpretation in heritage conservation (ICOMOS 2006). For the purposes of this study, only the most relevant of these were chosen to guide the understanding and planning of Botshabelo. below the most relevant information regarding heritage legislation was abstracted from the research, and the remainder of the research can be found in Appendix One.

Unesco: Categories and sub-categories

According to UNESCO (United Nations Educational, Scientific and Cultural Organization) the power of culture to impact and change societies is evident. As combined works of nature and humankind, cultural landscapes according to UNESCO can fall into three main categories.

Botshabelo can fall under Category 2 titled "Organically evolved landscape" which states:

> **"**This results from an initial social, economic, administrative, and/or **religious** imperative and has developed its present form by association with and in response to its natural environment [author's emphasis]. Such landscapes reflect that process of evolution in their form and component features."

In addition to this, it can further be defined through a sub-category titled "a relict (or fossil) landscape" and this "is one in which an evolutionary process came to an end at some time in the past, either abruptly or over a period. Its significant distinguishing features are, however, still visible in material form" (UNESCO). Although quickly degrading through neglect and natural decay, the remaining buildings, unique interiors, historic artefacts, trees and layout are still visible at Botshabelo.


3.2


3.3


3.4


3.5

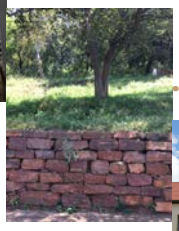
Fig 3.2-3.5: Photographs taken of existing features still visible on site (Author 2017).

UNESCO Operational Guidelines for the Implementation of the World Heritage Convention

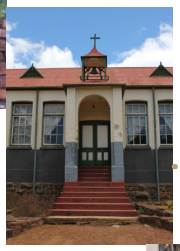
The development of these guidelines aimed to ensure the identification, protection, presentation and transmission to future generations of the cultural and natural heritage in various places which contain outstanding universal value occurs (Müller & Gibbs 2011:3). In order to highlight and assess the significance of Botshabelo in terms of its *outstanding universal value*, the most relevant criteria provided in the convention were used to assess important components of the site. Based on a further statement by UNESCO stating that cultural landscapes are the foundations of food production systems and living gene banks for food crops in the future, Mpumalanga's cultural significance is of utmost importance.

Historic church built in 1865 built from bricks produced from the clay soil on site.

Bible verse in church quoted in Sotho indicates cultural interchange.



Stone walling technique traced back to pre-colonial Bokoni/ Pedi groups



19th Century German Missionary influence in South Africa

Gerard Sekoto, Wally Serote, Justus Tshungu (Famous Artists and Poets)

3.6

Relevant criteria

i represents a masterpiece of human creative genius

ii exhibit an important interchange of human values, over a span of time or within a cultural area of the world.

iii bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or has disappeared

iv be an outstanding example of a type of building or architectureal or technological ensemble or landscape which illustrates significant stages in history

vi be directly or tangibly associated with events or living traditions, with ideas or beliefs, with artistic and literary works of outstanding universal significance

Fig 3.6: Diagram showing possible outstanding universal value of Botshabelo (Author 2017).

ICOMOS: The Venice charter of 1964

The International Council on Monuments and Sites (ICOMOS) developed their own set of guidelines dedicated to the conservation and restoration of monuments and sites (the Venice charter 1964). These guidelines were reviewed and found to also be relevant when considering the next phase of planning and development of Botshabelo.The common responsibility to safeguard shared heritage sites is recognised. This charter provides guidelines to be agreed upon internationally concerning the physical properties of a site, however it also states that these are to be adopted into a specific country's own framework and traditions. The following abstracts were deemed relevant to Botshabelo:

Based on article 1: the historic monument embraces not only the single site but the urban or rural setting in which it is found. The significant regional context of Botshabelo and the influence of the Bapedi and Bakoni tribes are to therefore to be acknowledge and celebrated.

Based on article 5: The conservation of monuments is to be facilitated by making use of them for a socially useful purpose, yet it must not change the layout or aesthetic of the site. The proposed community to return to Botshabelo are to be actively involved in the restoration process of the site, including a long-term program in which they are included.

Based on article 9: Original materials are to be respected in a historic site. However, the new work must be distinctive and "bear a contemporary stamp". Local and available materials are to be used in the new construction of Botshabelo, yet they are to be constructed in a manner that is distinctive from the existing.

3.7

3.8

3.9

3.10

Fig 3.7-3.9: Photographs of region, existing residents and stone construction (Author 2017).
Fig 3.10: Vision of Motse ruins (Author 2017).

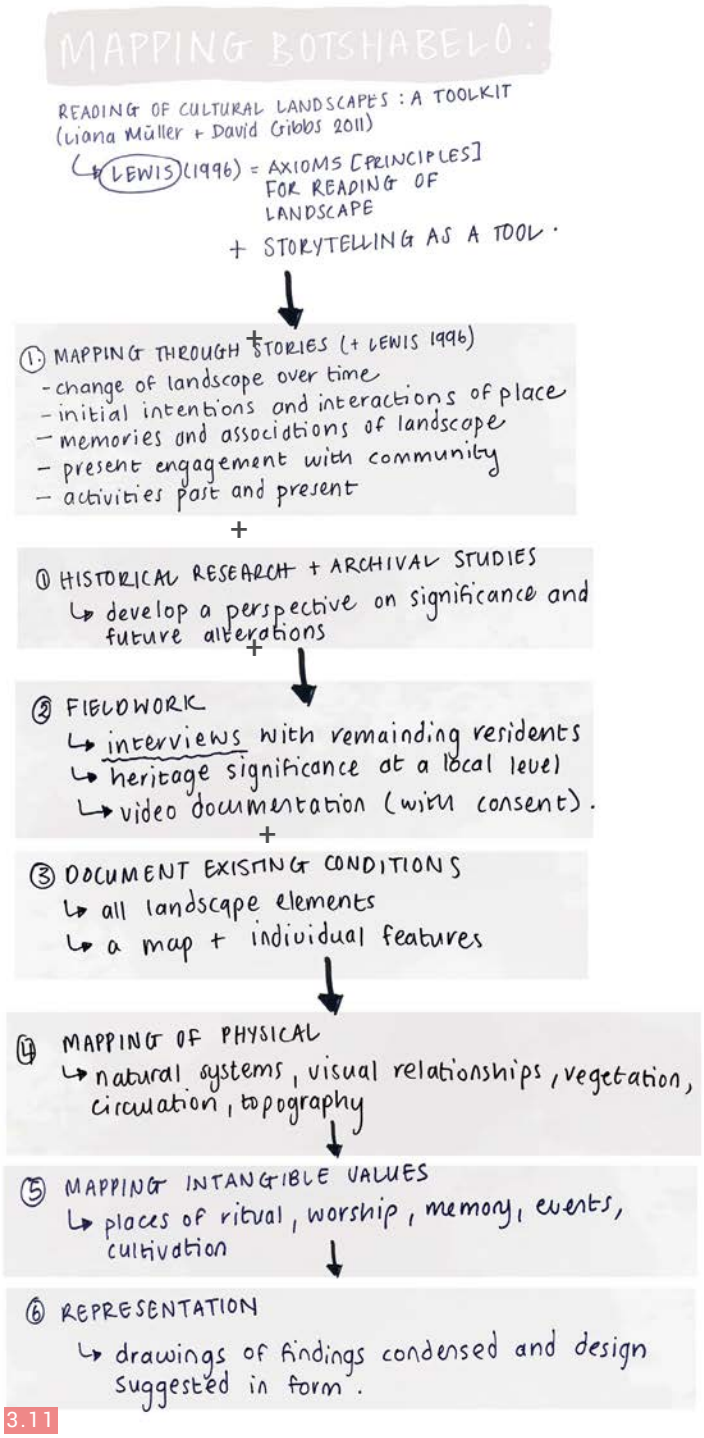
3.3 READING & IMAGINING THE PAST

Mapping the tangible and intangible at Botshabelo

When standing on the ground of Botshabelo, layers of history, meaning and memory are embedded within the physical strata of the land.

"We experience the landscape through our senses, and interpret it through our culture and the knowledge of our time" (Kjerrgren 2011:5). The historic experience of Botshabelo's landscape is difficult to access visually as very little evidence of the previous kitchen gardens remain. Today the gardens are no longer cultivated, and the regional vegetation has regained the land. Although the idea is not to return the landscape to *look* the same as it once did, the mapping process aims to use stories, memories and experiences from the past to guide a new design. This is to be achieved through the re-imagining of moments in the landscape from the stories that were found.

Considered a palimpsest of layers, Botshabelo contains many hidden intangible aspects amongst the physical. Along with storytelling, ways to read the tangible and intangible qualities of Botshabelo were guided by a mapping toolkit developed by Müller & Gibbs (2011).The following steps as seen in Figure 3.4 were adapted from the above sources and are to serve as guides to the mapping phase to follow.



3.11

Fig 3.11: Diagram showing mapping process followed (Author 2017).

3.3.1 Archival research and collection of stories

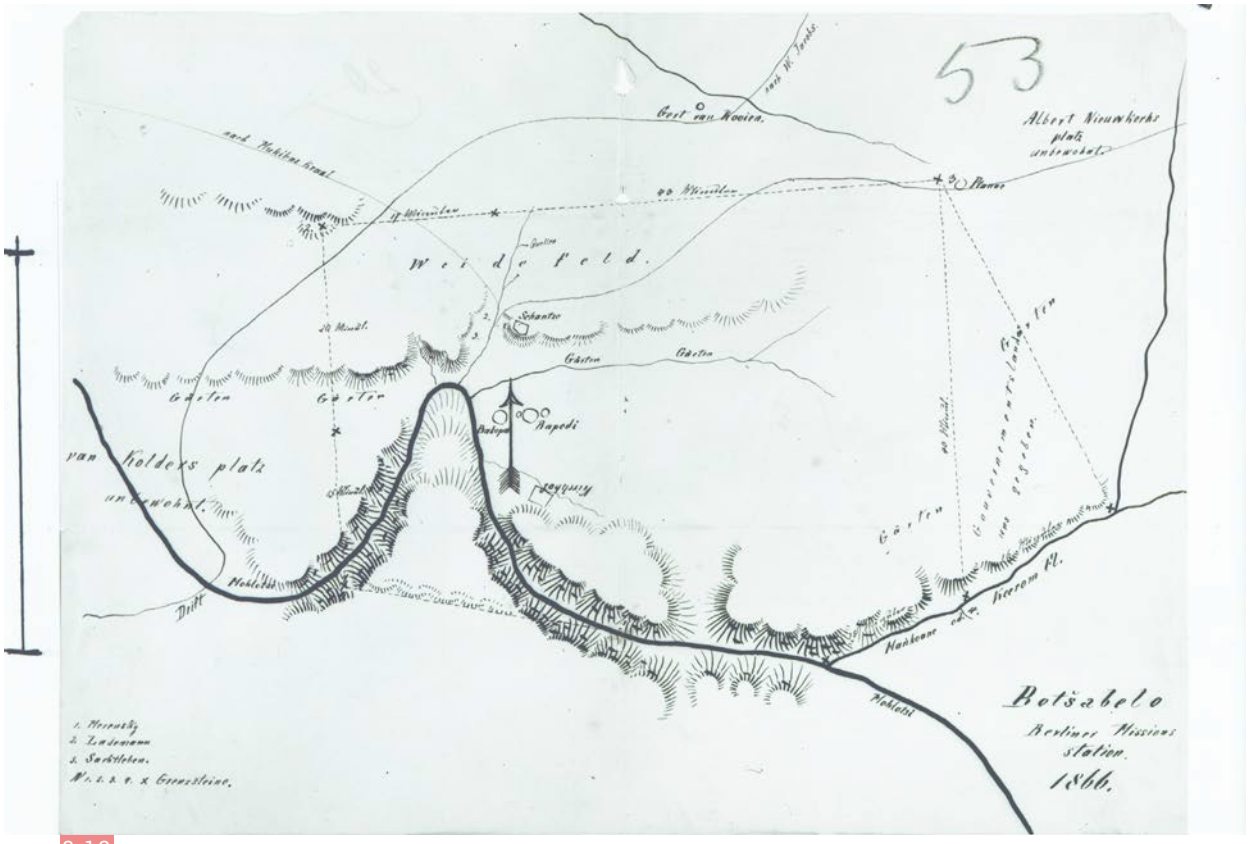
In order to understand the heritage significance of the cultural landscape, "the first step of the process is to undertake historical research" (Müller & Gibbs 2011:11). For Botshabelo, historical material such as maps, letters and drawings were retrieved from the online archive of the Hoffmann Collection under the *Humboldt-Universitat Zu Berlin*. These were studied and the initial intent, spatial layout and the significant interactions between varying cultural groups as well as people and the environment were deduced.

Previous heritage assessments

According to Le Roux, Fisher and Botes (2001) in the report titled *Conservation Policy: Botshabelo:*
"The Botshabelo site is a heritage site of great national value since it has associations with both events of historical importance and the diversity of cultures and their interactions."

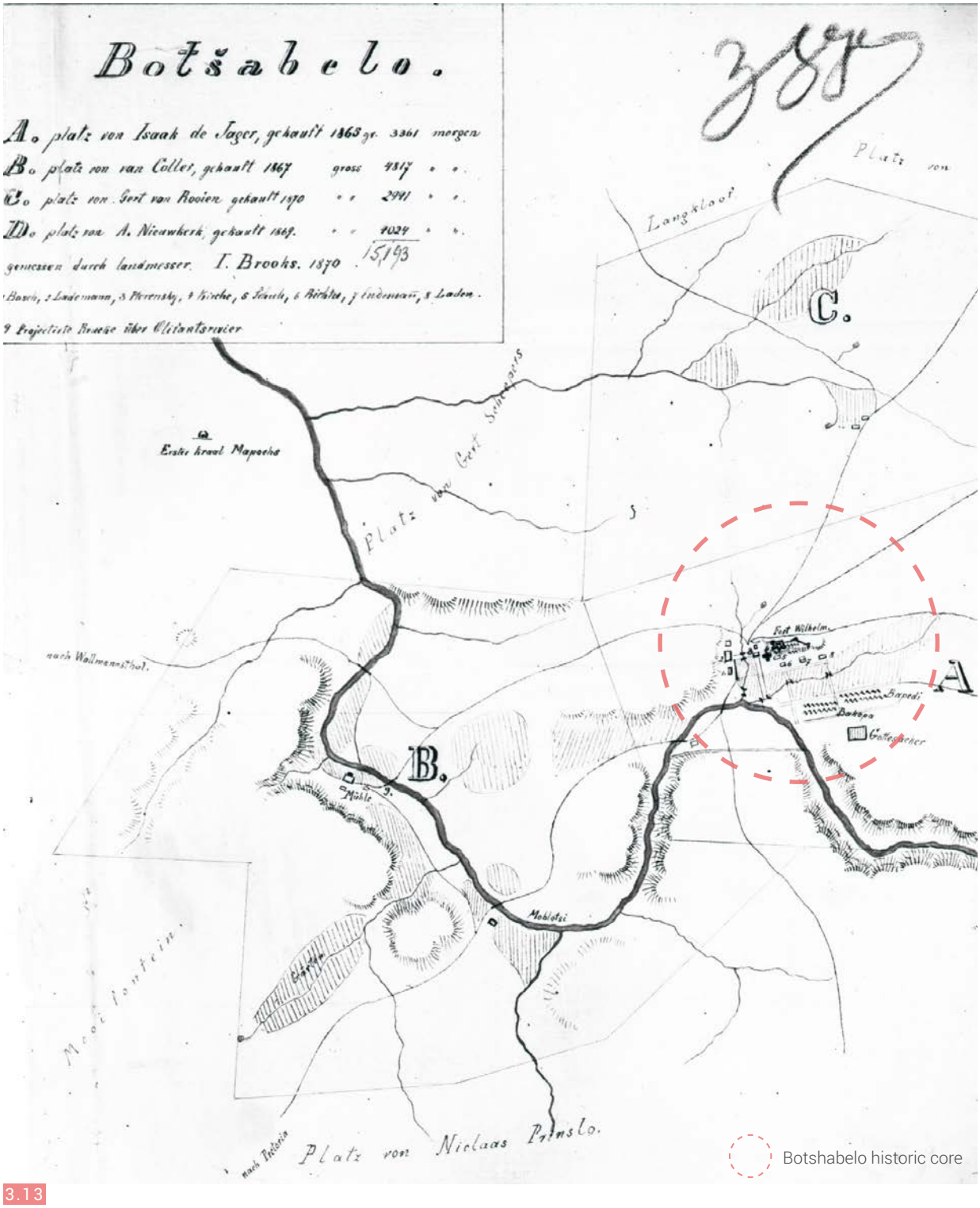
Within this conservation policy, Le Roux, Fisher & Botes (2001) strongly recommend that the site be investigated and documented and that the memories of those associated with the place be documented and recorded as part of the oral traditions and shared legacies of the nation. It was also recommended within the policy that the site be declared a National Heritage Resource, including parts of the site such as the historic buildings, sacred places and the agricultural lands.

The following section contributes to the documentation of maps, stories and memories of Botshabelo, towards the generation of a new design.



3.12

Fig 3.12: Handwritten map: birds eye view of Botshabelo complex with church, school, Bapedi and Bakopa villages (Hoffmann Collection Source no. bmw2_316).



3.13

Fig 3.12: Handwritten map: birds eye view of Botshabelo complex with church, school, Bapedi and Bakopa villages (Hoffmann Collection Source no. bmw2_316).

3.4 STORIES BY ALEXANDER MERENSKY

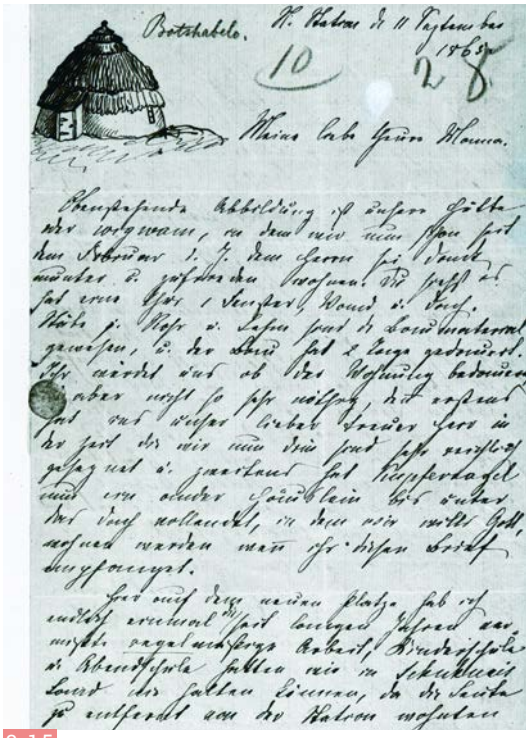
A PHENOMENOLOGICAL TRANSLATION OF PAST NARRATIVES

3.14

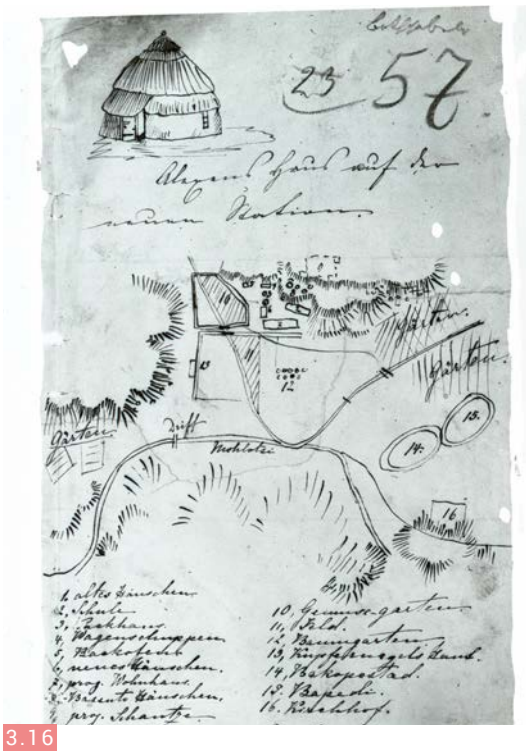
The following accounts were taken from founder of Botshabelo Alexander Merensky's writings titled *Erinnerugen aus dem Missionsleben in Transvaal* 1859-1882 (Le Roux et al. 2001). The English translations were provided by Jon Stone, Department of Architecture, WITS University, 1992. His writings and early sketches can be seen in Figure 3.15 and figure 3.16.

Through Merensky's writings, the early establishment of Botshabelo can be understood. Maps were generated to understand the physical growth of the settlement over time as seen in Figue 3.15.

The stories of past residents of Botshabelo were used as a means to re-imagine the settlement since no physical representations of the former landscape were found.



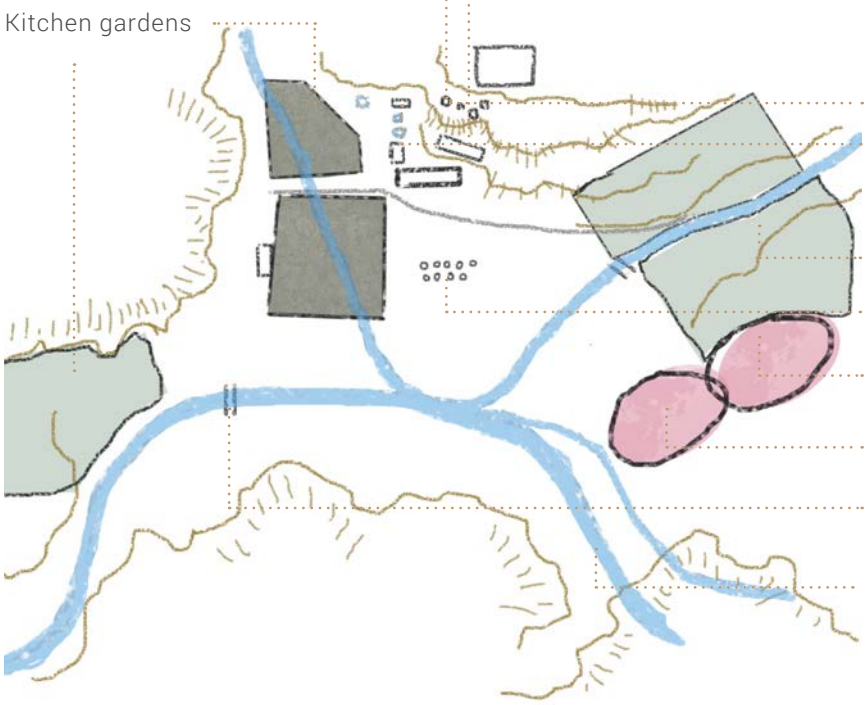
3.15



3.16

Fig 3.14:Rev Alexander Merensky (Wangemann n.d.).
Fig 3.15: Exerpt from handwritten letter with small drawing of local rondavel (Hoffmann collection source no: bmw2_320).
Fig 3.16: Handwritten map: bird's eye view of Botshabelo complex with church, school, Bapedi & Bakopa villages (Hoffmann collection source no: bmw2_318).

Fig 3.6: Houses strung together by courtyard walls seen near Fort Merensky (Author 2017)



3.17

Fig 3.17: Initial zoning and layout of Botshabelo adapted from Merensky's map (Author 2017)

3.4.1 THE GROWTH OF BOTSHABELO OVER TIME AS QUOTED FROM ALEXANDER MERENSKY, 1899.

3.18

"I was relieved that a hut had also been made ready for me... the prospect of finding dry accommodation was most comforting." "The natives form of village planning since olden times had to do for us all well, and forced us to erect the houses of those living in the plain as closely as possible. They built along the mountainside and their homesteads surrounded open spaces within which their cattle were safe at night from wild animals and their enemies."

3.19

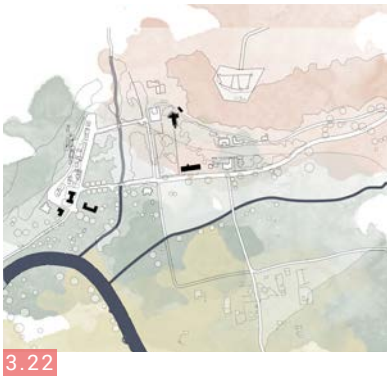
"Houses were strung together by means of courtyard walls as in the manner of all Basuto cities, therefore clans were able to remain together according to their custom." "The layout of homesteads protected one another, and the only entrance leading into each each of the two villages was flanked by walling." "The Bakopa were the first to decide to live in this place and were allocated land downstream which they regarded was the best of the lot and praised it."

3.20

"Continuing with development, it is said that the first stone bridge in the Transvaal was built at Boshabelo as a collaborative effort between a German missionary and the local men." "At the same time, roads, or streets, leading to the bridges were built. We had to take care to go around the arable land near the houses." "The pieces of land accommodated orchards and vegetable gardens, and each household could plant enough corn for its own consumption."

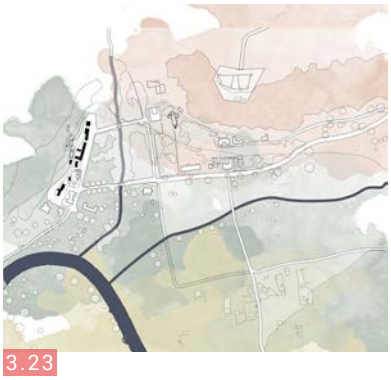
3.21

"From the onset a great number of fruit trees were planted. Farmers grew thousands of young trees in their orchards, such as peaches and apricots. The provision of food became an essential part of Botshabelo and led the community to erect a store which would benefit many." "All small, useful pieces of land can be cultivated between rocks and river meanders[...]".



3.22

"The congregations need for a church was also soon to be realised. The first to be erected was a combined church and school building." "The station was like a hill town, safe and well protected. A place of safety for the Basutos."



3.23

"A wagonmaker's shop in Botshabelo became necessary and consequently proved to be very successful." "Workshops served as a trade school for our natives. At this stage the construction of a mill became necessary for our small colony."

Fig 3.18- Fig. 3.23: Morphology diagrams of Botshabelo based on Merensky's writings (Author 2017).

3.4.2 CHANGES AND THE DECLINE OF BOTSHABELO OVER TIME AS QUOTED FROM SWANEPOEL, 2015.

3.24

Later the expansion of Seminary Buildings and introduction of accommodation for teachers and students occurred. By 1913 the wagonmaker's shop was changed to a dining room for the residents.

3.25

"Both world wars had a tremendous impact on mission stations worldwide which, in many cases, were cut off from the fund-raising and material support of their mission societies."

3.26

"But the basis of the mission's role as education providers was undermined and abolished in the 1950s in the wake of the introduction of the Bantu Education Act of 1953 by the apartheid government."

3.27

"As the eventual result of the 1913 Land Act, black families were removed from the Motse villages and resettled elsewhere."

3.28

"The Teacher Training college at Botshabelo closed, however, in the late 1970s, and from that point onward, Botshabelo was run solely as a heritage site and open-air museum by the Transvaal Provincial Administration." The Ndebele village was constructed as a means to generate income from tourism.

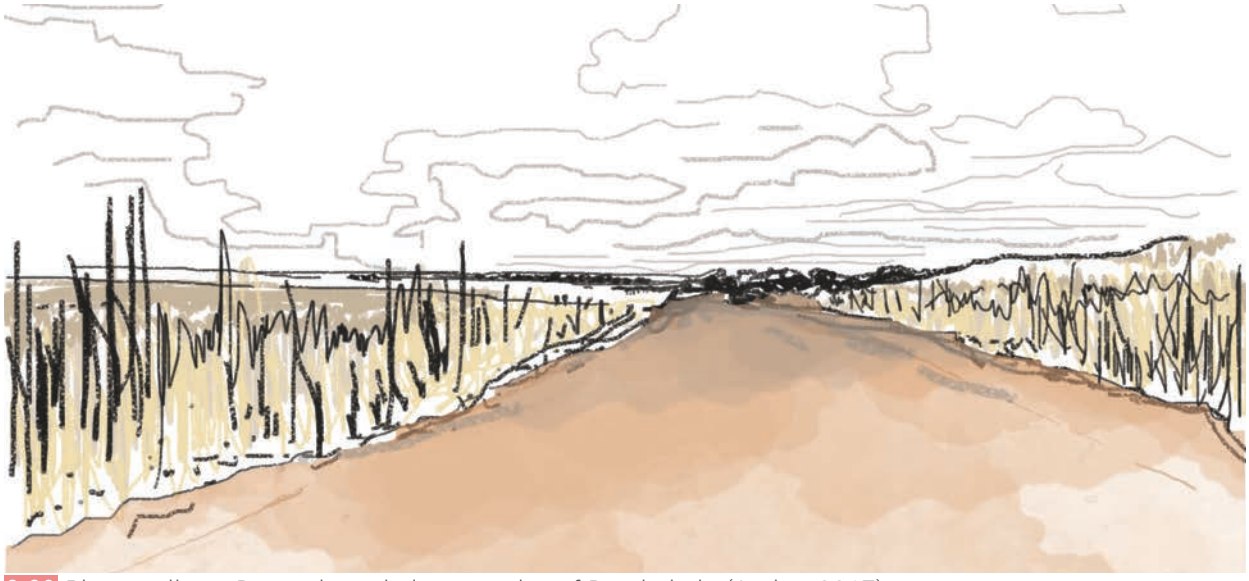
3.29

"There is a broad agreement , however, that the historic core of the mission station will continue as a heritage attration and will be open to the public."

Fig 3.24 - Fig.3.29: Changes and decline of Botshabelo adapted from Swanepoel, 2015 (Author 2017).

3.5. STORIES BY OTTO KARL PAPKE

THE LANDSCAPE RE-IMAGINED THROUGH HISTORIC ACCOUNTS

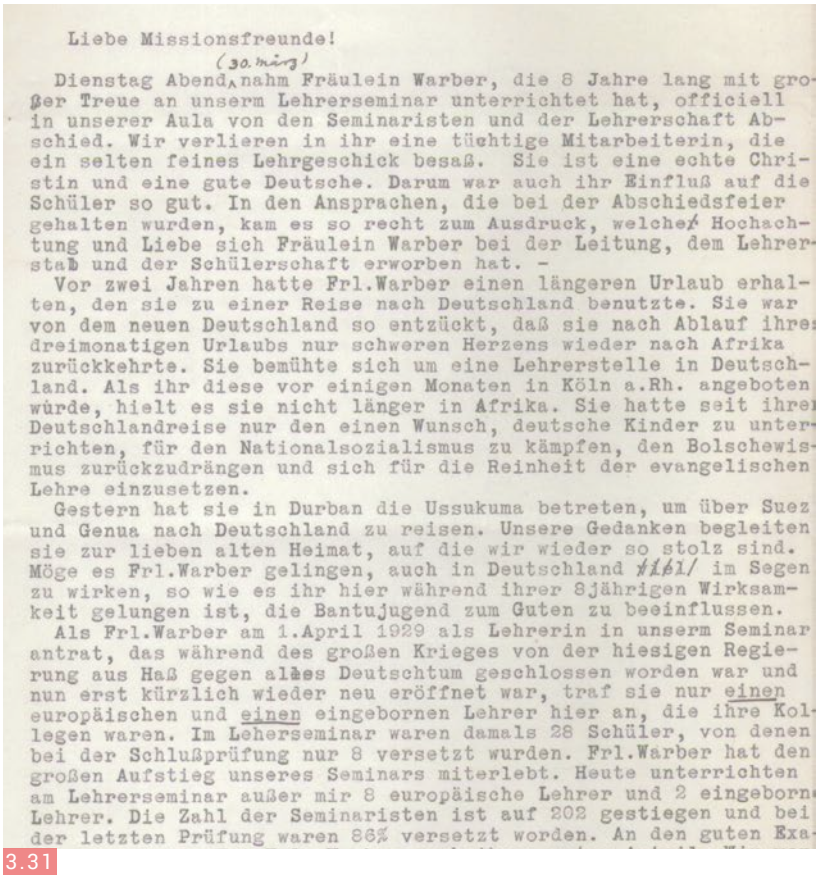


3.30 Photo collage: Dan Rakgoathe's memories of Botshabelo (Author 2017)

The following stories were abstracted from a Mission Letter Translation – Letter Edition No.12 from Missionary Papke dated 8 April 1937. Papke (1937) writing back home to the Berlin Mission Society states "In my past letters I have never written about how it looks in Botshabelo and this I will now do... I would like to take you for a Berlin mission journey around our school town."

A jouney through Botshabelo's landscape

"When one comes from Middleburg one travels for 15 km through a tree-less high plateau with high yellow grass on both sides of the road before one arrives in the more scenic part of Botshabelo that is surrounded from the north and the west by forested mountains" (Papke 1937).



Liebe Missionsfreunde!
(30. März)

Dienstag Abend nahm Fräulein Warber, die 8 Jahre lang mit großer Treue an unserm Lehrerseminar unterrichtet hat, officiell in unserer Aula von den Seminaristen und der Lehrerschaft Abschied. Wir verlieren in ihr eine tüchtige Mitarbeiterin, die ein selten feines Lehrgeschick besaß. Sie ist eine echte Christin und eine gute Deutsche. Darum war auch ihr Einfluß auf die Schüler so gut. In den Ansprachen, die bei der Abschiedsfeier gehalten wurden, kam es so recht zum Ausdruck, welcher Hochachtung und Liebe sich Fräulein Warber bei der Leitung, dem Lehrerstab und der Schülerschaft erworben hat. -

Vor zwei Jahren hatte Frl.Warber einen längeren Urlaub erhalten, den sie zu einer Reise nach Deutschland benutzte. Sie war von dem neuen Deutschland so entzückt, daß sie nach Ablauf ihres dreimonatigen Urlaubs nur schweren Herzens wieder nach Afrika zurückkehrte. Sie bemühte sich um eine Lehrerstelle in Deutschland. Als ihr diese vor einigen Monaten in Köln a.Rh. angeboten würde, hielt es sie nicht länger in Afrika. Sie hatte seit ihrer Deutschlandreise nur den einen Wunsch, deutsche Kinder zu unterrichten, für den Nationalsozialismus zu kämpfen, den Bolschewismus zurückzudrängen und sich für die Reinheit der evangelischen Lehre einzusetzen.

Gestern hat sie in Durban die Ussukuma betreten, um über Suez und Genua nach Deutschland zu reisen. Unsere Gedanken begleiten sie zur lieben alten Heimat, auf die wir wieder so stolz sind. Möge es Frl.Warber gelingen, auch in Deutschland /dort/ im Segen zu wirken, so wie es ihr hier während ihrer 8jährigen Wirksamkeit gelungen ist, die Bantujugend zum Guten zu beeinflussen.

Als Frl.Warber am 1.April 1929 als Lehrerin in unserm Seminar antrat, das während des großen Krieges von der hiesigen Regierung aus Haß gegen alles Deutschtum geschlossen worden war und nun erst kürzlich wieder neu eröffnet war, traf sie nur einen europäischen und einen eingebornen Lehrer hier an, die ihre Kollegen waren. Im Lehrerseminar waren damals 28 Schüler, von denen bei der Schlußprüfung nur 8 versetzt wurden. Frl.Warber hat den großen Aufstieg unseres Seminars miterlebt. Heute unterrichten am Lehrerseminar außer mir 8 europäische Lehrer und 2 eingeborne Lehrer. Die Zahl der Seminaristen ist auf 202 gestiegen und bei der letzten Prüfung waren 86% versetzt worden. An den guten Exa-

3.31

Fig 3.30: Image of sand road to Botshabelo (Author 2017).
Fig 3.31: Circular letter concerning e.g. description of Botshabelo and Marie Merensky (Hoffmann Collection MISCELLANEOUS/PAPKE_1937_Circular letter (Marie Merensky, Botshab).

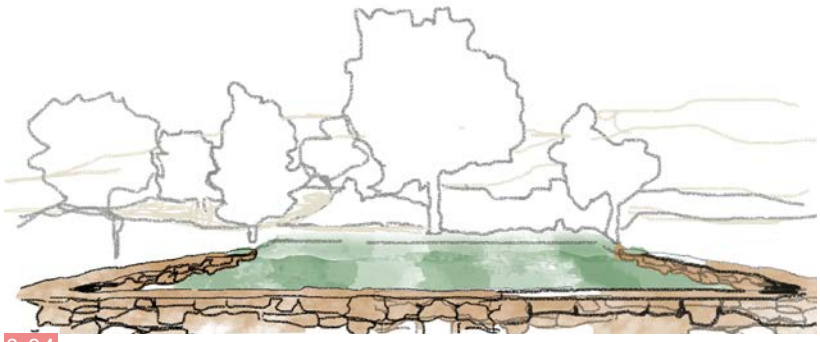
"To the left and right of the first houses were the herds of cattle and the friendly local children. Further to the left is the Mohlotsi river that flows to the south past Botshabelo where a small dam is situated in which the young local boys enjoy bathing in the water" (Papke 1937).

3.32

"A fruit and vegetable garden that is surrounded by stone walls is situated on the left hand side of the road... Shortly after that, on the left hand side is an opening in the forest, which is the celebration place for the community during a mission celebration. (Papke 1937).

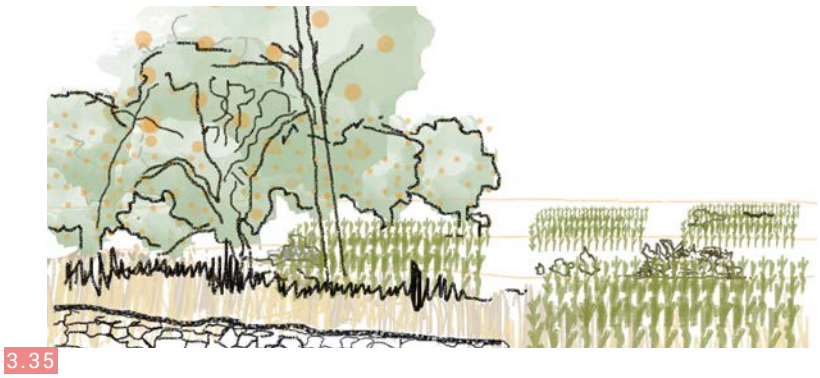
3.33

"From the girl's hostel across the road towards the left hand side is the girls' experimental garden where they learn how to grow vegetables, and how to prune fruit trees, and also learn about the variety of floriculture" (Papke 1937).



3.34

"Fruit trees are grafted and cultivated and every teacher has a piece of land where he could grow, vegetables, potatoes, and maize. Every class received twice in a week from 3 to 5 o clock in the afternoon teaching lessons in practical garden work" (Papke 1937).



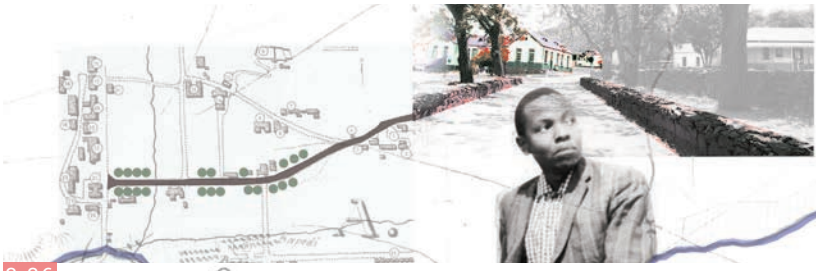
3.35

Fig 3.32 - Fig.3.35: Illustrations inspired by missionary Papke's description of Botshabelo (Author 2017).

3.6 STORIES BY DAN RAKGOATHE

THE LANDSCAPE RE-IMAGINED THROUGH STORIES BY PAST RESIDENTS

"The start of Dan's high school career in 1953 marked the beginning of a significant phase in his life" (Langhan & Rakgoathe 2000:25). The Botshabelo Training Institute was built in 1900 and served as a teacher's training college, the secondary school with its boarding facilities was then established in 1940. Dan Rakgoathe would spend seven years at the boarding school, later becoming one of South Africa's most famous artists..



3.36

3.37

In his biography it states: "For Dan who had grown up in the dreary squalor of the urban townships, Botshabelo must have seemed idyllic. The scenic beauty surrounding the settlement was inspiring, but there was another quality - a sense of solidity, a feeling of quiet respect for human beings and nature - which nurtured the spirit. Perhaps it had to do with the architecture of the buildings which affirmed the dignity of those who passed through them, or with the majestic poplars and oaks and the low cobbled stone wall which lined the road leading to the mission station[...](Langhan & Rakgoathe 2000:26).

3.38

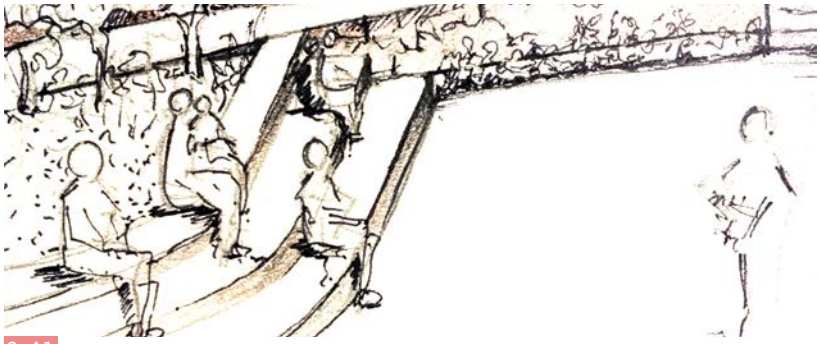
Fig 3.36 - Fig.3.38: Illustrations inspired by Dan Rakgoathe's description of Botshabelo (Author 2017).

Rakghoathe further describes the significant church of Botshabelo in his biography. Behind the main school building the seventeen-metre-high red brick church stands magnificently against the backdrop of the rolling hills. Built in 1868 from 300 000 red bricks produced on site along with a cattle dung floor, the Lutheran red-brick church is the oldest church in Mpumalanga and was produced by local hands.
The compulsory church services occurred every Sunday, however Dan preferred to escape to the hills to contemplate life and meaning.

3.39

The routines of the mission station were frustrating for him, yet the spontaneous sounds of music - a vital part of the mission's ethos were inspiring. Dan who respected Christ as a great teacher, rejected the religiosity he experienced at the mission station, however the beautiful hymns overflowing from the church would serve as a source of joy. "Music was integral to the vibrant culture of Botshabelo as a whole... and at times spontaneous *kwela* (penny-whistle) music floated through the mission station" (Langhan & Rakgoathe :29).

3.40



3.41

Fig 3.39: Illustration of church (Author 2017).
Fig 3. 40: Local band playing on a rock in a kloof near Botshabelo (Hoffmann Collection, Source No. bmw2_111).
Fig 3. 41: Design response to gathering of people for music or event (Author 2017).

3.7 STORIES BY GERARD SEKOTO

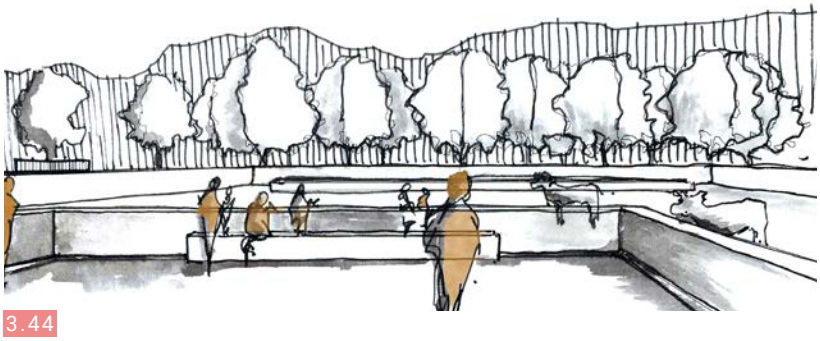
THE LANDSCAPE RE-IMAGINED THROUGH STORIES BY PAST RESIDENTS

Tracing his ancestors back to the Pedi kingdom, Andries Sekoto was born during the 1800s in north-eastern Transvaal; a time of weakened cultural homogeneity with the introduction of refugees, Boer trekkers and the Berlin missionaries. Gerard Sekoto was born in 1913 at Botshabelo to parents Andries Sekoto and Anne Serote, and would later on begin his teacher's training at the Botshabelo training institute in 1928 before moving to Paris for the remainder of his life.
"Gerard Sekoto is widely recognized as the pioneer of Black South African art" (Reid 2013).

As he moved in-between Botshabelo and the rural village of Wonderhoek, Gerard was able to observe more clearly the lifestyle differences between Christian converts and rural villagers. In the rural village, the land was dull and barren in the winter but the Ndebele village was colourful. In summer, after the early rains, households would spend time ploughing and planting seed. Harvest time was a time for both work and thanksgiving. Field parties consisted of the community harvesting the summer's yield. "During these deeply communal and convivial occasions, much work and much eating and drinking of traditional home-brewed beer, took place" (Manganyi 2004:10).

3.42

3.43



3.44

Fig 3.42 - Fig. 3.43 : Illustration of landscape moments based on Sekoto's writing (Author 2017).
Fig 3. 44: Design response to gathering of people in fields with cattle and beer (Author 2017).

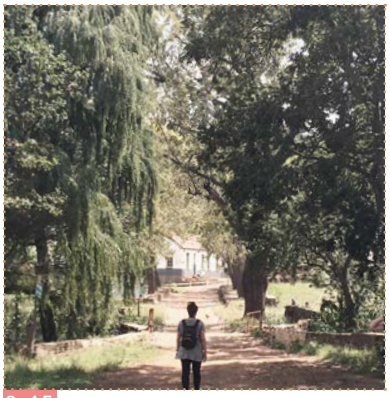
Fieldwork

"Fieldwork is a vital component of any heritage survey as it conveys a far more three-dimensional comprehension of place" (Müller & Gibbs 2011:12).

The engagement with local community members of a site, who have a personal experience of local knowledge and existing artefacts provides an understanding of significance at a local level. Storytelling as a planning tool is used in a manner to distil what matters to people about a specific place.

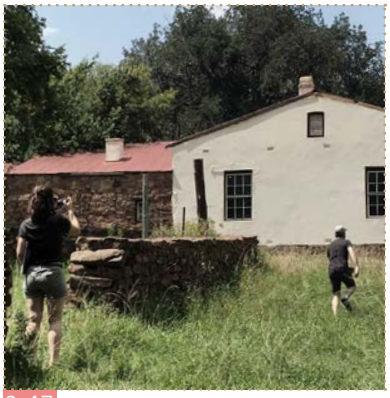
Through listening to the stories of people in the field, as promoted by Forester (2009) planners are able to plan for change based on a shared story of a place. "Recently, Forester (2009) has shown how storytelling can make an important contribution to the way communities and groups in conflict with each other can "deal with differences" (Van Hulst 2012:303).

Site visits were executed on various occasions and in various seasons throughout the year. Interviews were conducted with one of the few remaining and initial residents of Botshabelo, a man named Lot. Born in 1965 at Botshabelo, Lot was baptised in the Lutheran red-brick church the year it was erected. He grew up in Botshabelo with his family and shares many fond and difficult stories and memories of his time growing up in the mission station. Today he is seemingly the only past resident of Botshabelo to return since the forced removals during the 1970s, and he now works as the caretaker of the site which offers a tourist experience as well as accommodation and walking routes.



3.45

3.46



3.47

Fig 3.45 - Fig.3.47 Photographs during group fieldwork (Author 2017).

3.8 STORIES BY LOT RANTLHA

THE LANDSCAPE RE-IMAGINED THROUGH STORIES BY RESIDENTS

During fieldwork, stories were told by the caretaker and tour guide of Botshabelo, a man named Lot. For the purpose of the landscape mapping, selected memories of Lot's are mentioned below.

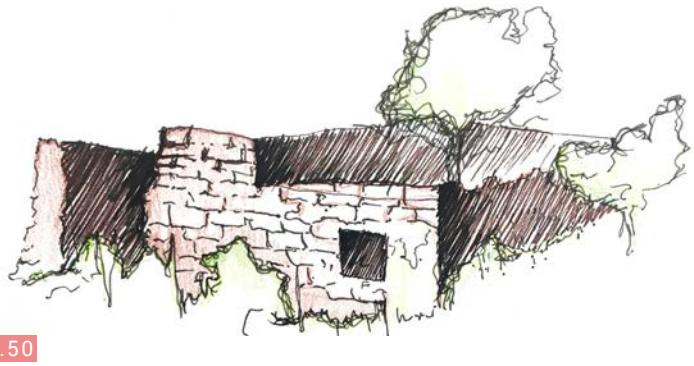
Lot's background

"I was born in 1965 at Botshabelo, the year the big church was one hundred years old. I went to school here. We grew vegetables here; mielies, apples, grapes. Each and every family that stayed here had a farm. Cattle, chicken and everything was here. We only went to town to buy clothes. Today it is meant to be a tourist attraction, but the cultivation of the land then stopped. Today I am the local tour guide and I've been back for three years now. If I die, I want to be buried here... Botshabelo means a lot."

"The German and Pedi people had a good relationship; the German reverends learnt Sotho and everyone was relaxed. Every Christmas before the 24th, the Germans would come with groceries and give every family food... we enjoyed it. The Germans and Pedi people didn't live separately. The founders of this place and the past residents are buried here at the cemetery together."

3.48

3.49



3.50

3.51

Fig 3.48 Photographs of Lot (Author 2017).
Fig 3.49 - Fig.3.51 Illustrations based on interviews with Lot (Author 2017).

Water

Here we drink groundwater which flows from the mountains, and the stone channels were used for drainage. “I would like to show you where the water comes from, a natural fountain which has no pump - it is a blessing. This is God’s place. The water runs through pipes which go to the houses. The system was done by the Germans.

Education

Most people who stayed at Botshabelo were students and the Germans taught us a lot; the education was the best.”The gardens were full of flowers. It was beautiful. A lot of the trees here are from Germany and are more than 150 years old, they can withstand drought.”

Livestock

“We milked the cows, almost everything was made here. There were maize crops here and uquombothi beer made from sorghum.”

Medicinal plant knowledge

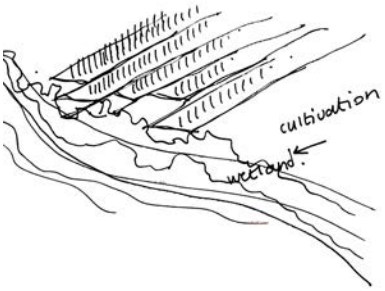
The German’s were well gifted. If you had flu, there was no need to go to the doctor. The German’s would take certain leaves and mix them together and you would take them and feel better. The most important thing about the Germans was the education. There are certain leaves of trees which the Germans would give us and the flu would be gone. My mother still remembers the plants. They were African plants, but the Germans knew how to utilise them. Some of the plants are still here, but only my mother remembers them.”

Stone construction

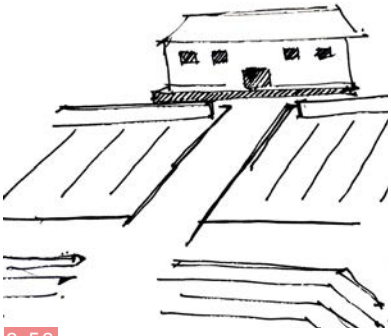
“The Pedi people built the fort with their own hands, they built it for self defence. They taught the German’s about the stone construction. Our houses were always built with stone.”

Regarding the future

The community members that used to live at Botshabelo before the forced removals are going to come back to live near the entrance of the property. They believe that this place should also serve as a tourist attraction.”



3.52



3.53

3.54

Fig 3.52 - Fig.3.54 Cultivated fields, buildings and medicinal plants (Author 2017).

3.9 DOCUMENTING THE EXISTING

The farm Toevlugt 320 JS comprises of the Botshabelo Nature Reserve and the Botshabelo Historic Village. Below the existing condition of the Botshabelo Historic village is mapped.

3.55

Fig 3.55 Plan of existing conditions (Author 2017).


1


2


3


4


5

6


7


8

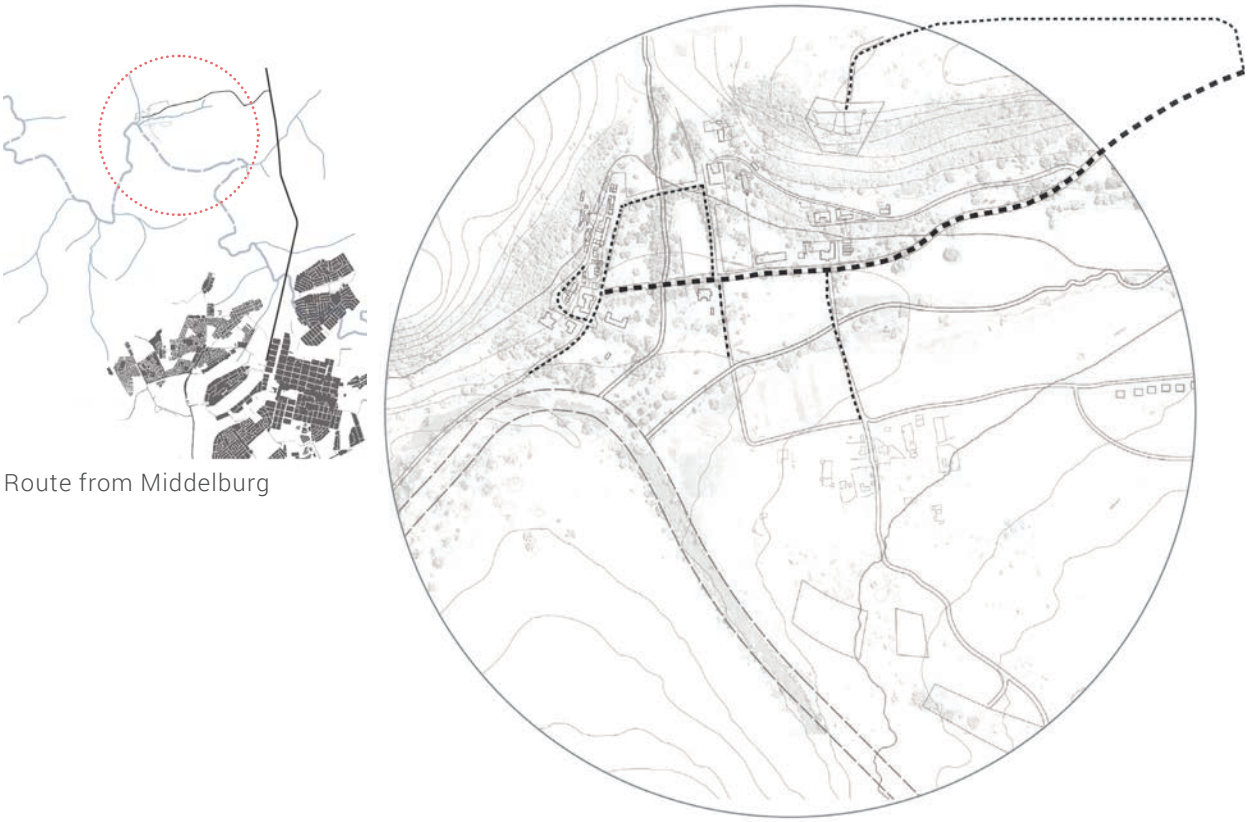

9

3.9.1 EXISTING BUILDINGS

1. Printing shop
2. Wainright & blacksmith shop
3. Serote house
4. Dining hall/ catering house
5. Dormitories
6. Cook's house
7. Manual labourers house
8. Pakendorf house
9. Seminary
10. Old High School
11. Baumbach house
12. Domestic science school
13. Old primary school
14. Big church
15. Merensky's house
16. Fort Merensky

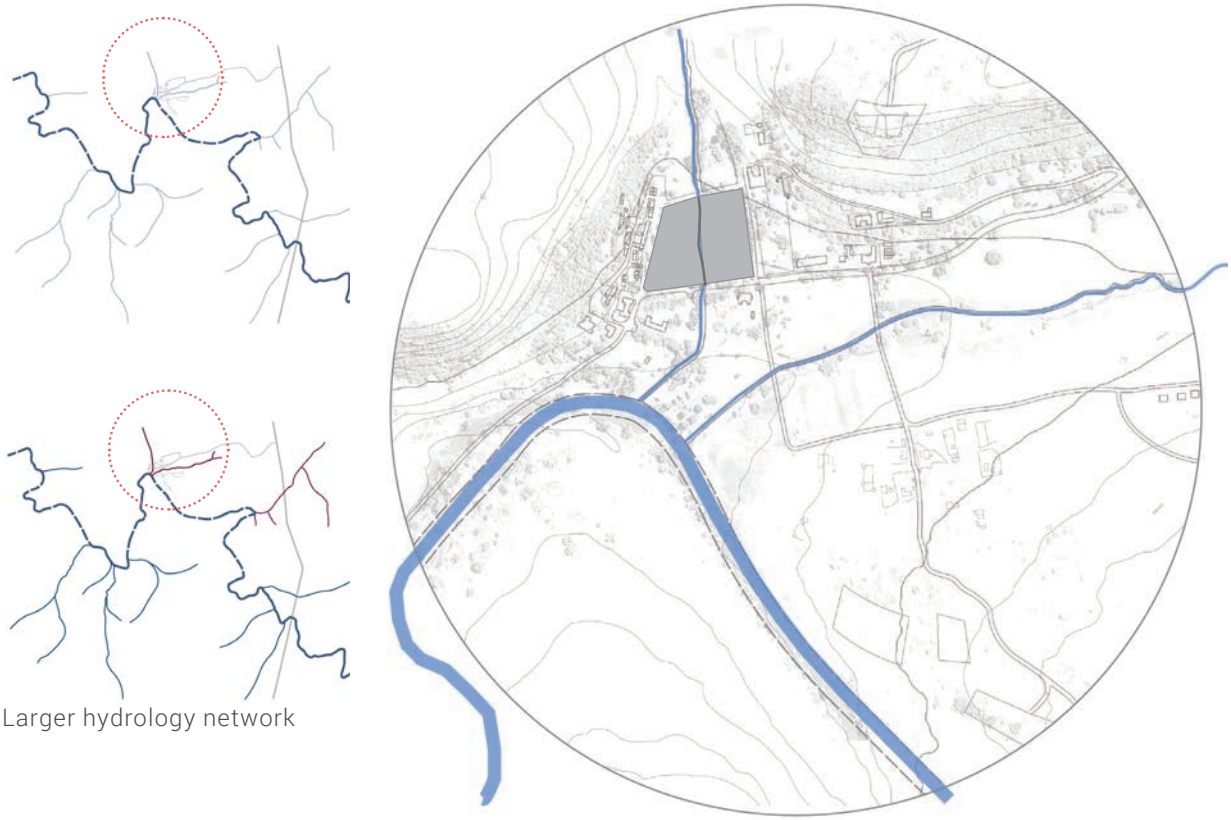
Fig 3.56 Plan and photographs of existing buildings (Author 2017).

3.9.2 Landscape mapping



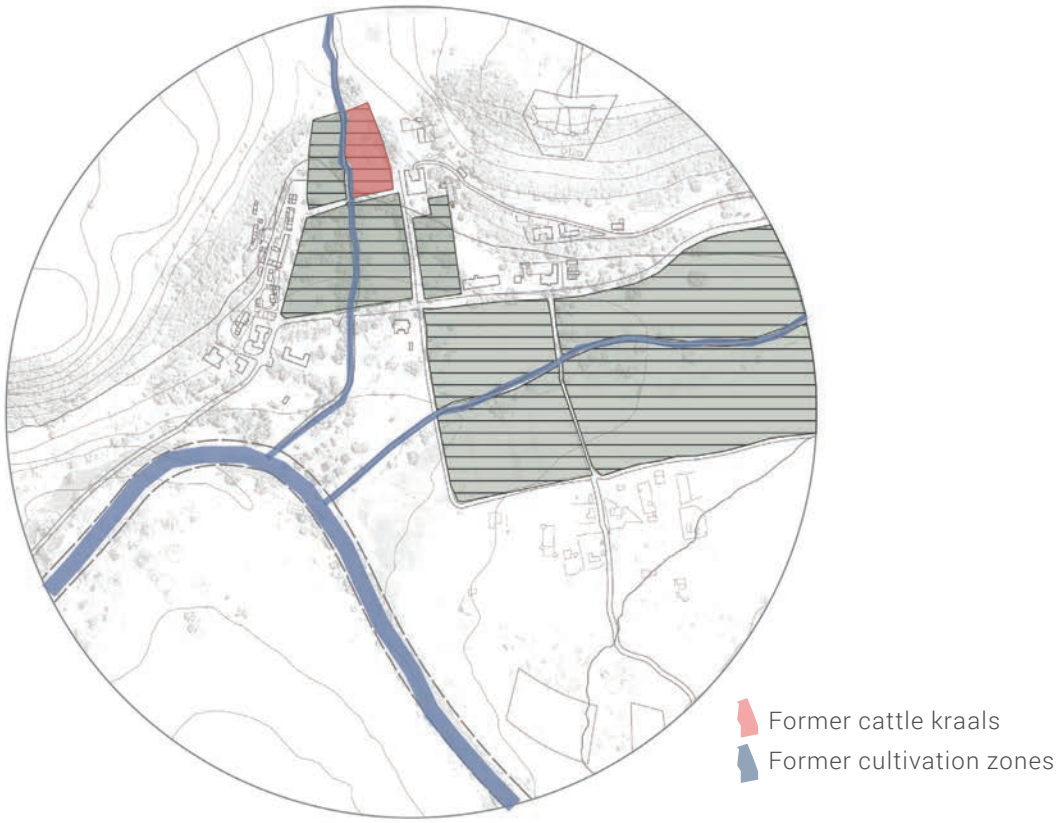
Route from Middelburg

3.57 Existing road network (Author 2017).

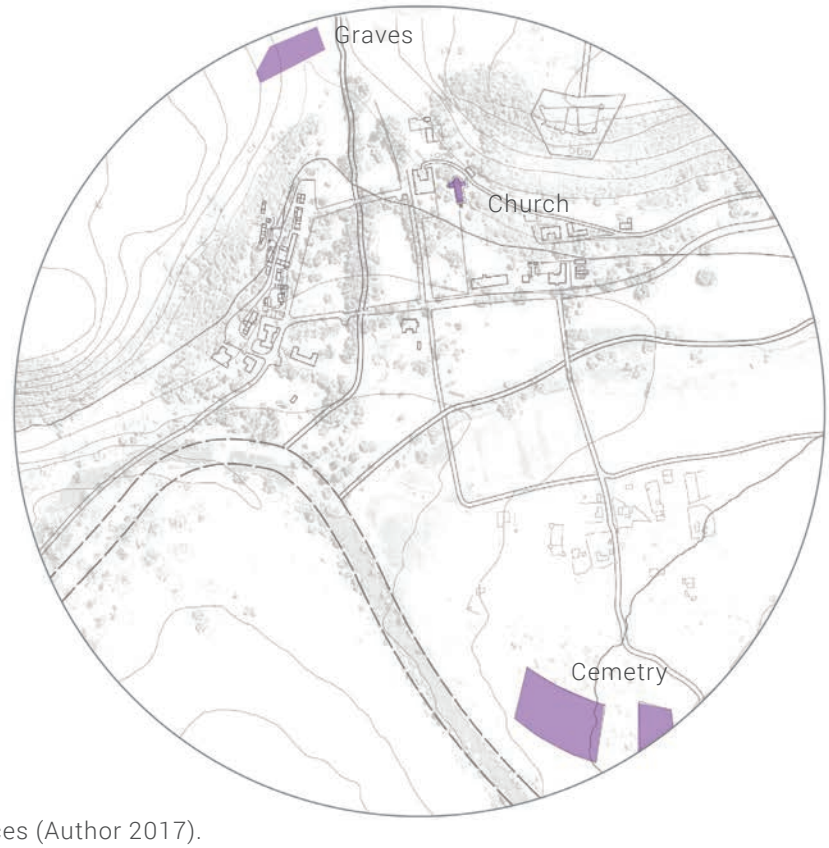


Larger hydrology network

3.58 Tributary streams through site connecting to Olifants River (Author 2017).



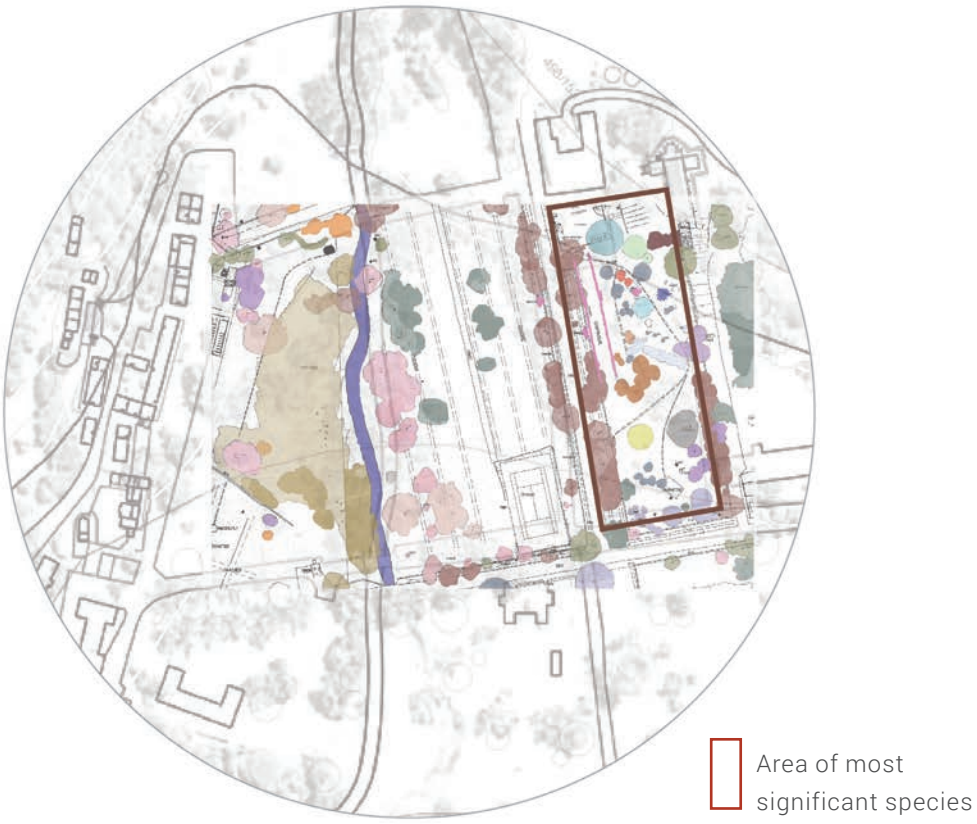
3.59 Existing agricultural allotments (Author 2017).



3.60 Sacred spaces (Author 2017).

3.61 Places of memory - ruins of Motse (village) and first houses (Author 2017).

3.62 Agricultural allotment area: prominent vistas (Author 2017).

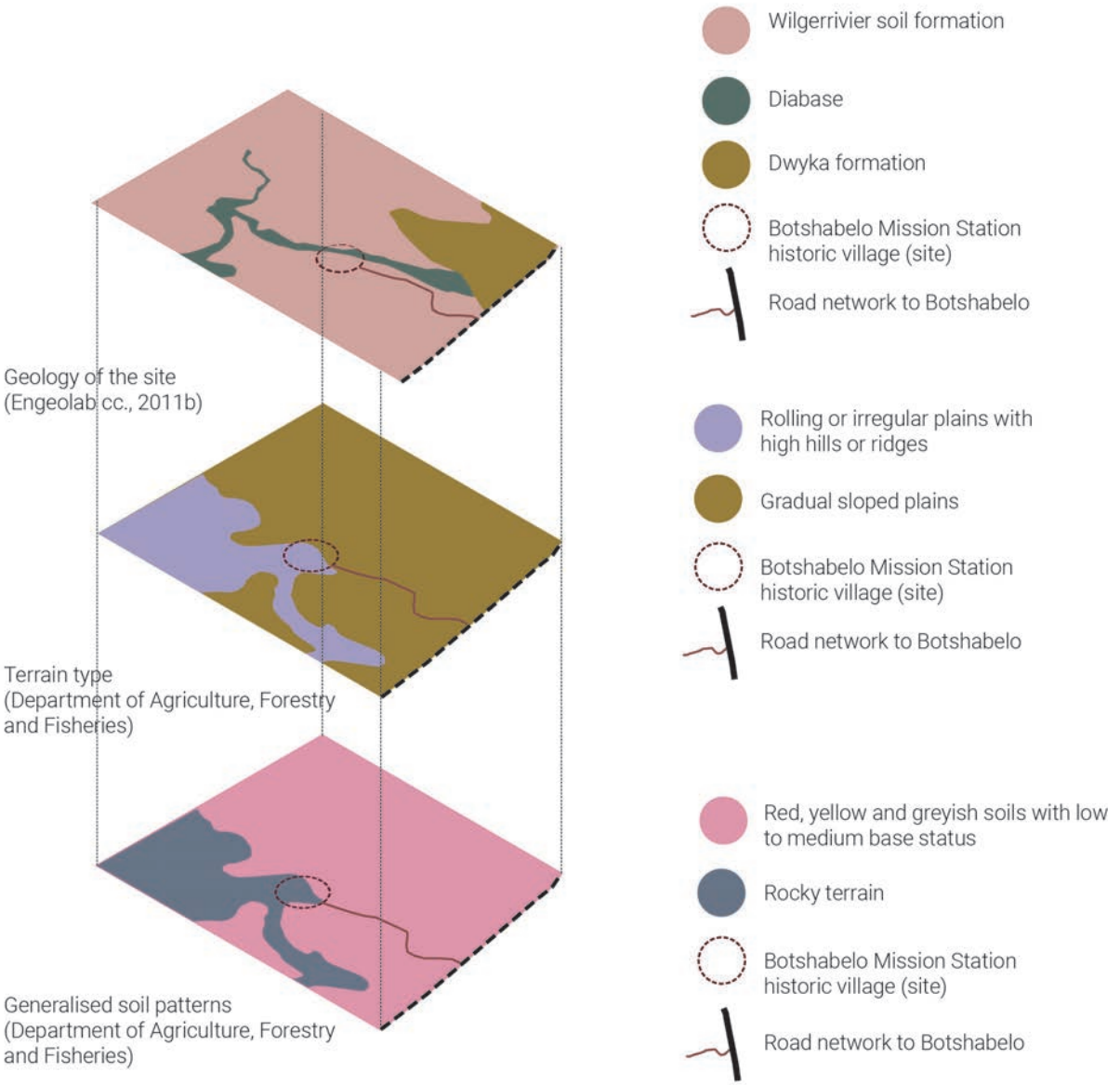


3.63 Agricultural allotment area: existing vegetation (Author 2017). (See Appendix Three).

3.64 Agricultural allotment area: entry points (Author 2017).

Soil

Information was obtained from the Environmental Impact Report: The establishment of a rural village on the Remaining Extent of the farm Toevlugt 320 JS, Middelburg (DEDET ref. no. 17/2/3 N-167). According to Engeolab cc (2011b), the site is underlain by the following geologies:



3.65

Fig 3.65: Geology of the site adapted from Botshabelo Environmental Impact by Clean Stream Services (Author 2017).

Rocks on site

Existing rocks on the site are found to be predominantly sandstone (Erasmus et al. 2013:72). The soil on site is sandy with about a 500 mm topsoil layer. The walls of the agricultural allotments as well as Fort Merensky are constructed from flat sandstone rocks. Normal construction can therefore occur for new development, and when dealing with irrigation later on in the process, the soil type is to effect the design of the irrigation system.

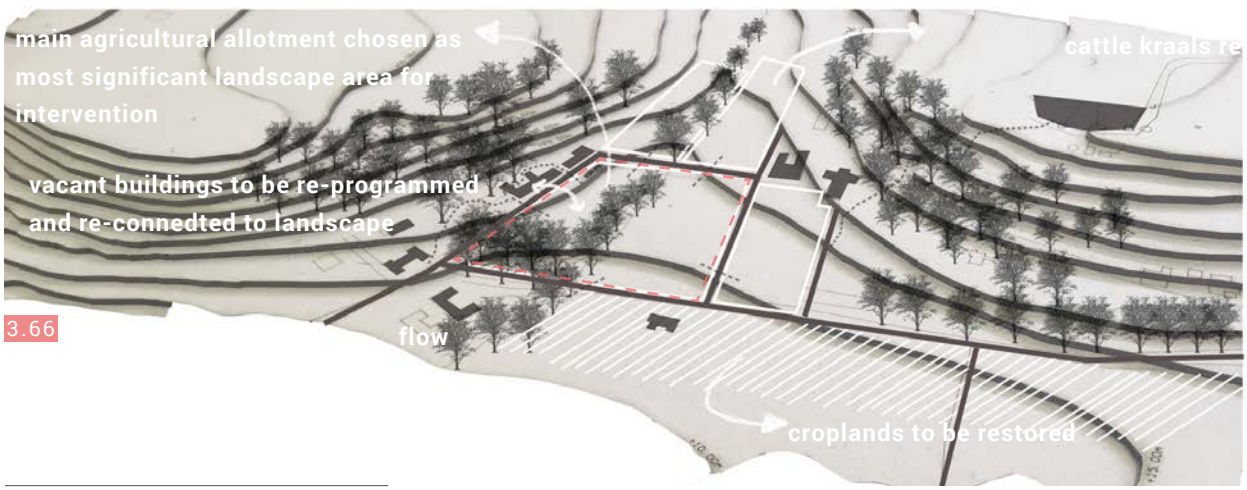
Climate

According to the South African Weather Bureau, the site falls within the Climatic Region H - the Highveld. Summer temperatures range from 9 degrees Celsius to 32 degrees Celsius. The annual average is comprised of a daily maximum of 23.9 degrees Celsius, and a daily minimum of 7.2 degrees Celsius. The Highveld is known to consist of extreme weather conditions including droughts, floods and strong gusty winds, as well as the potential of frost during the months between April and September. The site falls within the summer rainfall region of Mpumalanga. The mean average rainfall is 735mm, and the mean annual evaporation potential is 1500mm. The prominent wind direction is NE, and the windiest months are January, February and March.

Conclusions

Through mapping the stories and memories of Botshabelo, and the existing conditions of the site, the landscape is to be re-programmed and a new design will then follow. It was decided that the main agricultural allotment represents the most significant zone for intervention on the site in relation to the stories, existing buildings and natural water stream and this is to form the focus area for the remainder of the project.

Main agricultural allotment



3.66

Fig 3.66: Model exploration and chosen focus area (Author 2017).

3.67 Stream running through agricultural allotment (Author 2017).

3.68 Main street to seminary building (Author 2017).

04

RE-CULTIVATING

Inspired by the mapping and collection of stories, memories and experiences of Botshabelo, the programmatic and precinct development of the proposal is explored in the following chapter.

4.1

Background

"Theories are debatable explanations concerning how you interpret phenomena in the world, make sense of experiences, discover patterns and produce meaning" (Herrington 2017). The initial research questions discussed in Chapter One (see page 27) asked: "What design process can be followed as an alternative to the static museum approach when dealing with a neglected cultural landscape?"

The investigation thus far has uncovered both aspects of the tangible and intangible significance of Botshabelo through a collection of stories, lived experiences and physical remnants of the old settlement. The research is to now extend further into developing an approach to the conservation of the significance of Botshabelo based on the re-introduction of an authentic relationship between people and their environment.

Figure 4.1 indicates the three primary phases the development took and the informants in each phase. As the programme and precinct vision was generated, the main informants consisted of the previous mapping of both the region and the residents. The theory to follow is to support these informants and guide them to a new program for Botshabelo.

Fig 4.1: Informants from the previous mapping chapters on the development process (Author 2017).

4.1 COMMEMORATING A SHARED HERITAGE

A NEW PROGRAMME, INSPIRED BY A FORMER RELATIONSHIP

4.1.1 Commemoration and identity

'Commemoration' and 'identity' refer to fundamental concerns of human existence. "When dealing with gardens in general, a substantial part of our physical environment, one deals with unspoken questions of identity and commemoration" (Wolschke-Bulmahn 2001:2). The notion of memory seems to be a prerequisite of identity, which rests on an awareness of continuity through time.

Commemoration can be described as a calling to remembrance or a preserving in memory. Memorials and places of commemoration serve to preserve memories, whether of individuals, groups of people or events. Identity is almost inconceivable without history and without the remembrance and commemoration of it. The core meaning of any individual or group identity, namely "a sense of sameness over time and space", is sustained by remembering (Wolschke-Bulmahn 2001). Through understanding the intricate relationship between memory and identity, it can be assumed that the identity of Botshabelo is still within the memories of those who once lived there. It is through engaging with these memories that an understanding of the true identity of the place was possible.

4.1.2 Visual heritage

If we are to deal with a place of memory such as Botshabelo, an initial response is to think of the concept of commemoration. Monuments have been used within our landscape as reminders of specific people and events. They sit prominently and embody durability, dominance and often, biased narratives. For many years, monuments have been critiqued for representing values that have become obsolete, and this is especially true in the South African context, for example the *Rhodes Must Fall* movement mentioned in Chapter One (see page 24). Counter or anti-monuments are contrary to conventional techniques of monumentality, and these differences can be observed in subject, form, site, visitor experience and meaning (Stevens et al. 2012). "In recent decades, counter-monuments have emerged as a new, critical mode of commemorative practice[…] it has helped to reinvigorate public and professional interest in commemorative activities and landscapes and has developed its own, new conventions" (Stevens, Franck, & Fazakerley 2012).

Characteristics of counter-monuments that are relevant to the landscape are notions of temporality, changeability and interactivity. When dealing with heritage in a society with multiple narratives,

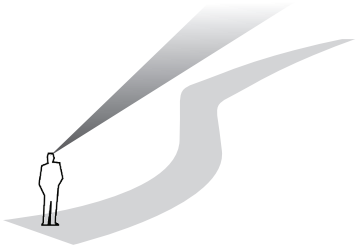
the introduction of a monument or physical symbol has often proved to be an unsuccessful approach. It is the author's belief that a memorial landscape is not the appropriate programme for a future Botshabelo, where the significance was once found in the everyday life and expression of the local residents.

One could further argue that the notion of commemoration within the built environment is dominated by Western modernity's obsession with the visual, as seen in the rise of museums, zoos and tourism (Bowring 2007:81). This approach must be scrutinized in landscape architecture, as the act of **remembering** as well as the experience of the physical landscape itself are based on a multi-sensory experience. A representative of the Heritage Association of South Africa, Stoltz (2015), states that as a result of the infuriation towards public memorials, the revisiting of policies regarding our collective heritage has become necessary.

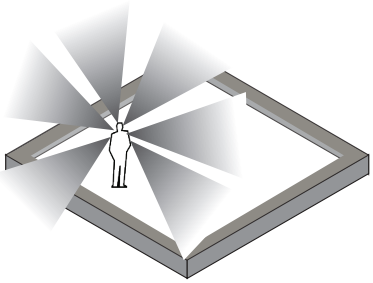
The recent duplication of Ndebele forms and a settlement at Botshabelo may then be critiqued as a visually dominated approach to dealing with the cultural landscape. Since this approach was taken, the number of tourists and visitors has dropped from nearly 2 000 people per week to almost none; it is thus possible to see this approach as unsuccessful.

"To impoverish the experience of place, through, for example, the sensory deprivation of ocularcentrism, is thus to rupture the very cultures and identities that reside there" (Bowring 2007:82). Ocularcentrism describes the domination of the visual sense above all the others.

Beginning already in the Renaissance period, the dominance of the visual has prevailed for centuries. Today we live in what is broadly known as the 'visual age', and there is a risk that we do not fully engage with our landscapes and the richness they have to offer. According to Bowring (2007), meaningful engagement of self and place is derived from knowing, understanding and remembering - an authentic sense of 'aesthetics' which originally referred to far more that the visual. The visual is stated as the least effective of the senses in the retention of memory, and the memory of a place creates a true depth of engagement with the landscape. To counter the visually dominated approach and recognise the *senses* of place, one can find guidance in the theory of phenomenology.



4.2 Visual domination



4.3 Towards the multi-sensory

Fig 4.2 - Fig. 4.3: A true experience of the landscape as multi-sensory (Author 2017).

4.2 PHENOMENOLOGY IN LANDSCAPE ARCHITECTURE

Described as the philosophy of the twenty-first century, phenomenology in broad terms deals with experience and existence and has been described as a possible means to reclaim the multi-sensory nature of place (Bowring 2007:82). Theorists such as Heidegger, Gadamer and others intend for space to be perceived as lived experience, and experienced with all of the senses.

Phenomenology is translated through to design through the use of materiality, sound, touch and the shaping of forms in response to light and landform (Bowring 2007:83).

4.3 CRITICAL REGIONALISM IN LANDSCAPE ARCHITECTURE

Along with phenomenology, the theory of critical regionalism was identified as an appropriate and relating theoretical guide to the planning and development of the Botshabelo cultural landscape. Critical regionalism has had its focus on architecture, however its relevance in the field of landscape architecture has recently gained popularity. Jackie Bowring and Simon Swaffield (1999) identify a number of strategies in critical regionalism which are relevant in landscape architecture and these have been summarised into the following:

a. Sensing of place: phenomenology

As discussed above, this deals with the highlighting of important and direct experience when capturing the particularity of a place and region. The indigenous integrity of a place is to be celebrated, enabling a culturally and ecologically sensitive response.

b. Emphasising the tactile

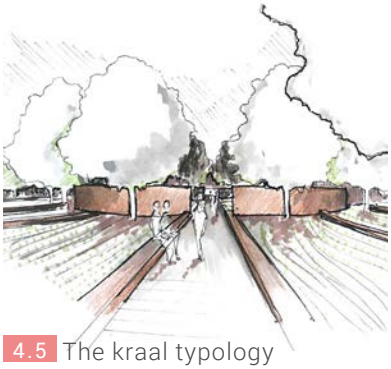
Based on a concern with reconnecting with materiality, the utilisation of regional materials such as stone and water are able to celebrate a regional character and enhance the sensory experience of a particular place.

c. Shaped by the tectonic

Based on a shift from 'scenic' aesthetics to ecological aesthetics, the sensitive response to the underlying hydrology and systems of a site are highly important. Deep landscape forms can therefore be inherited from nature and actively shaped from an understanding of process.

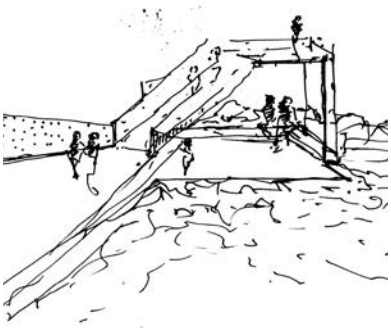
Initial design responses:

4.4 Experiencing walled avenues



4.5 The kraal typology

4.6 Regional materiality



4.7 Design with natural systems

Fig 4.4 - Fig. 4.7: Phenomenological design explorations (Author 2017).

d. Borrowing indirectly

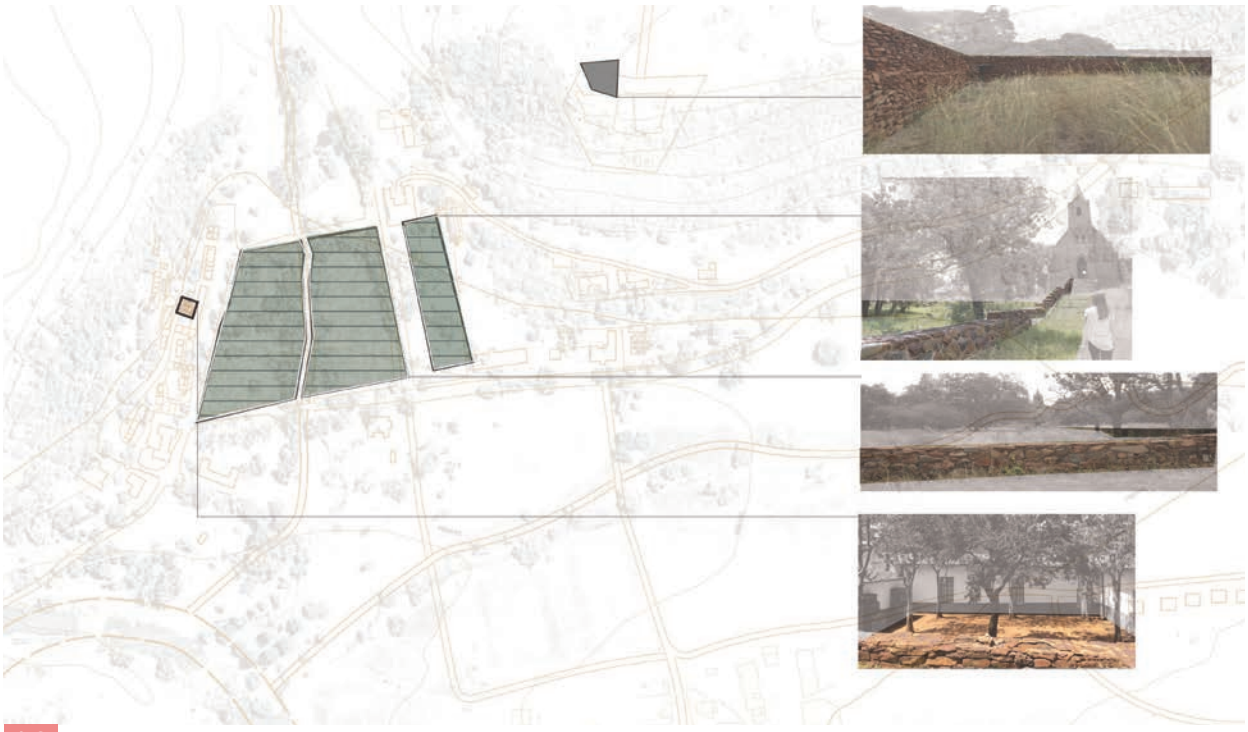
This is a turn away from the superficial duplication of indigenous architecture to a greater interpretation of the spaces and meaningful place making ideals of the culture, which can then be used as inspiration for the design.

e. Memory

This deals primary with a sense of reconnecting to the pre-occupation or initial functioning of a region or place, rather than reconnecting to the visual landscape.

Conclusion

Botshabelo today consists of many open voids as seen in Figure 4.8 below, spaces without program or experiential qualities. Through the principles spoken of in phenomenology and critical regionalism, the precinct and program proposal aim to re-introduce a sensory experience rooted in the memories of the place.



4.8

Fig 4.8: Voids in the landscape to be re-programmed (Author 2017).

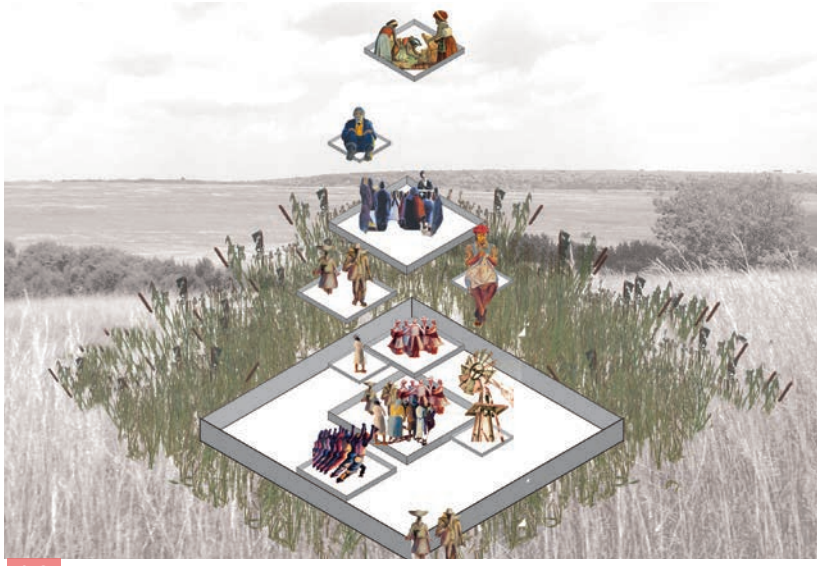
4.4 BOTSHABELO PRECINCT DEVELOPMENT

"The emphasis shifts from object appearances to processes of formulation, dynamics of occupancy, and the poetics of becoming" (Corner 1999:159).

The re-introduction of everyday interaction

Neal Leach, an architect and theorist, supports the argument for an approach to first understand the cultural identity of place in order to understand its relationship to built form, questioning the ongoing fixation with developing form which replicates 'cultural identity'. According to Leach and Judith Butler, belonging within an environment is able to be found through the development of new memories through performance or **everyday use and ritual** (Bruinette 2016:55).

At first glance, Botshabelo may seem to be merely a colonial settlement in its layout and built form. However, the story of the place has indicated this not to be true, proving the mission station to be a unique collaboration between cultural groups and their relationship with the landscape. The problem is therefore found in the fact that only the visual elements remain, and although a beautiful destination, the site has become deprived of its initial sensory experience to the everyday visitor and local resident. However, it remains rich in potential to once again serve as a place of refuge, retreat and learning. The precinct proposal intends to include the future local community of Botshabelo and the everyday visitor and tourist through an interactive experience introduced to the empty voids within the landscape.



4.9

Fig 4.9: Re-introducing everyday ritual to the landscape (Author 2017)

4.4.1 Project “restoration Genandendal”

4.10

4.12

Designing with History

Christian Schittich states “the starting point is to understand the origin of the place itself and look in a broader perspective at Africa, including the intangible heritage and values from the past. Photographs and drawings help us to understand the history of the place but we have to interpret the real spirit of the place. “What is required is less an ability to invent than one to reassign and interpret” (Du Preez 2009).

4.11

Background

Genandendal is a nineteenth century Moravian mission station established in the Western Cape Province. It is a unique example of an early, functioning multicultural settlement. In 2001, plans for the restoration of the settlement began, a collaborative project between the Netherlands and South Africa. Typical problems identified for mission stations in general were the high unemployment rate and neglected agricultural activities.

Inspiration drawn from:

“Integrated conservation” was introduced in the Declaration of Amsterdam in 1975, and has been labelled a forward-thinking and holistic approach to heritage conservation. The concept of ‘integrated conservation’ means giving an active role to cultural properties in the life of local populations (Du Preez 2009:7).

Social, cultural and economic functions were addressed in the restoration phase as well as within the long term planning of Genadendal, as there existed a great need of employment. The education and training programs dealt with the shared heritage of the Netherlands and South Africa. Local craft skills were to be integrated, further education formed a vital part of the proposal and small scale businesses emerged.

The approach to the restoration of heritage taken did not aim to return everything to its original state. The past and its values were studied as the most important input for future planning. “The making of a new coherent story takes those elements into account, and as the designer one brings in the past from new perspectives” (Du Preez 2009). The fertile valley and agricultural development, the historic church and the ecology of the site were chosen as three core points of restoration.

Fig 4.10-4.12: Photographs of Genadendal (Western Cape Archives J 4535, accessed in Du Preez 2009).

4.4.2 Botshabelo rural village development

The *Botshabelo Community Development Trust* comprises the former residents of Botshabelo that were removed from the site in the 1970s. In 2005 as part of a land claim, a portion of the property of Botshabelo was awarded to the trust for the establishment of a rural village. The Steve Tshwete Local Municipality is to provide funding for the development of the village which is to be around 130 ha in size (Erasmus et al. 2012).

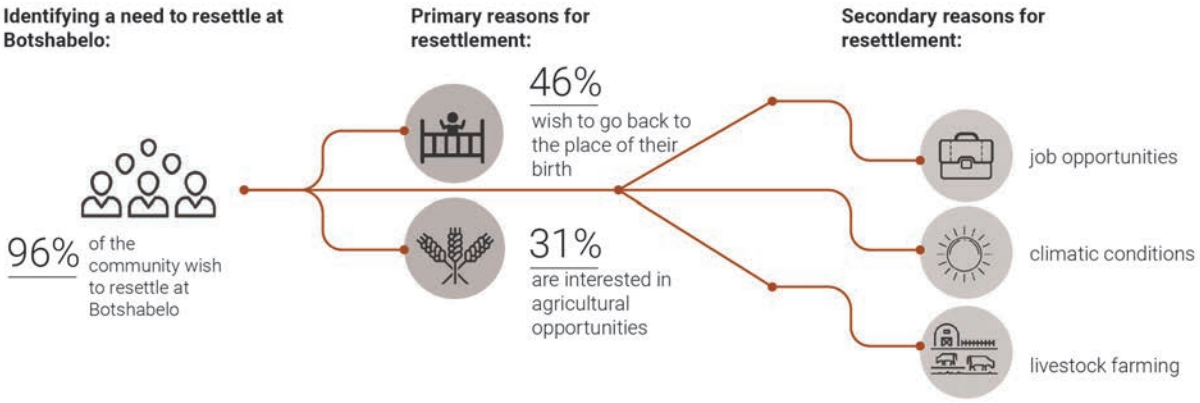
Urban Dynamics Town and Regional Planners provided the framework of the settlement as can be seen in Figure 4.13 below, consisting of approximately 1000 residential stands, as well as business and school facilities. It is understood that development is currently underway today. The aerial photography indicates the footprint of the settlement and its proximity to Botshabelo. It is a remaining concern that the beneficiaries will not find sufficient employment close by similar to the case of Genadendal, and through the studies existing on the community members, the need to return to Botshabelo is highly motivated by its agricultural potential. Learning from Genandendal's ability to involve community members in the process of restoration, the intention is for the Botshabelo Community Trust to be actively involved in the restoration work and development of Botshabelo; their skills and knowledge are regarded as invaluable to the holistic approach to the heritage restoration and tourism development of the site as they have established a direct relationship to the landscape in the past.

4.13

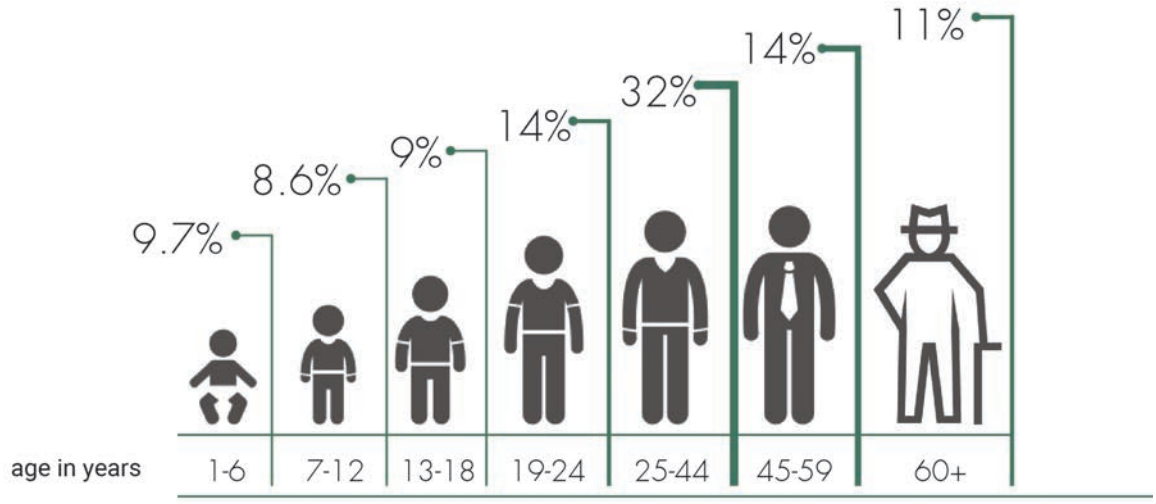
Fig 4.13: Botshabelo Rural Village development in relation to historic core (Google Earth 2017).

4.5 BOTSHABELO'S FUTURE COMMUNITY

A socio-economic impact assessment was conducted by Plan Associates Town and Regional Planners Inc. inclusive of current characteristics of the members of the Botshabelo Community Trust who are to resettle on the property just under two kilometers from the historic mission core. A total of 90% of the beneficiaries who participated in the survey indicated that Botshabelo and Middelburg were their place of birth, with the majority (77.3%) indicating Botshabelo (Erasmus et al. 2012). Important from a landscape perspective is the need of the community to resettle at Botshabelo for its agricultural opportunities, their intentions including both crop farming and livestock farming.



4.14



4.15

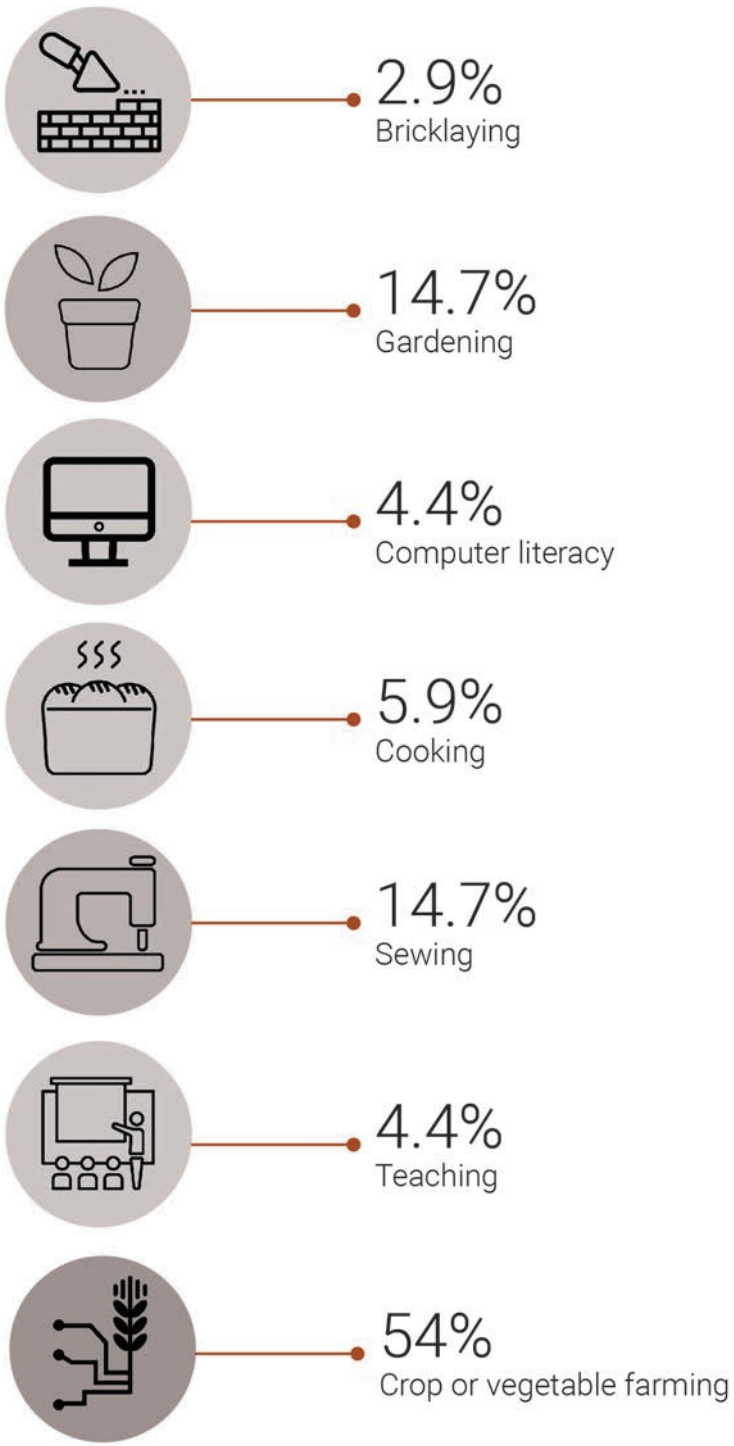
Fig 4.14-4.15: Statistics adapted from Botshabelo Community Trust socio-economic impact assessment by Erasmus et al. (2012) (Author 2017).

Defining the available skills

The majority of residents of the Botshabelo Community Trust have a level of education, ranging from secondary school onwards. Bachelor degrees, higher education diplomas, teaching diplomas, nursing qualifications and N4 qualifications are held within the community.

Additionally,the community members possess many skills. and are therefore able to generate income. The problem however is that the lack of availability of jobs continues to be a hindrance and obstacle in the lives of the community members.

In terms of Census 2011 the unemployment rate in the Steve Tshwete Local Municipality is 20%, while the eMalahleni Local Municipality, located to the west of Botshabelo has an unemployment rate of 27%. The proposed development will have to accommodate a total population 4891, based on the number of beneficiaries and their families, namely 930. (Erasmus et al. 2012). A variety of age groups will be present and a number of skills available. Agricultural skill exceeds all the others as 54% of the community members are experienced in this manner as seen in Figure 4.16.



4.16

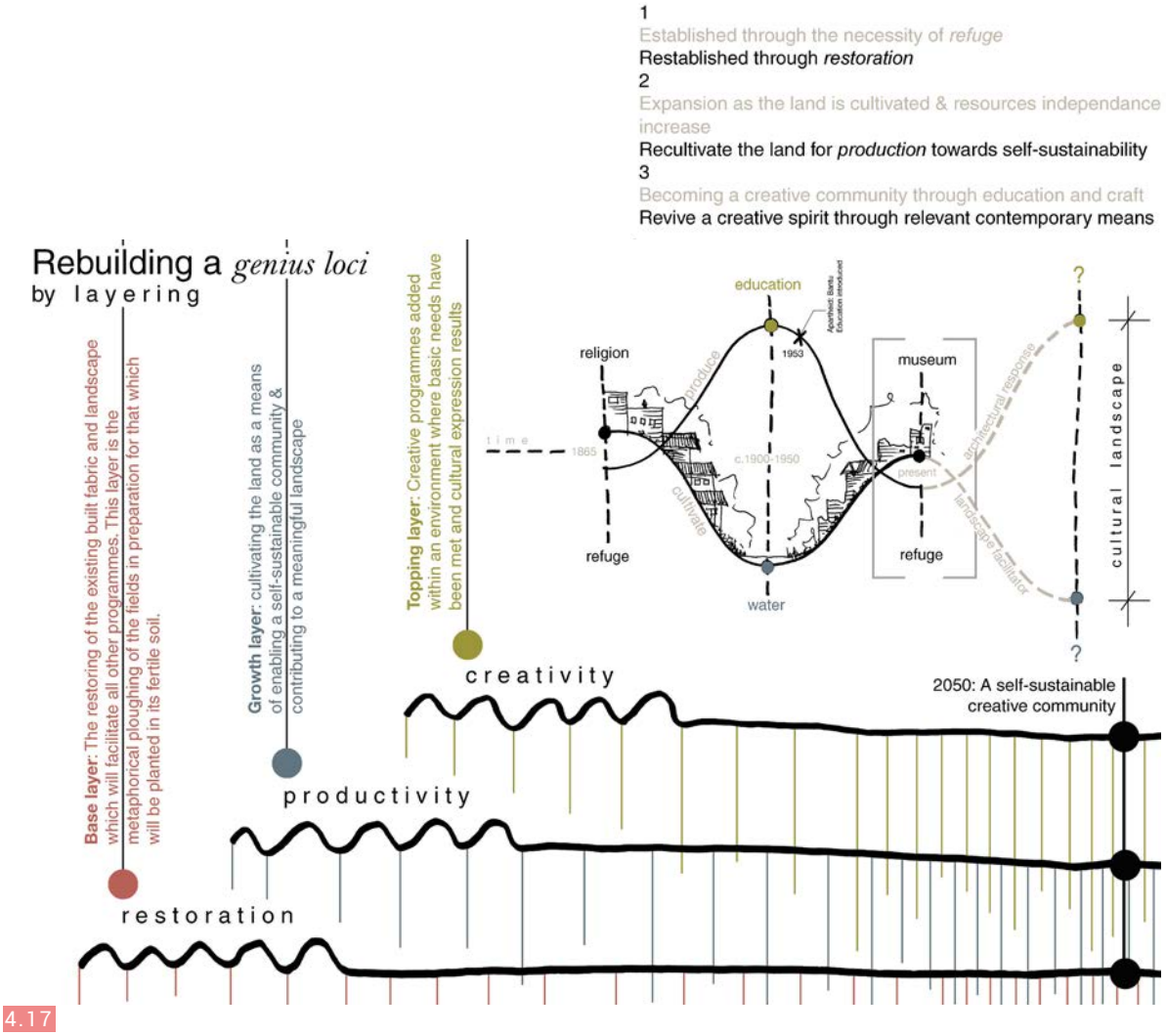
Fig 4.16: Community members' existing skills adapted from Botshabelo Community Trust socio-economic impact assessment by Erasmus et al. (2012) (Author 2017).

4.5.1 Precinct development: Botshabelo Group 2017

Through an understanding of the historic significance and current problems facing Botshabelo, as well as an understanding of the future community's needs, skills and aspirations, a group proposal was created based on three core principles, namely **education, culture and productivity.**

The essence of the future vision for Botshabelo is founded on the belief that by re-introducing everyday interaction between people and their environment, Botshabelo can once again become a self-sustaining and creative community.

The landscapes role is to serve as a base for cultivation, through which the produce of the land may be used for socio-economic, educational and cultural purposes. This agricultural development is to take into account the regional history, materiality and the specific practices of cultivation that occurred at Botshabelo in the past.



4.17

Fig 4.17: Botshabelo Masters Group 2017 initial framework vision strategies (Group 2017).

4.18

Fig 4.18: Zoning development (Author 2017).

4.19

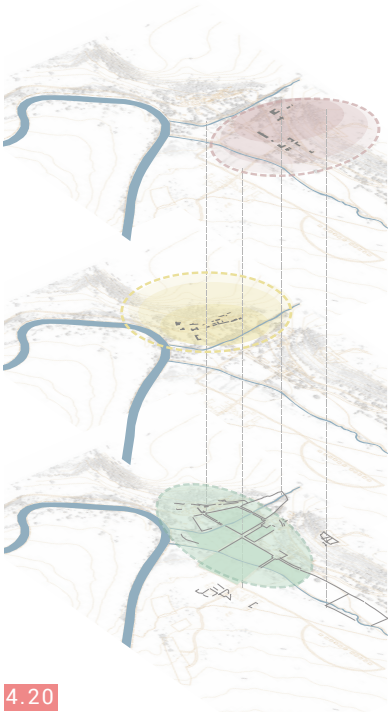
Precinct vision and strategies summarised

It was concluded that similar to the Genadendal precedent, the sensitive development of tourism opportunities are to be included with the goal of adding value to the local community, enabling a long term sustainability of the settlement and historic precinct. Through interviews conducted on site, one understands that the community see the tourism potential of Botshabelo's historic core and wish to utilise it for this purpose.

The re-introduction of everyday interaction at Botshabelo in the landscape is therefore the re-introduction of a working farm, where both visitor and local resident are able to experience the landscape's sensory richness and benefit from its produce.

Principle one: education

Part of this intention is to once again integrate the historic buildings alongside the agricultural allotments with the productive landscape; enabling them to once again provide education and skills training to future generations concerning the cultivation of the land. Titled the 'Culinary



4.20

Fig 4.19 - Fig.4.20: Three core zones to be restored and developed (Author 2017).

Corridor', the historic buildings comprise of the herbarium and medicinal tea making factory, the preserves making workshops and tasting courtyards and a farm-to-table restaurant where food grown on site is used.

New, proposed buildings are to sit within the agricultural allotment and introduce a research facility for African botanical plant species, a library and a cooking school.

Principle two: productivity

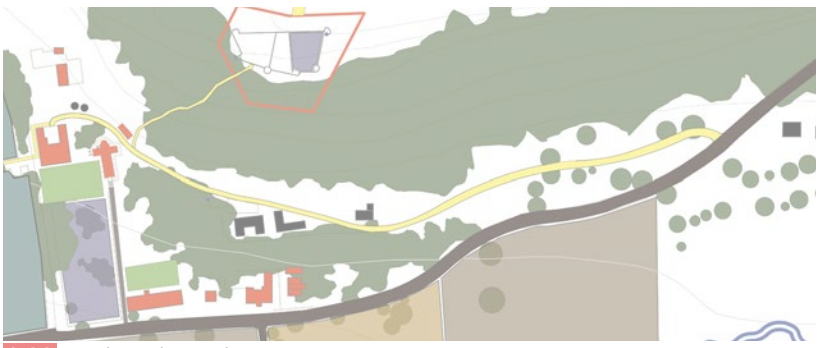
The landscape's role is to once again serve the rest of the settlement through the cultivation of edible and medicinal plant species, as well as through accommodating livestock such as cattle. In a response to the theme of 'African cultivation' and its significance in the region of Mpumalanga, an 'African botanical garden' is suggested to incorporate commemoration and indigenous knowledge.

Principle three: cultural restoration

The precinct comprising of the historic church, the missionary's house, the former school and Fort Merensky is to serve as a cultural precinct where events and retreat occur, such as weddings and various functions. The Fort is to be utilised in the research and narration of Botshabelo, as well as accommodation and retreat space.

4.21 Cullinary and Education Corridor

4.22 Organic farm



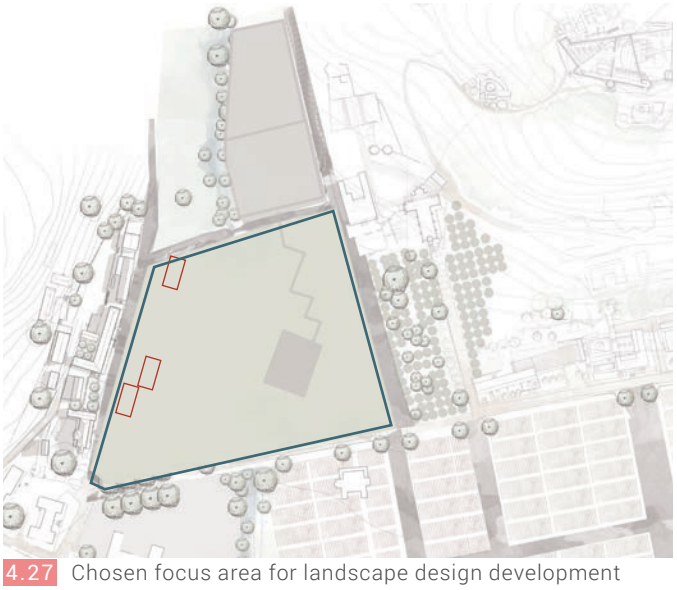
4.23 Cultural Precinct

Fig 4.21 - Fig.4.23: Three zones developed from three core principles (Author 2017).

4.24 Botshabelo masterplan (Group 2017).

4.25 Historic routes restored and new routes added

4.26 Existing links between buildings and landscape



4.27 Chosen focus area for landscape design development

4.6 PROGRAMME DEVELOPMENT
RESTORING PURPOSE


4.28


4.30


4.31


4.32

Fig 4.28 - Fig.4.32: Photos of Babylonstoren (Author 2017).


4.29

4.6.1 Programmatic precedent: Babylonstoren, Paarl.

Background

Babylonstoren is a historic Cape Dutch farm dating back to 1692. The garden is laid out over 3.5 hectares, comprising of fruit, vegetables, berries, bees for pollination, indigenous plants, fragrant lawns and small scale livestock (Babylonstoren 2017).

Critique

Babylonstoren was restored and re-designed by French architect Patrice Taravella from 2007. The garden was inspired by the Cape company gardens and classical French gardens. It therefore is colonial in nature and although possesses some indigenous planting, it does not engage directly with its African context.

Inspiration drawn from:

"Every one of the 300 varieties of plants in the garden is edible or has medicinal value. They are also grown as organically as possible and in a biologically sustainable manner. The fruit and vegetables from the garden are harvested all year round for use in two farm-to-fork restaurants. Every aspect of Babylonstoren – including the contemporary Farm Hotel & Spa, the Farm Shop and Bakery – are led by the ever-changing tapestry and botanical diversity of the garden" (Babylonstoren 2017).

Upon visiting Babylonstoren, it is evident that it is rich in sensory experience and designed to unite humankind with the power of the landscape to produce raw materials and products. The buildings and landscape are connected though the harvesting of food and the enjoyment thereof. Water channels guide the pedestrians' movement and specialised areas such as the medicinal tea garden provide an assortment of experience.

4.7 THE BOTSHABELO ETHNOBOTANICAL GARDEN AND ORGANIC FARM

As a renewed cultural landscape, the proposed Botshabelo ethnobotanical garden and organic farm acts as both a means to preserve a diminishing African botanical heritage and serve as a daily experience of a productive landscape for both visitor and resident, providing knowledge, socio-economic drive and multi-cultural interaction. With the re-introduction of agriculture, both livestock and cultivation, the hope is to once again create a self-sustaining community as existed previously. This concept is to extend its functionality and relevance to the twenty-first century and provide a culinary experience for the everyday visitor rooted in the heritage of the African landscape.

4.8 TWO AGRARIAN HISTORIES

Both of the cultural groups, namely the Germans and the Pedi community, came from previous unique agricultural practices. The Pedi as mentioned above have a unique agrarian heritage spread out in tangible form still today throughout the Mpumalanga escarpment. The German missionaries who entered South Africa had come from a period in time of garden experimentation featuring at what was known as the *Königliche Gärtnerlehranstalt* (The Royal Gardener's Institute) where the promotion of agriculture and the improvement and the cultivation of the land were closely connected to the garden, putting knowledge of botany on display and comprehensively educating students on horticulture, agriculture and scientific gardening (Brüsch 2011). Through historic letters described in the mapping chapter by Otto Karl Papke (see page 72), this form of garden culture was once implemented at Botshabelo.

The proposed development for the landscape at Botshabelo aims to preserve the site's agricultural function and maintain its multi-cultural tradition of cultivation. Both the Pedi agricultural typology and the German 19th century experimental garden typology is to serve as inspiration in developing a unique landscape of botanical education and African culinary experience.

4.9 THE AFRICAN ORPHAN CROPS

The African Orphan Crops Consortium (AOCC) consists of an international team of researchers and organisations with the aims to reintroduce 101 traditional African food crops into our food production in the struggle to secure food security in Africa. These are crops consisting of fruit, nuts, herbs, vegetables and grains that have been traditionally grown and eaten in Africa for centuries. These specific plants were chosen to assist in restoring the diminishing African heritage of Botshabelo.


4.33


4.34


4.35

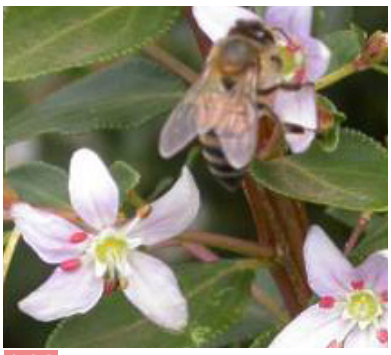

4.36

Fig 4.33 - Fig.4.36: African orphan crops (African Orphan Crops Consortium 2017).

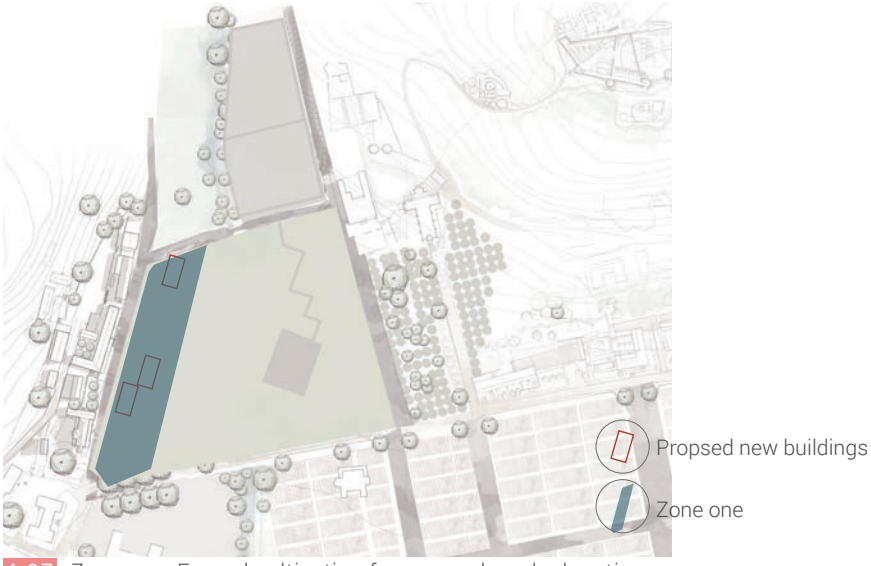
As mentioned by the local residents, the role of education that the German missionaries introduced into the area was invaluable and greatly beneficial. The re-introduction of education is therefore is to be adapted to the study of African botanical heritage and practical skills training in collective farming methods, drawing knowledge from African Indigenous Knowledge Systems and movements such as Slow Food, farm-to-table, Grass Fed Beef SA, and through the re-introduced experiences in the landscape such as foraging and local sorghum beer brewing.

Focus area explained

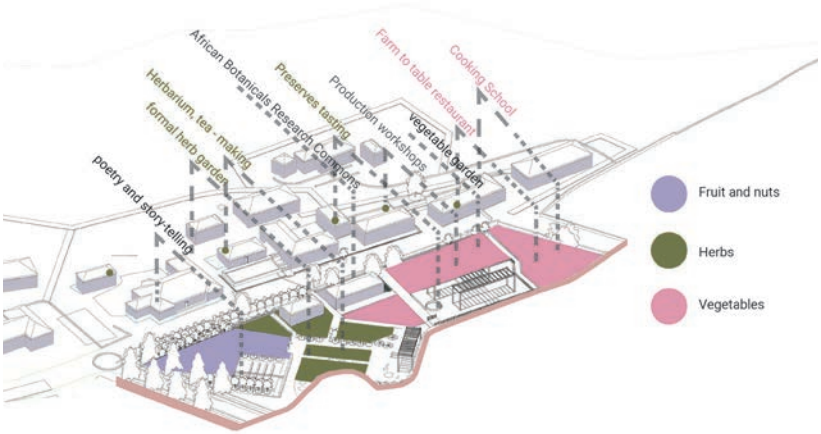
The focus area was chosen due to its history as an agricultural allotment and its proximity and relationship to the existing buildings as seen in Figure 4.27. This area was zoned into three main forms of cultivation based on the two agrarian narratives present in the history of Botshabelo. These zones are:

1. Formal cultivation for research and education
2. Informal cultivation for learning through experience
3. Livestock farming and the ancient grains

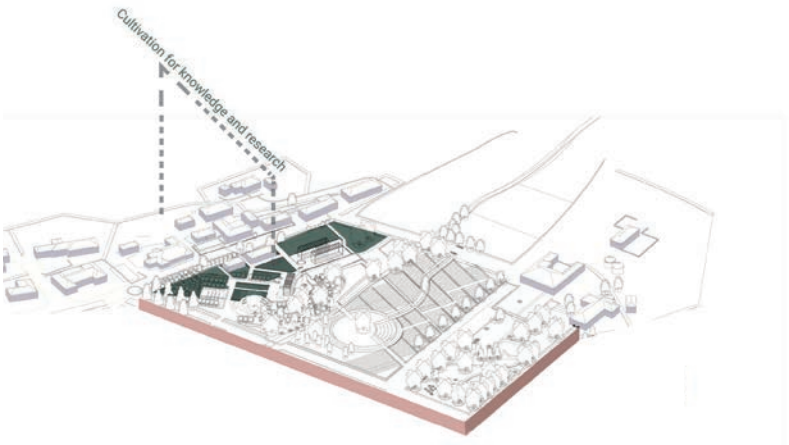
The above zones are shown from Figure 4.37 - Figure 4.42.



4.37 Zone one: Formal cultivation for research and education

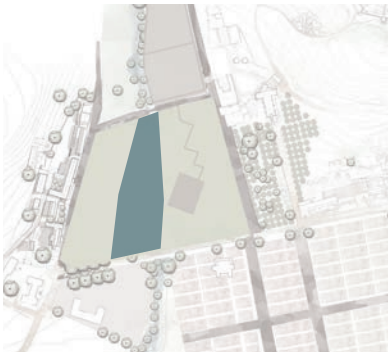


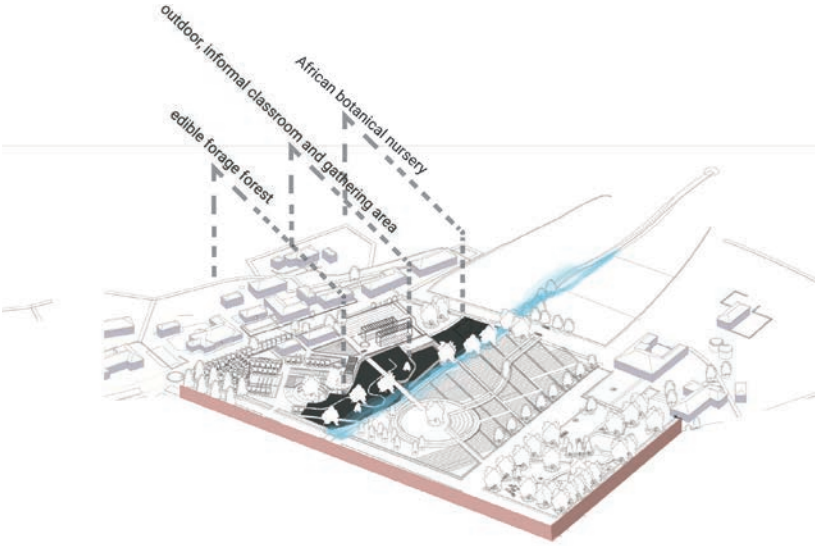
4.38 Zone one: Formal cultivation for research and education



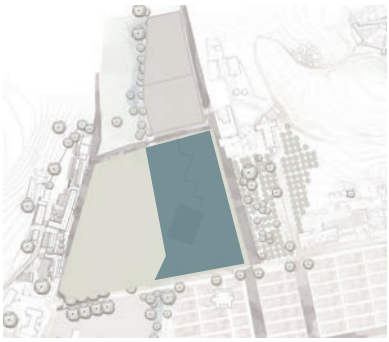
4.39 Formal cultivation for research and education

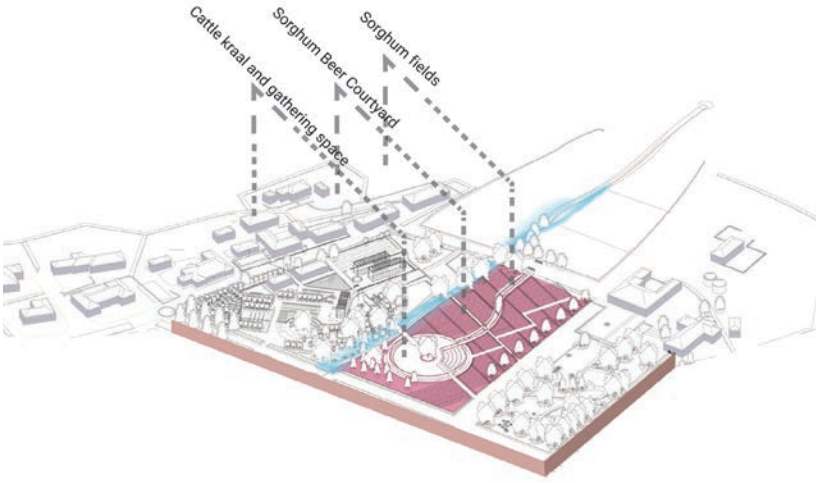
Fig 4.37 - Fig 4.39: Diagrams explaining various zones of cultivation (Author 2017).



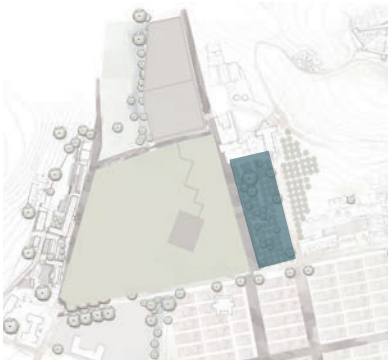


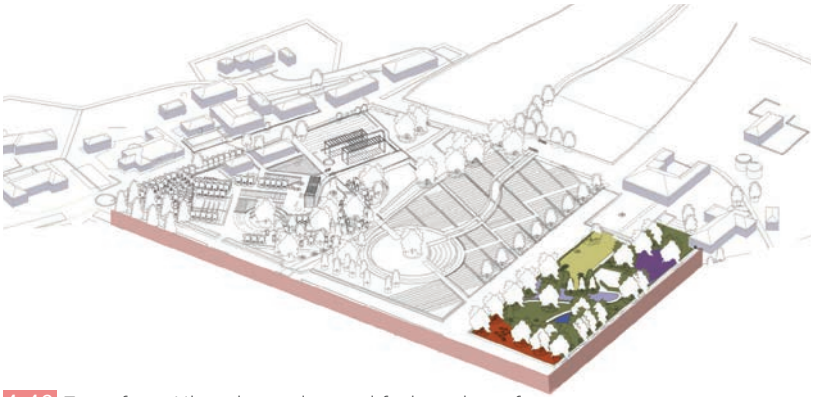
4.40 Zone two: Informal cultivation for learning through experience





4.41 Zone three: Livestock farming and the ancient grains





4.42 Zone four: Historic garden and fruit and nut forests

*Note: zone four was not included in the focus area but forms part of the larger framework proposal.

4.43 Conceptual vision of productive landscape (Author 2017).

4.44 Conceptual vision of cattle avenues and sorghum fields (Author 2017).

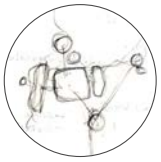
4.45 Journey into the agricultural allotment/ focus area_1 (Author 2017).

4.46 Journey into the agricultural allotment/ focus area_2 (Author 2017).

05

RE-FORMING

Following the precinct and programme development, the conceptual and design generation of the Botshabelo ethnobotanical garden and organic farm is discussed within this chapter.

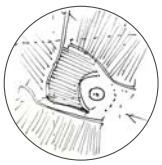


ORDERING
[PLANNING & PROGRAM]

REGIONAL & HISTORIC CONTEXT

STORIES OF PAST RESIDENTS

INTENT OF THE FOUNDERS



FORMING
[DESIGN DEVELOPMENT]

STUDY OF TYPOLOGY OF TWO CULTURES

THE EXISTING, PHYSICAL INFORMANTS

EXPERIENCING
[SPATIAL & SENSORY]

REGIONAL & HISTORIC CONTEXT

STORIES OF PAST RESIDENTS

THEORY OF PHENOMENOLOGY

5.1

5.1 THE CONCEPTUAL APPROACH

According to Stilgoe (1999) "the built environment is a sort of palimpsest, a document in which one layer of writing has been scraped off, and another one applied. An acute, mindful explorer who holds up the palimpsest to the light sees something of the earlier message, and a careful, confident explorer of the built environment soon sees all sorts of traces of past generations" (Kjerrgren 2011).

Dr. Natalie Swanepoel (Department of Anthropology and Archaeology, University of South Africa) states that Botshabelo can be considered a palimpsest containing within it the mission station's 150-year history; the layers further reflecting the broader social, political, economic and religious forces that shaped its formation. The overlapping of cultural influences present themselves in the built layers which remain throughout the historic mission station today, scattered throughout the site in the form of ruins, degraded buildings and stone-walled voids. One discovers the remnants of both the German and African cultural influences upon the landscape which significantly formed a layer of hybridity, merging two approaches to building and farming through the cultural cross-pollination of knowledge.

Palimpsest can be argued to be an appropriate metaphor within the field of landscape architecture, where a landscape itself is by definition an accumulation of cultural influence of humankind upon the land. Landscapes are assemblages of a multitude of layers, including the physical, meaningful, historic and cultural (Kjerrgren 2011).

As identified throughout this dissertation, the above layers are present at Botshabelo. In order to generate form, the cultural typologies of cultivation that once existed within these layers is studied and used as a design informant, along with the tangible and intangible components of the site that have been explored up until now.

Fig 5.1: Main informants on design development (Author 2017).

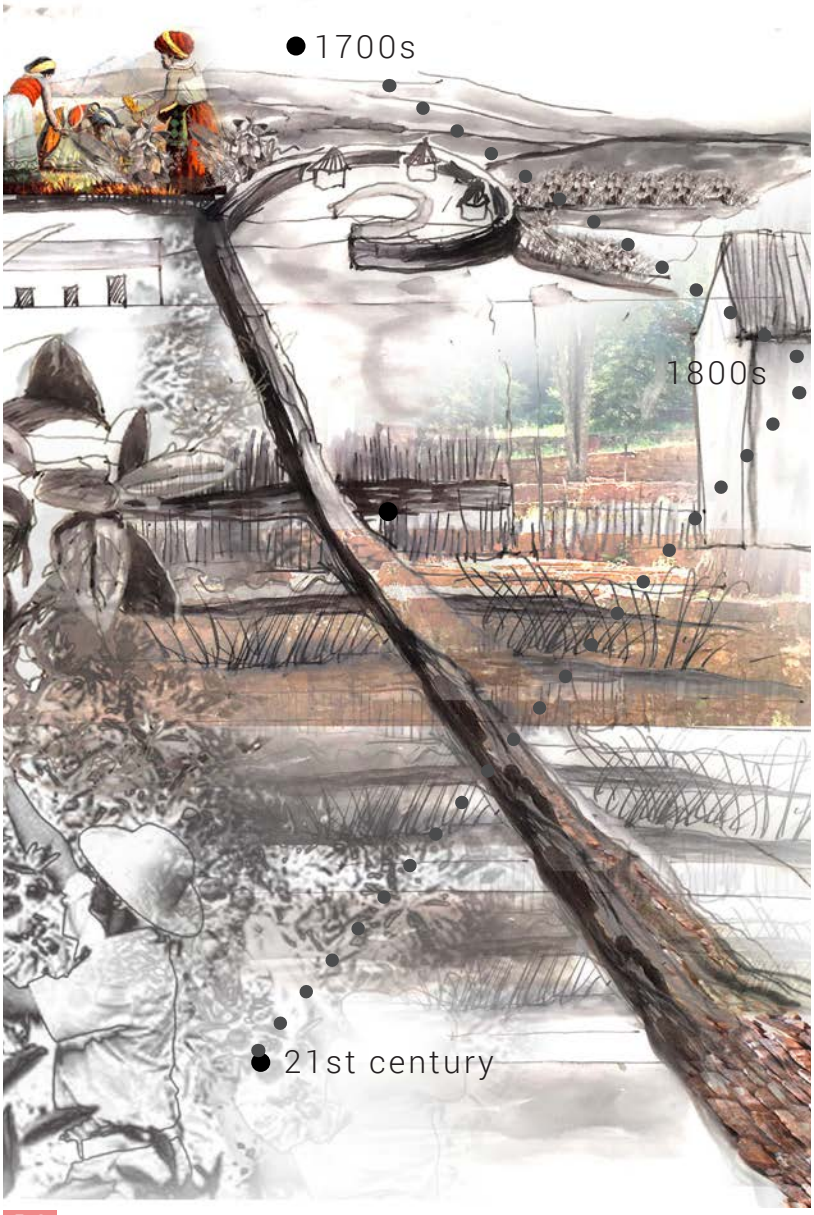
TERMS

Palimpsest:
According to the dictionary definition is described as "something that has been reused or altered but still bears visible traces of its earlier form." Palimpsest originated in the mid 17th century to describe manuscripts on which later writing was superimposed, leaving traces of the old still visible underneath the new (Oxford Dictionaries 2010).

Typology (in architecture):
the classification of physical characteristics into different categories, for example, degrees of formality

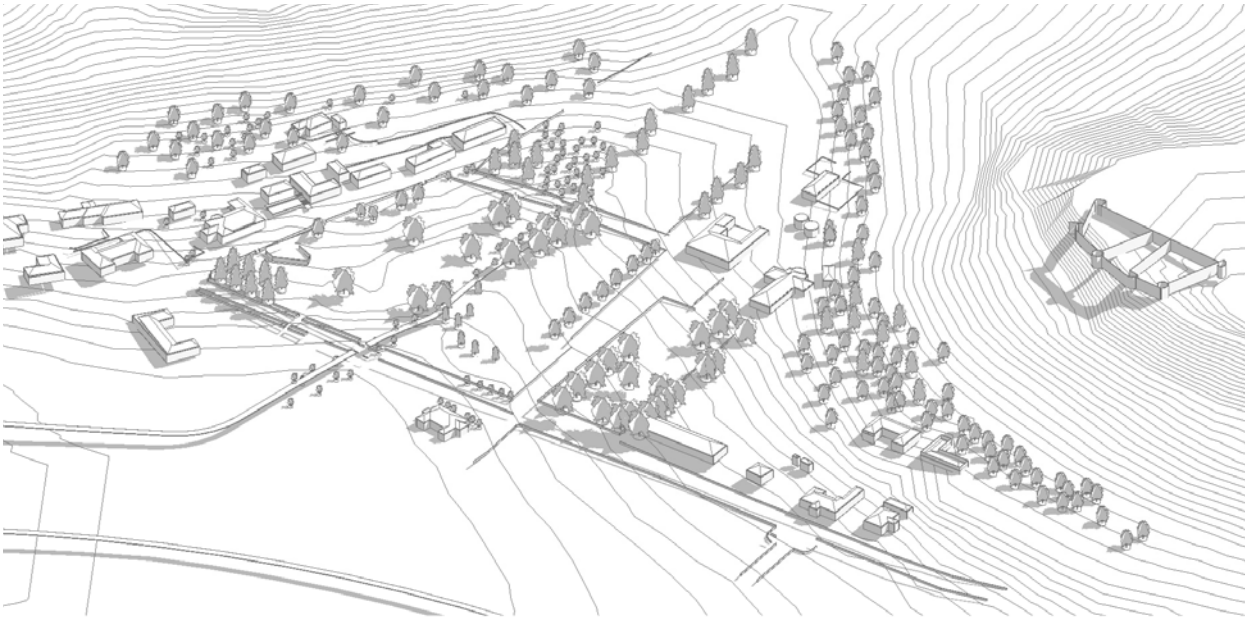
Aim of the design

To reintroduce and reinterpret the former interaction of cultivation between the landscape of Botshabelo and people through contemporary design.



5.2

Fig 5.2: Design intention (Author 2017).



5.3

Past traces as informants

"The palimpsest concept brings the notion of process-oriented landscape development, where many active writers simultaneously add new layers of information, new "scripts", to landscape both as a social construct and ultimately a physical phenomenon" (Kjerrgren 2011).

Upon acknowledging the varying layers embedded in the landscape of Botshabelo, the need for design to unlock these hidden layers becomes essential. To re-iterate, it is the author's belief that an appropriate response to the conservation of a cultural landscape is not to freeze it but to encourage active participation between the people and the land once again.

According to Schein (1997) landscapes with fixed static layers require:

"the presence of a human hand to create or re-create the imprints on the landscape tablet, whether intangible or physical. It is continuous human action and interpretation that creates the palimpsest of cultural landscape over time" (Kjerrgren 2011).

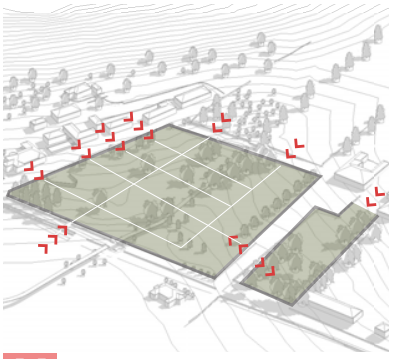
Adapted from a study done by Kjerrgren (2011) on the palimpsest concept in landscape architecture, the following layers were considered to be immediately influential on the design of Botshabelo's landscape.

Fig 5.3: The remaining layers of the Botshabelo landscape (Author 2017).

5.2 THE LAYERED INFORMANTS

The following explorations of the physical, cultural and historic layers of the Botshabelo landscape indicate a summary of the most important influences upon the design.

5.4



5.5

5.6

5.2.1 PHYSICAL LAYER

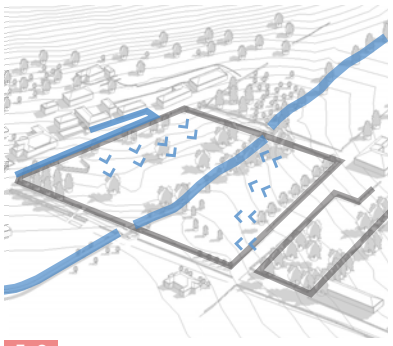
This identifies the physical properties remaining on the site, consisting of the existing built fabric and landscape elements.

a. The **stone walls** laid out in an ordered manner within the fertile valley are remnants of the old agricultural allotments, positioned as the core of the historic town, formerly enabling both food security and socio-economic drive for the community.

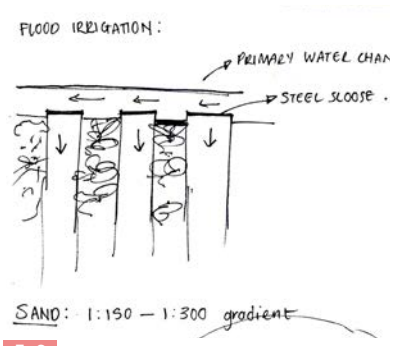
Design response

The design fits primarily within the confines of the stone walled fields, as a respectful response is sought after on a sensitive historic site. The historic layout is thus not altered but rather revived through new function and responsive form. The existing walkways into the walled fields are used as entry points into the proposed gardens, linking the architecture to the landscape once again.

5.7



5.8



5.9

b. **Water** at Botshabelo served as a guide to the layout of the site, where the orientation and positioning of the agricultural fields and the buildings responded to the fresh springs which still flow consistently into the Olifants River today.

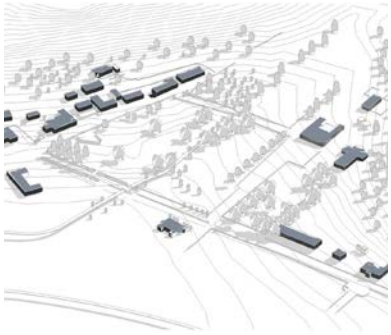
Design response

The utilisation of the existing streams, the old channels and the natural slope of the land influenced the ordering of the new design. The pleasant sound of water flowing as described by Dan Rakgoathe's memory of Botshabelo (Chapter 3) inspired the use of new flood irrigation water channels that are to guide one's movement through the site. The ordering of the planting fields were positioned according to the gravity flow of water.

Fig 5.4 -5.6: Stone wall informant (Author 2017)

Fig 5.7 -5.9: Water as informant (Author 2017)

5.10



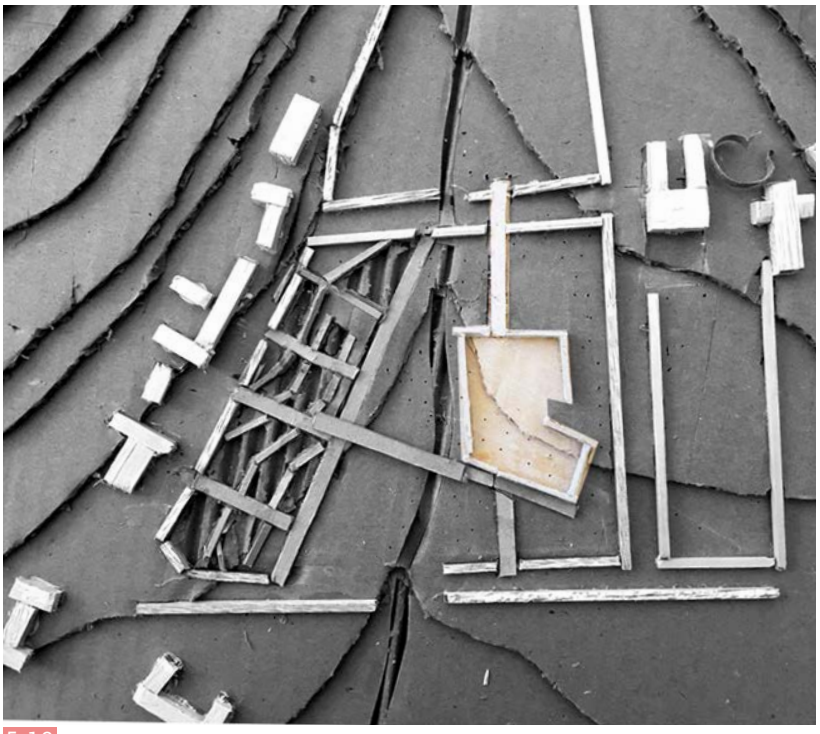
5.11

5.12

c. The **buildings** of the mission station are manifestations of religious and educational intent, significant in their time, place and construction technique. Once connected to the agricultural land, the relationship between building and landscape is no longer present today.

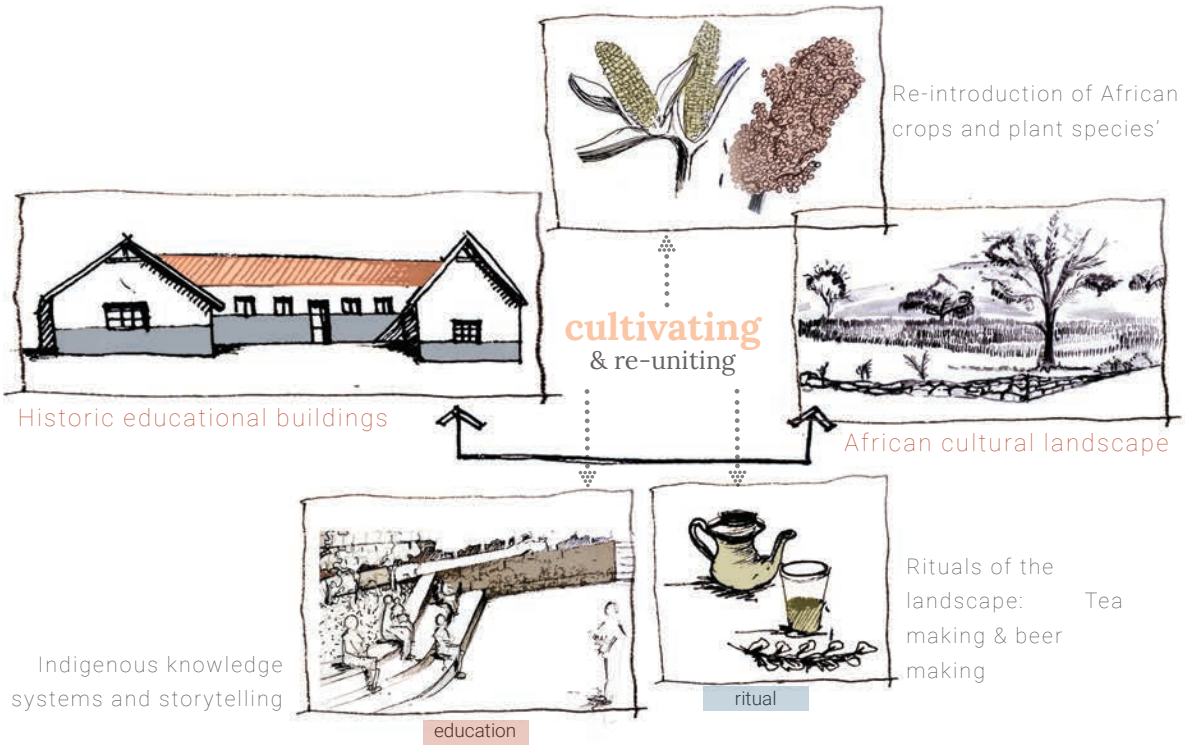
Design response

Along the axes connecting building to landscape, the produce from the fields is harvested and made into preserves, teas and used in the farm-to-table restaurant. Tasting courtyards are placed within the historic buildings and within the allotment areas. A main axes is introduced to the proposed cattle kraal indicating the importance of cattle in African agriculture. The utilisation of the existing buildings and the proposed new buildings are largely programmed for the study, research and gathering of information on the African botanicals.



5.13

Fig 5.10-Fig. 5.12: Existing buildings as design informant (Author 2017).
Fig. 5.13: Model indicating connection between buildings and landscape (Author 2017).



5.14

5.2.2 CULTURAL LAYER

Both the African and German cultures have translated their ideas and meaning into the formation of the mission station. Significance is found in the overlapping of cultural approaches observed in the building techniques and materiality.

Theoretical re-iteration: Culture as a verb; not a form

Leach's argument to first understand the cultural identity of place in order to understand its relationship to built form led to understanding the former *use* of the landscape. It is argued that the cultural layer cannot be reduced to form or merely the physical, but is to be understood through comprehending everyday ritual and intangible connections to the land of a specific region or site. The following everyday rituals were deduced from the analysis of Botshabelo's lifetime:

Everyday landscape rituals of Botshabelo: *agriculture*

As discussed, the past agricultural activity of Botshabelo was key to its success. The practice of cultivating the land in Africa has always been accompanied by ritual. As part of the design development of the proposal, specific rituals related to earlier cultivation within the region were studied and used to inform both materiality and spatial experience.

Fig 5.14: Agricultural education and ritual as spatial informants (Author 2017).

The herding of cattle is central to African agriculture, forming a mixed model where livestock and crop production occur. Rituals often involve cattle and the cattle *kraal* is seen as a communal, sacred place within the landscape. Both the above methods of agriculture were recorded at Botshabelo and are to be re-introduced.

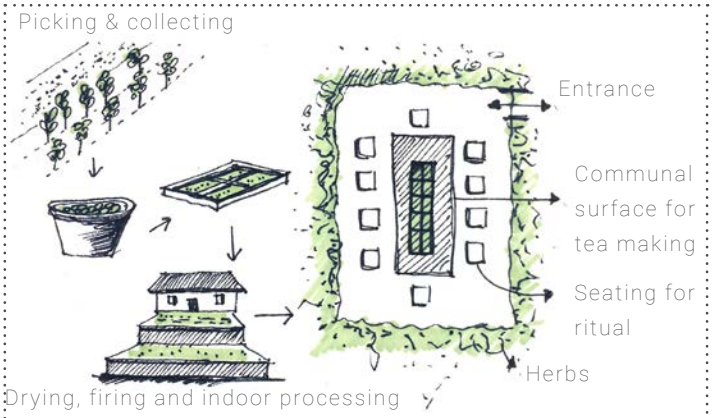
African agricultural ritual influences

The following common rituals were chosen as important cultural experiences that are to in future serve both visitor and resident of Botshabelo.

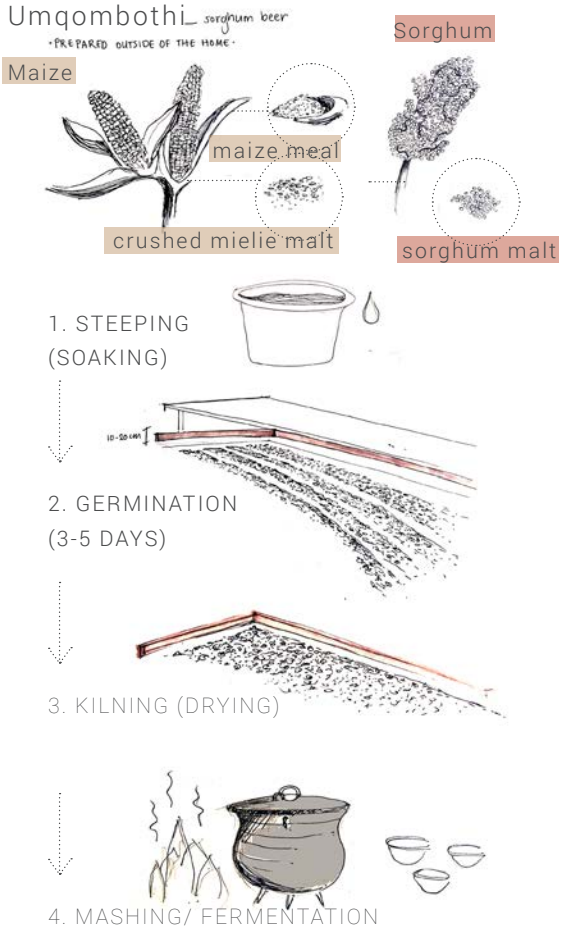
- Tea-making (medicinal)
- Sorghum Beer making
- Oral tradition & story telling
- Cattle herding

German agricultural & educational influence

As previously discussed, the experimental garden culture aimed to provide training in vegetable growing, the art of pruning fruit trees and a variety of knowledge in floriculture. This was usually found to be in a formal arrangement of ordered zones of cultivation of different species. Knowledge of African plant species is to be included throughout the ethnobotanical garden, the forms of cultivation drawing from both an orderly German system and a communally orientated African system.

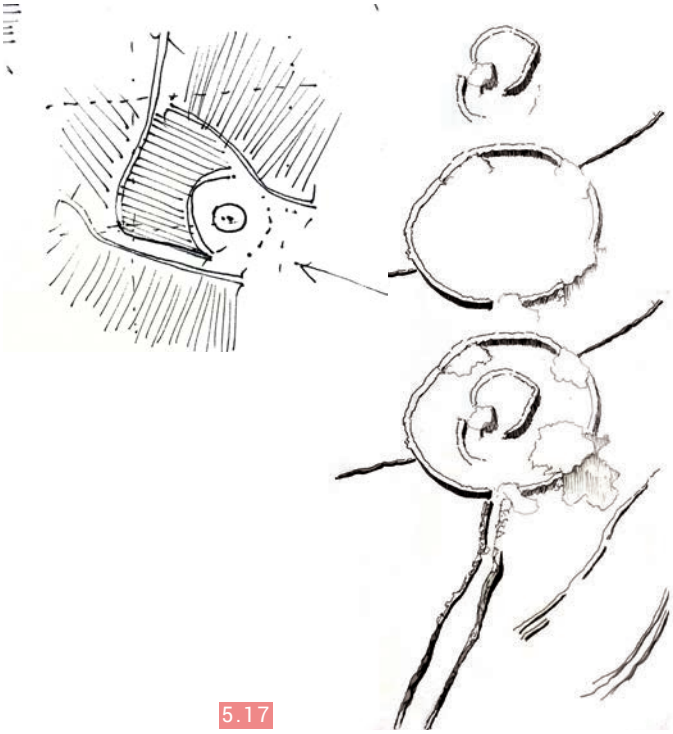


5.15

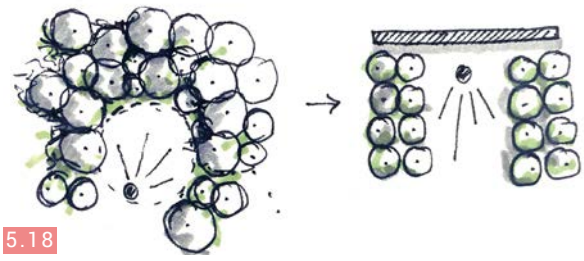


5.16

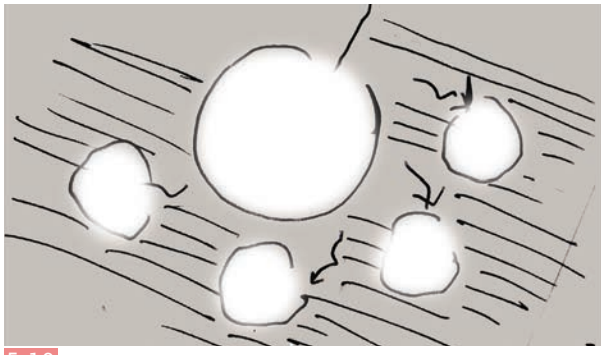
Fig 5.15: Medicinal tea making process (Author 2017).
Fig. 5.16: Sorghum beer making process (Author 2017).



5.17



5.18



5.19

African knowledge systems: fluid and communal

Figure X and X indicate the overlapping theme of 'learning within the environment' yet in the traditional African formation. Clearings in the forest were often used for gathering spaces in the African landscape, and the central and defined cattle kraal was too a place of communal discussion.

African Indigenous Knowledge Systems (AIKS) are community based and unwritten, preserved in the oral tradition and through ritual and custom. They are dynamic and fluid and cannot be fixed (Osman n.d.).

The design is to borrow from the two cultural influences in the Botshabelo narrative, and thus conserve both *education* and *ritual* within the landscape as they are still deemed important today, and hypothesised to be catalysts for restoring the *genius loci* of the old mission station. This led to the form generation of formal and informal crop cultivation, with clearings in the fields to provide spaces for ritual and learning.

Fig 5.17: Bakoni agricultural layout (Author 2017).

Fig. 5.18-19: Clearing in the field/ forest for human gathering (Author 2017).

5.2.3 Historic layer

This includes the variety of ideas and meanings which are present in a society, either co-existing at a certain point in history or changing over time.

Studying form and function

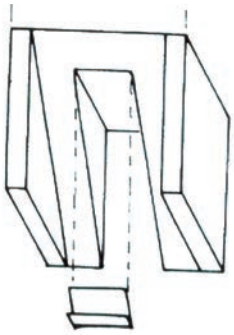
As discussed, the history behind the German missionaries of the 19th century include a specific form of garden culture that was introduced to Botshabelo. In order to understand the layout and former intentions of the agricultural fields, a study of the 19th century German gardening techniques were undertaken in terms of their composition of both form and function. Similarly the significant agrarian history of the African cultures who influenced the landscape at Botshabelo was also studied in an attempt to acknowledge their strong influence in the region and at Botshabelo in terms of agriculture.

Design response

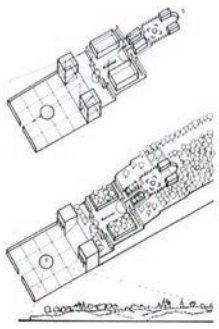
The design intends to draw from the continuum of cultural hybridity at Botshabelo, acknowledging the traces of both cultures.

A design investigation was undertaken with the aim of understanding the compositional elements of these two cultural approaches to place-making within the landscape, in order to generate a palette or 'toolkit' of spatial elements for the proposed design. This followed former TU DELFT Prof. Clemens Steenbergen's typological guidelines and can be viewed in the section to follow.

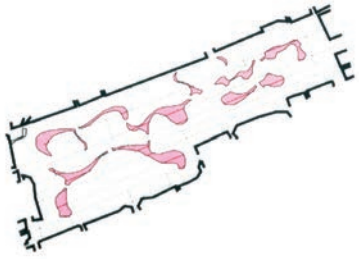
The study was limited as the author belongs to neither of these cultures and does not aim to duplicate the two historic landscapes at Botshabelo, but rather aims to re-interpret elements of both into the design as indicated above.



Composition elements: Formal principles of design



Composition scheme: The internal logic of the design and relationships between elements



Transformation of the type: Usable elements isolated from historic material for new design

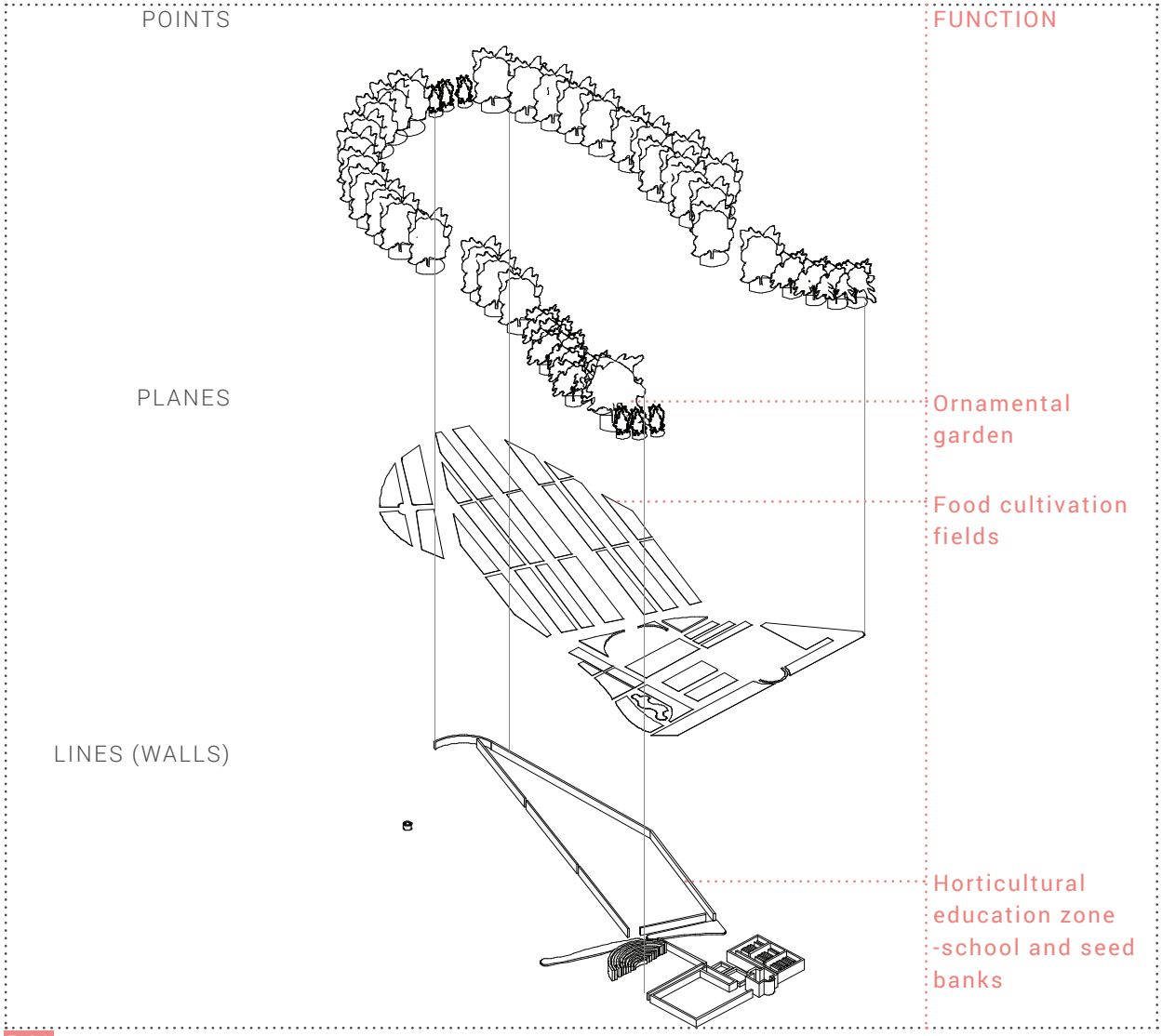
Fig 5.20: Illustrations indicating three steps of typological study (Steenbergen 2008).

5.20

5.3 DESIGN INVESTIGATION

The following design investigation follows Professor Clemens Steenbergen's Typological Study Method found in his book *Composing Landscapes: Analysis, Typology and Experiments for Design* (2008).

5.3.1 *Königliche Gärtnerlehranstalt* (Royal Gardener's Institute), Germany.



5.21

Design elements

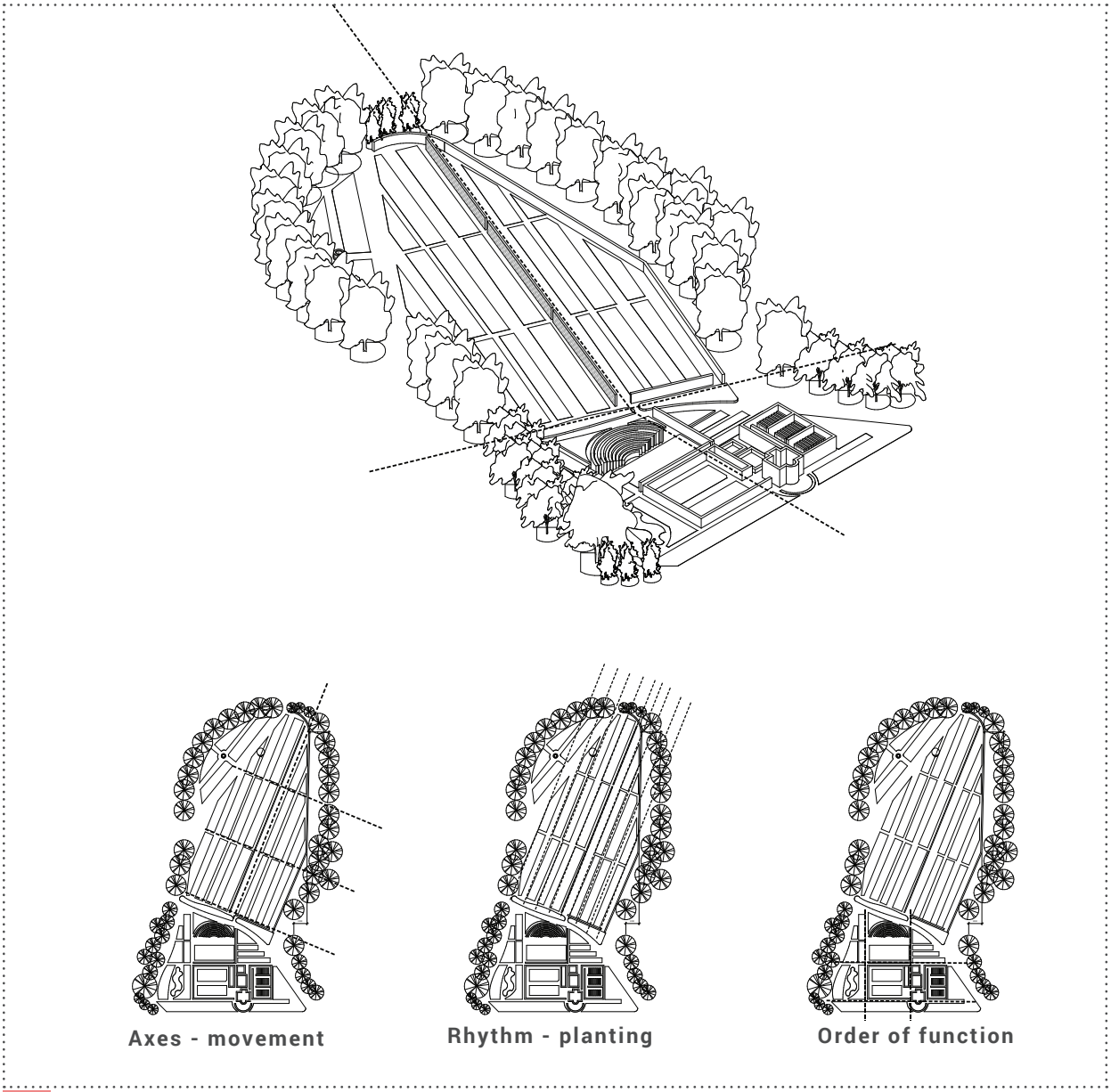
As mentioned previously, the 19th Century German experimental gardening had a direct influence on Botshabelo's landscape according to historic accounts.

From the above study one can see planes, walls and points (trees) are the active elements in the design. The planes (cultivated fields) are ordered by movement routes along an axis and with a grid. Repetition is used in this area of parallel lines.

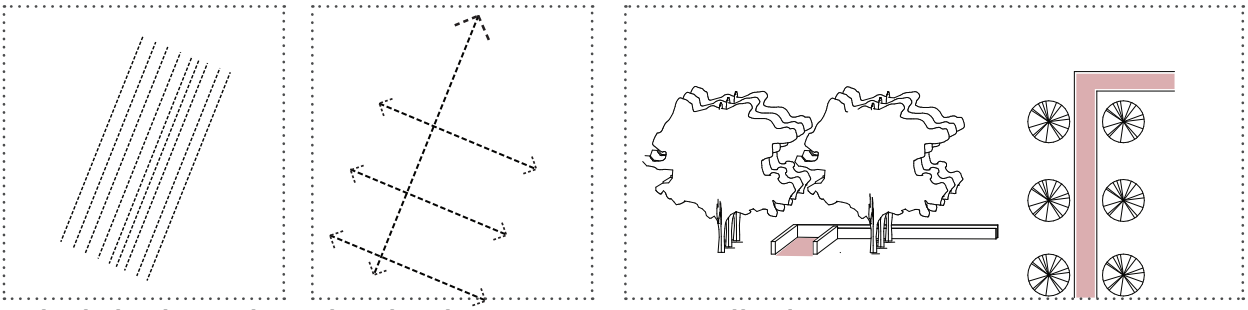
Three sets of axes are visible and the three axes are used for three various functions of the landscape, namely built research facilities, production gardens and recreational or ornamental gardens.

The typical principles of design such as rhythm, axes, repetition and order are present in this model.

Fig 5.21: Composition elements of Royal Gardener's Institute (Author 2017).

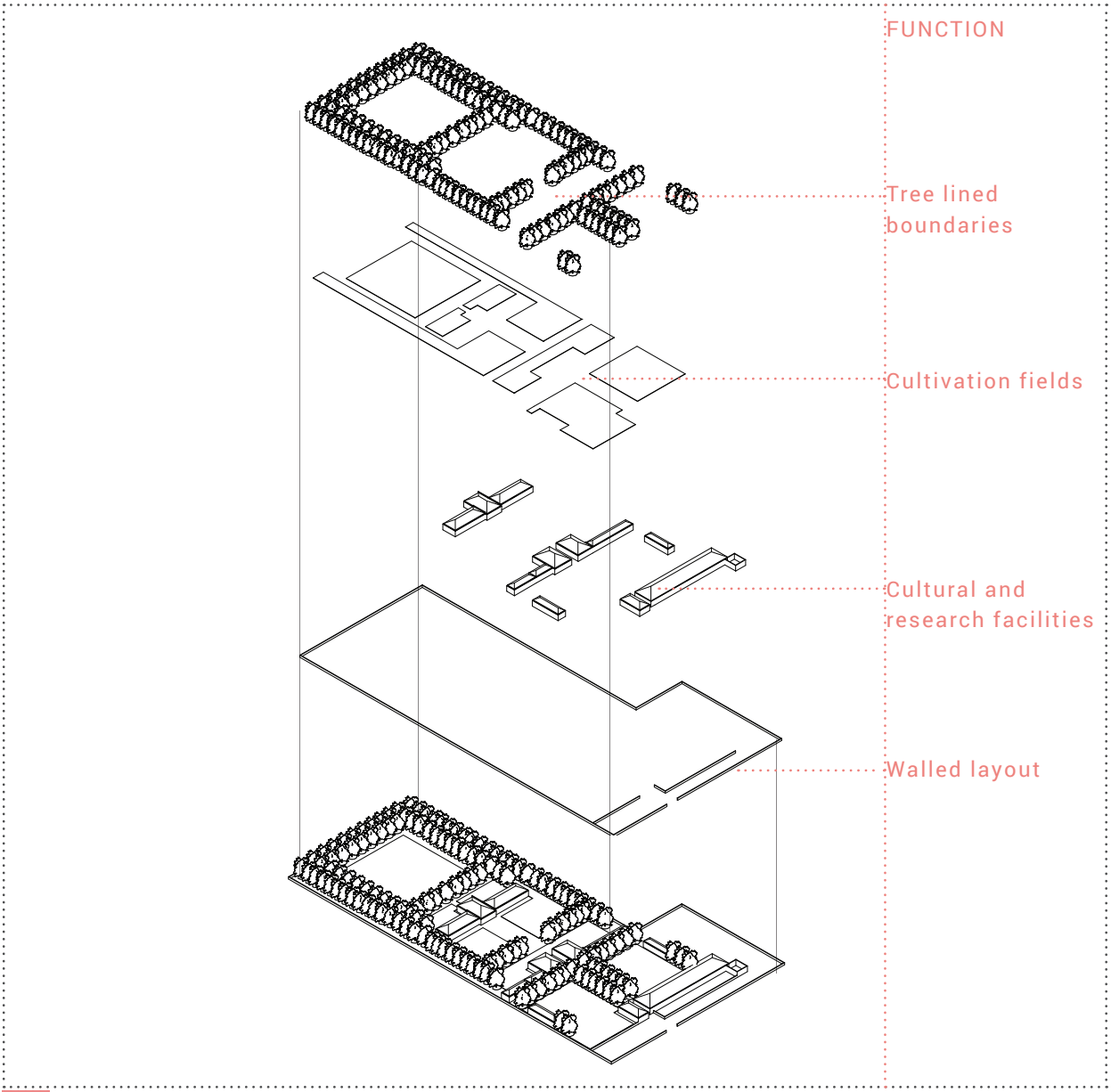


5.22 Composition scheme of Royal Gardener's Institute (Author 2017).



Usable elements for a new design (Author 2017)

5.3.2 Kibbutz Delgania, northern Israel.

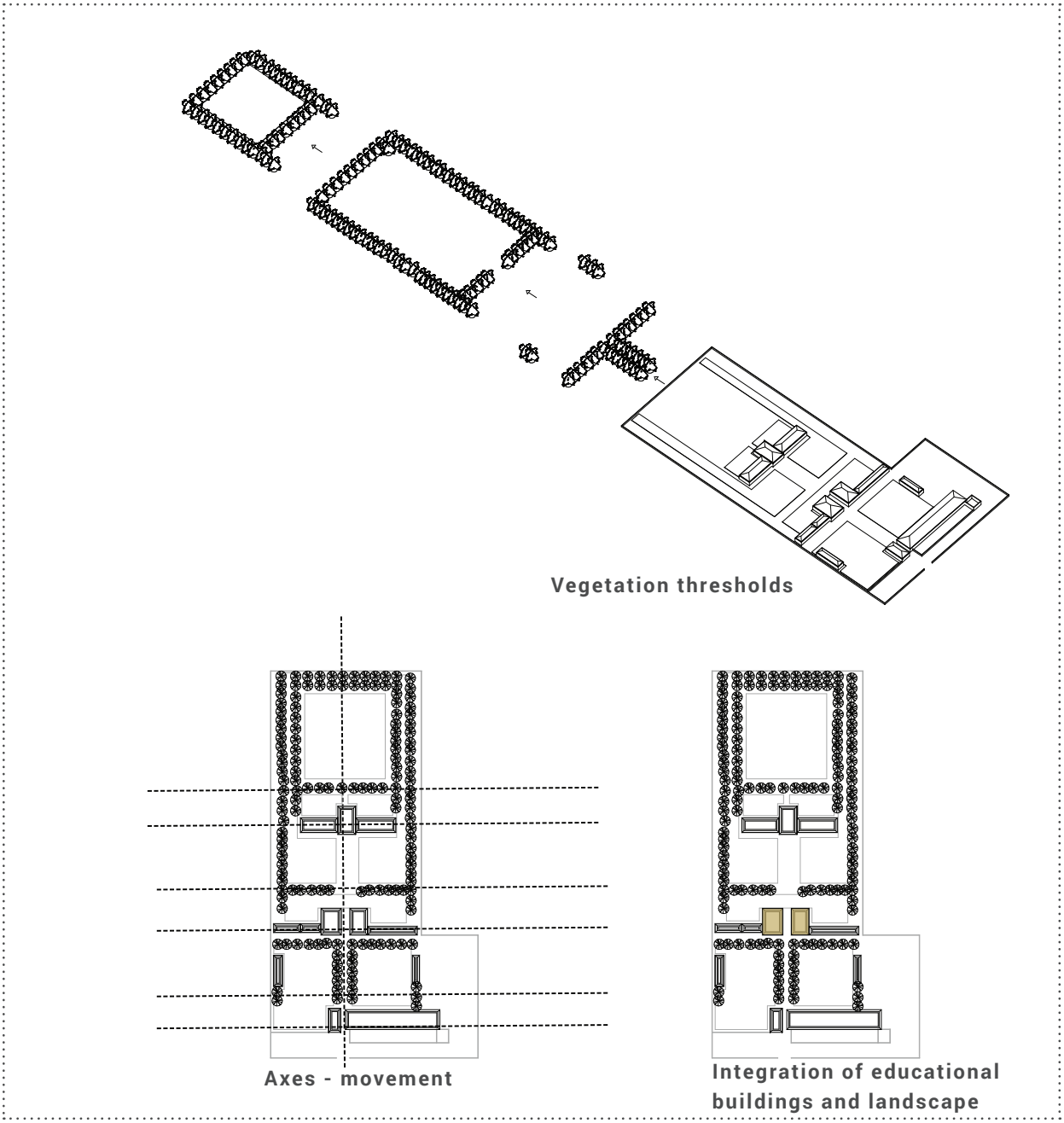


5.23

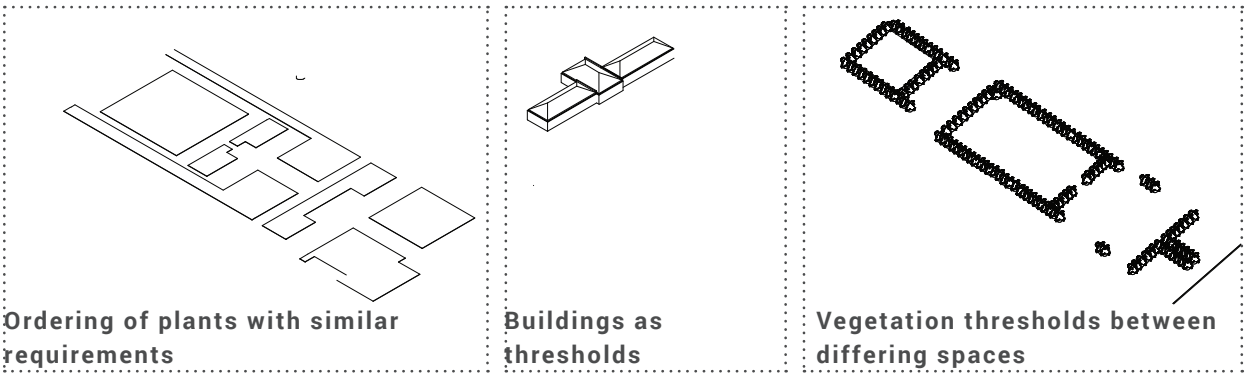
Kibbuts Delgania was similarly inspired by the German educational farm model and shows similar principles of spatial organisation as Botshabelo. This can be seen in the linear arrangement of trees as the boundary and demarcation of internal space and walkways (boulevards) is visible.
Planes (voids) are ordered for the cultivation of food plants, the arrangement enabling the grouping of species with similar growing requirements.

Buildings are connected to the landscape along a primary axis. Both the buildings and tree avenues create thresholds into various spaces within the landscape. This allows for the flow of movement through the research facilities and the cultivated landscape, linking the two spatially.

Fig 5.23:Composition elements of Kibbuts Delgania (Author 2017)



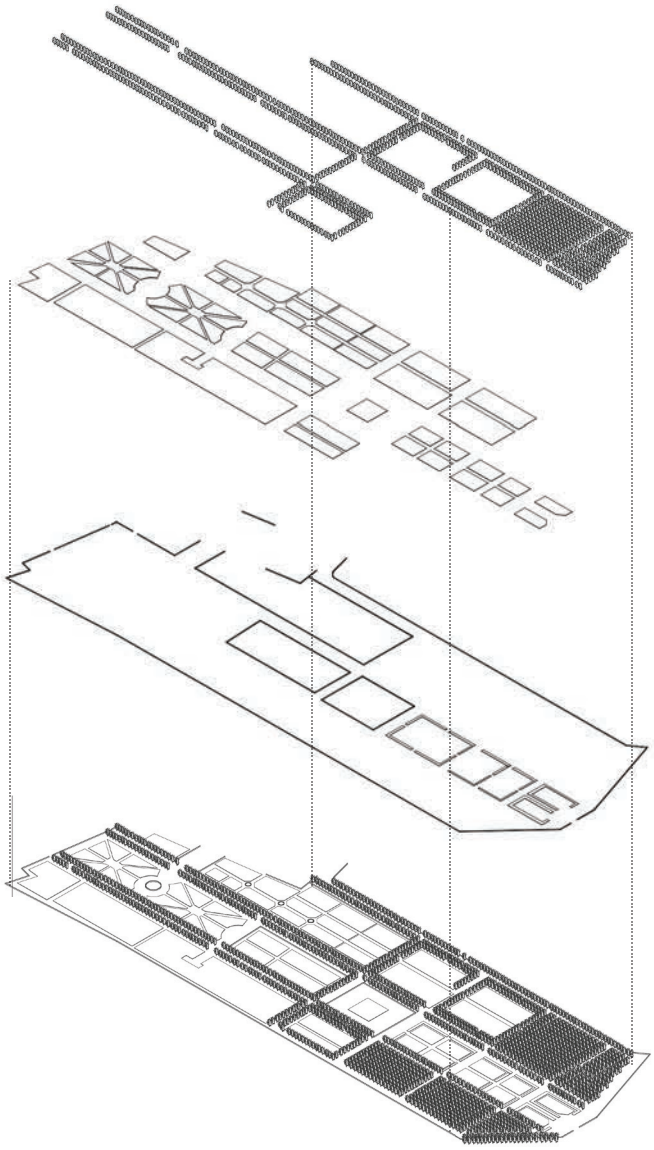
5.24 **Composition scheme** of Kibbuts Delgania (Author 2017).



Usable elements for a new design (Author 2017)

5.3.3 Jardin des plantes

Parisian Botanical Gardens



5.25

The Parisian Botanical Gardens were an inspiration for the ***Königliche Gärtnerlehranstalt*** and ultimately led to its design and establishment by landscape architect Peter Joseph Lenne.

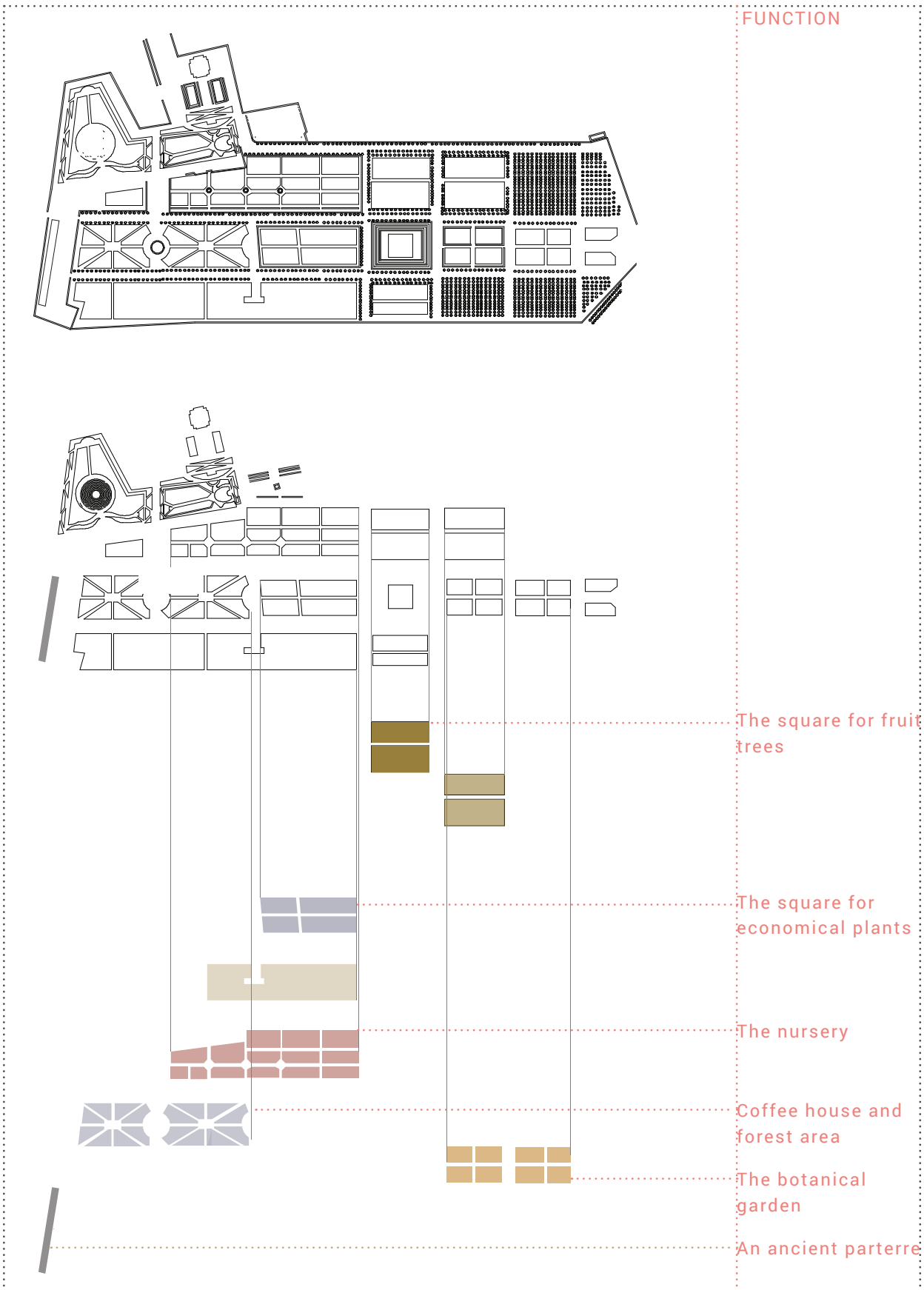
Planes and boundaries are visible design elements in an orthogonal arrangement.

Tree boulevards order the internal space of cultivation/ gardens along a grid.

Tree compilations vary create space (voids), avenues (boulevards) and filled voids.

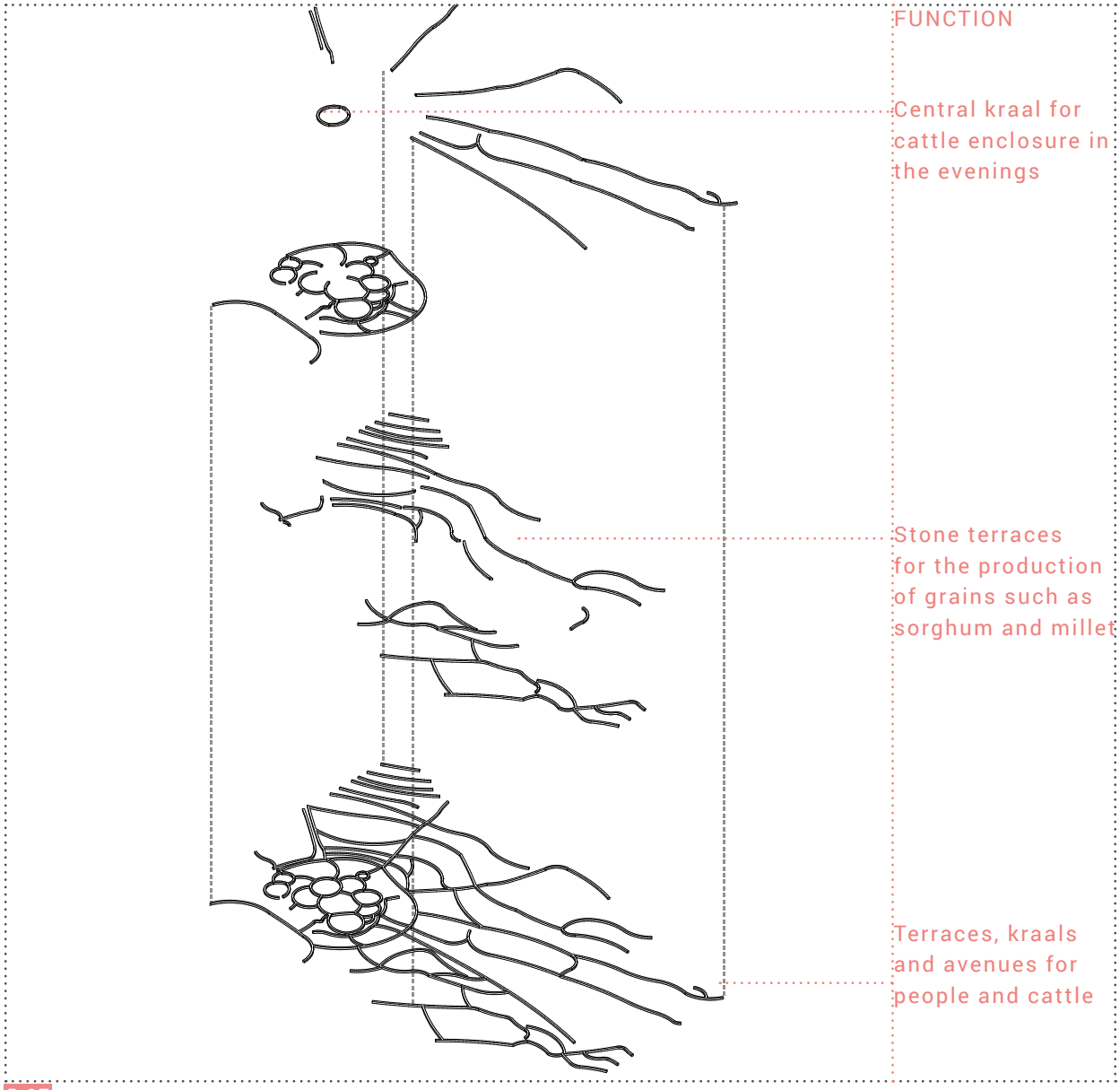
The programming of the site had specialised areas within the landscape, providing an array of sensory experiences as seen in Figure 5.29, these comprised of both educational programs and the cultivation of edible plant species for research and enjoyment.

Fig 5.25:Composition elements of the Parisian Botanical Gardens (Author 2017).



5.26 Usable elements for a new design (Author 2017).

5.3.4 Bakoni agrarian settlement, Mpumalanga.



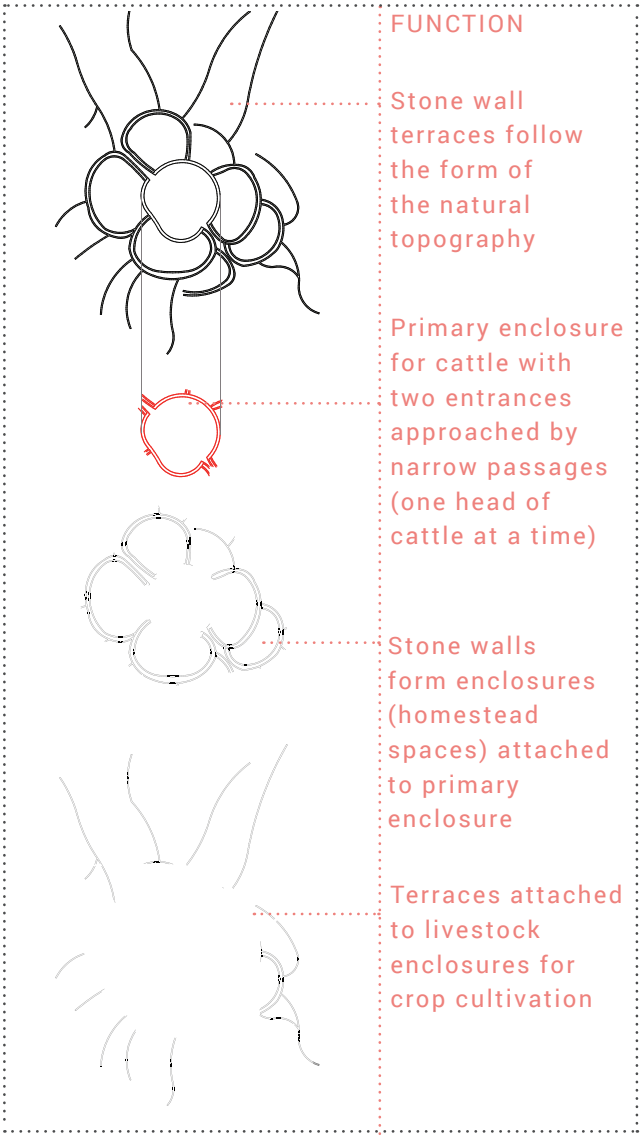
5.27

The history and relevance of the Bakoni and neighbouring African agrarian influences on Botshabelo has been discussed in the previous chapters. In order to generate form for the proposed working farm the traditional agricultural system was studied as a typology.

The composition is irregular and organic and ordered according to the natural topography. There are no traces of formal design principles, and a vernacular landscape ordering system is uncovered.

Spaces are formed by stone walls, and the use of stone in the Bakoni system itself is made up of varying typologies as indicated on the following page. Stone walls are the essence of the system and form three basic elements, namely the terrace, the avenue and the enclosure.

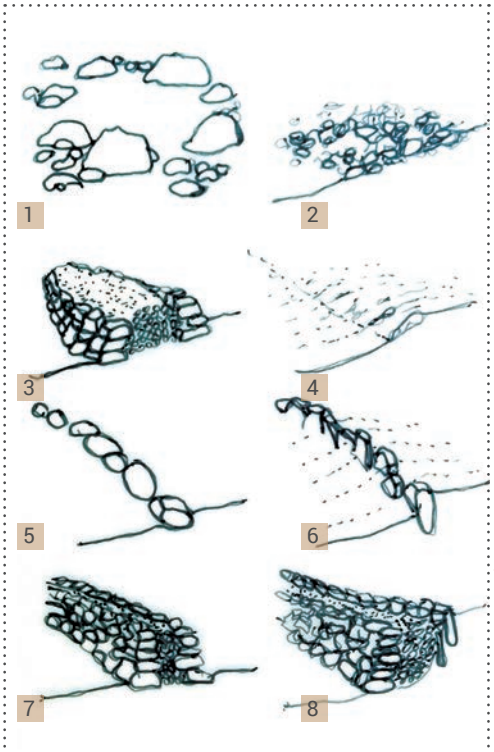
Fig 5.27:Composition scheme of a complex Bakoni agrarian settlement (Author 2017).



5.28 Composition elements of Bakoni agrarian settlement (Author 2017).

Stone wall typologies:

1. Stone cleared surfaces
2. Clearance cairn, rock pile
3. Clearance cairn, faced
4. Lynchet
5. Stone line, plain stone
6. Stone line, upright slabs
8. Terrace wall (upright slabs)



Forms of stone construction of the Bakoni (Maggs 2015).

5.29 Stone wall typologies of Bakoni agrarian settlement adapted from Widgren et al. (Author 2017).

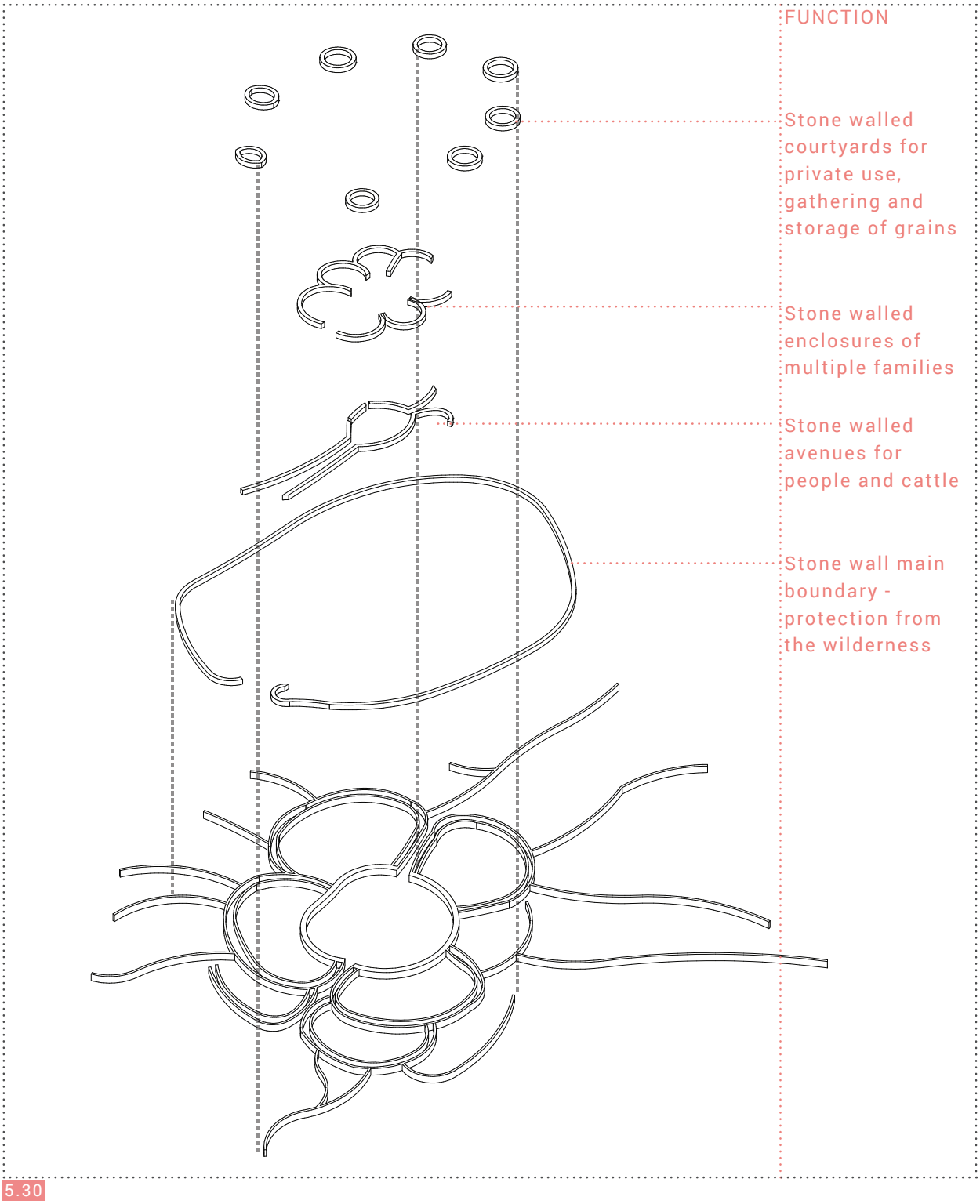
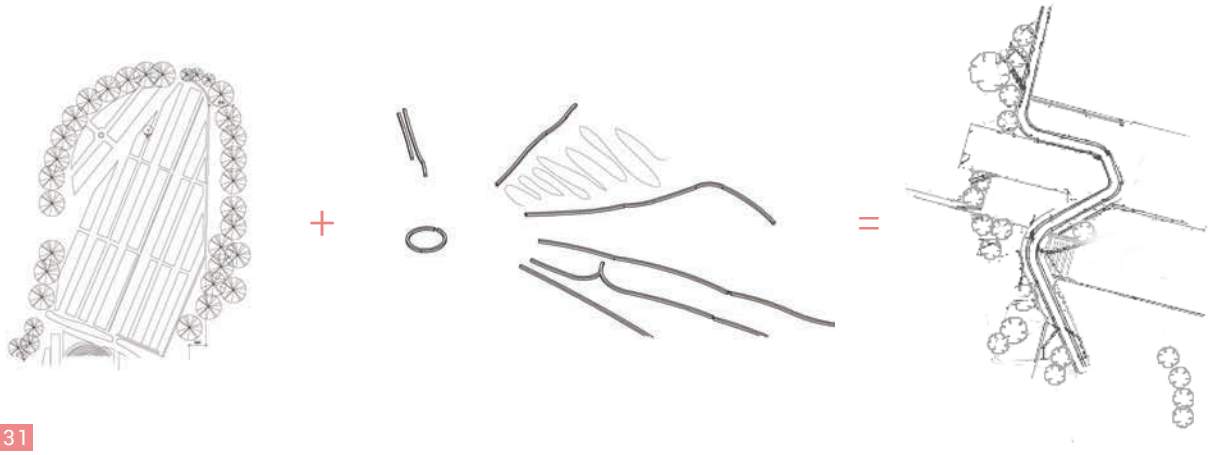


Fig 5.30:Composition scheme of a simpler Bakoni agrarian settlement (Author 2017).

5.4 CONCEPT



5.31

Ordered cultivation
learning through categorisation

Fluid cultivation
learning through experience

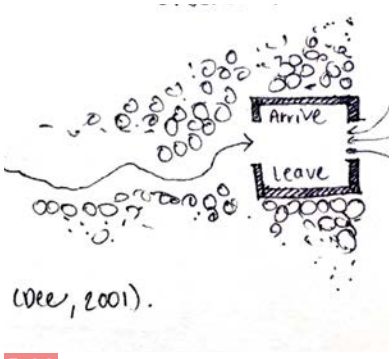
Synthesis of types
overlapping cultures of cultivation

In search of maintaining significance

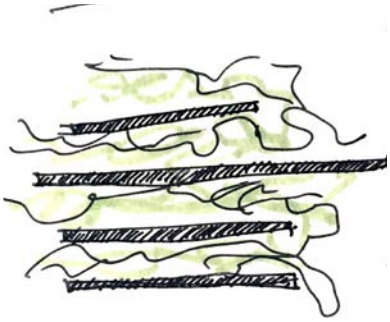
Through the design explorations of understanding the typology and spaces of two cultural approaches to cultivating the land, the design for the proposed ethnobotanical garden and organic farm developed from an intent to conserve both elements of the African and German heritage of the landscape.

The proposed design, situated within the stone-walled voids of Botshabelo went through an iterative process in order to develop a scheme that dealt with the above two distinctive characters and experiences of the landscape. According to an interview with Dr. Natalie Swanepoel of the University of South Africa, the significance of the Berlin Mission Society could be seen in their attempt to maintain a distinctive natural character of the people and places that they would encounter in South Africa. This approach as discussed in the previous chapters allowed for many traditional African daily customs to take place at Botshabelo, and is to be translated to the regional and phenomenological use of materiality and sensory experiences introduced.

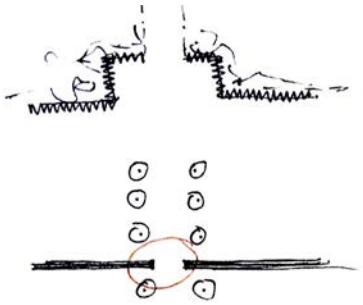
Fig 5.31: Concept diagram (Author 2017).



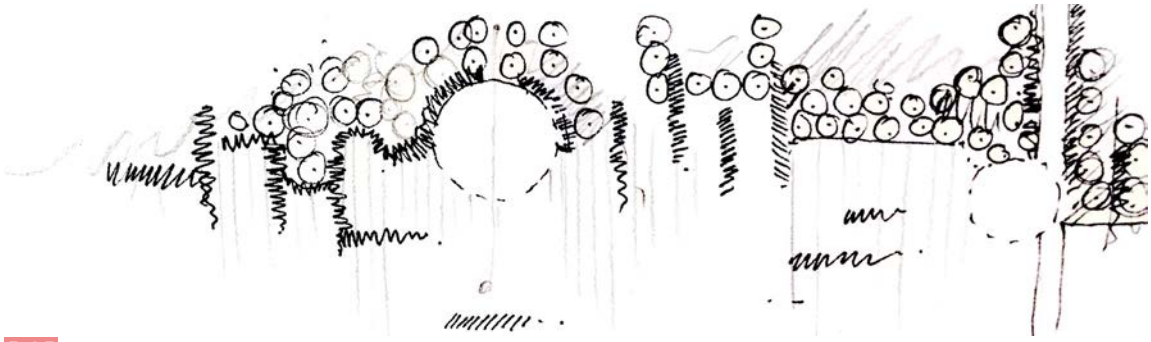
5.32



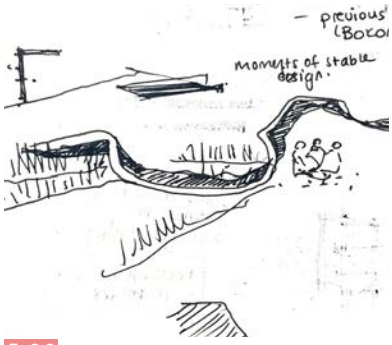
5.33



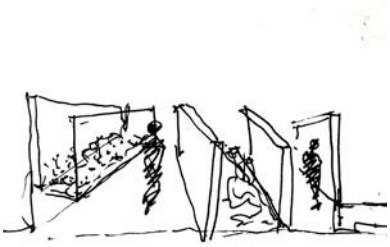
5.34



5.35



5.36



5.37

5.38

Design iterations

The following pages provides a brief indication of the design iterations that were explored. They differ in their spatial composition, however the program and 'essences' of the intention remained throughout each spatial investigation.

Essences of the design

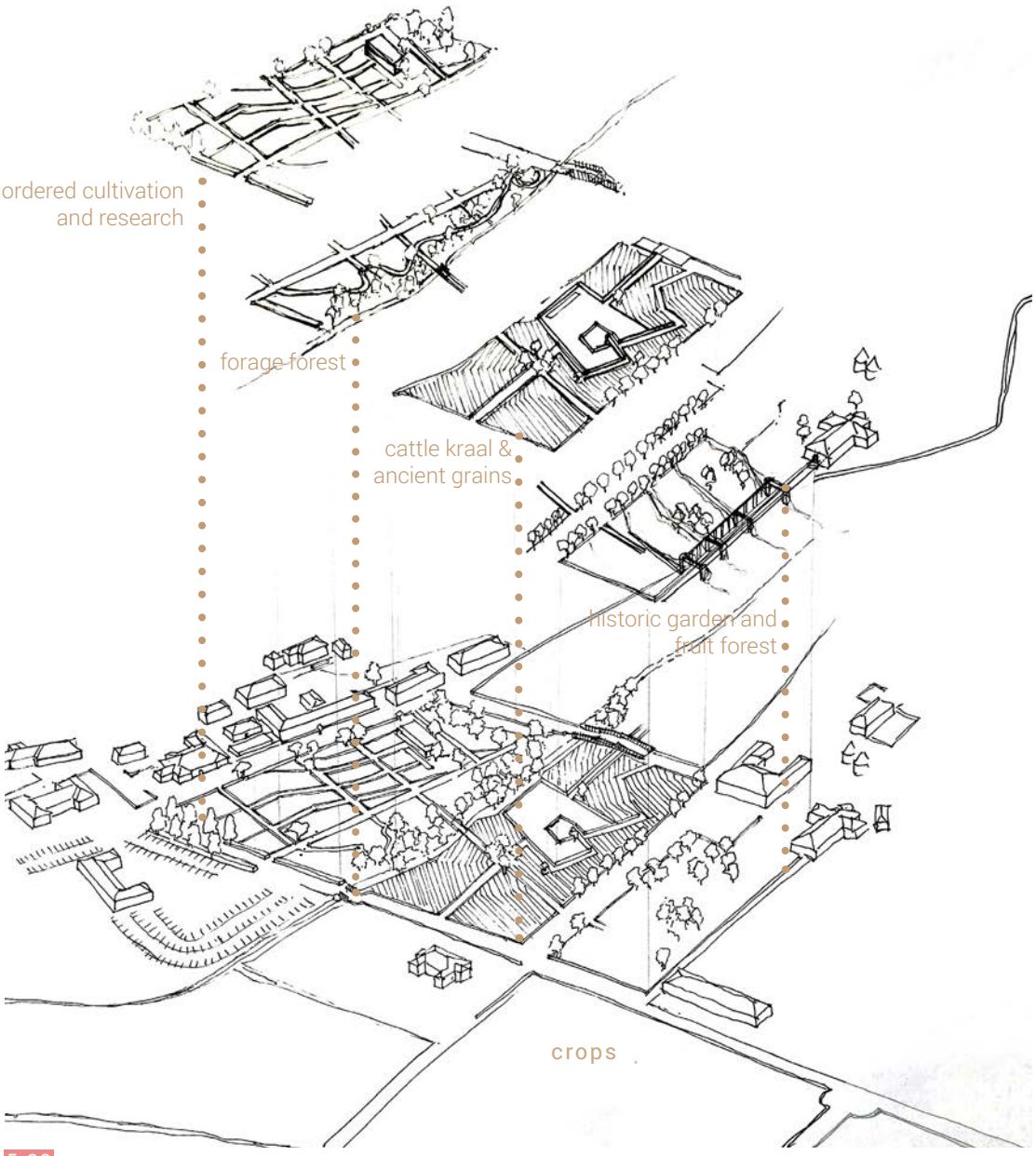
The following elements in the design were deemed the most important:

- movement avenues for people and cattle
- the combination of water and stone to form spaces of permanence and spaces of growth.
- courtyards for ritual and outdoor education
- formal cultivation of crops and areas of wilderness

Fig 5.32-Fig 5.38: Design generation drawings (Author 2017).

5.5 DESIGN DEVELOPMENT

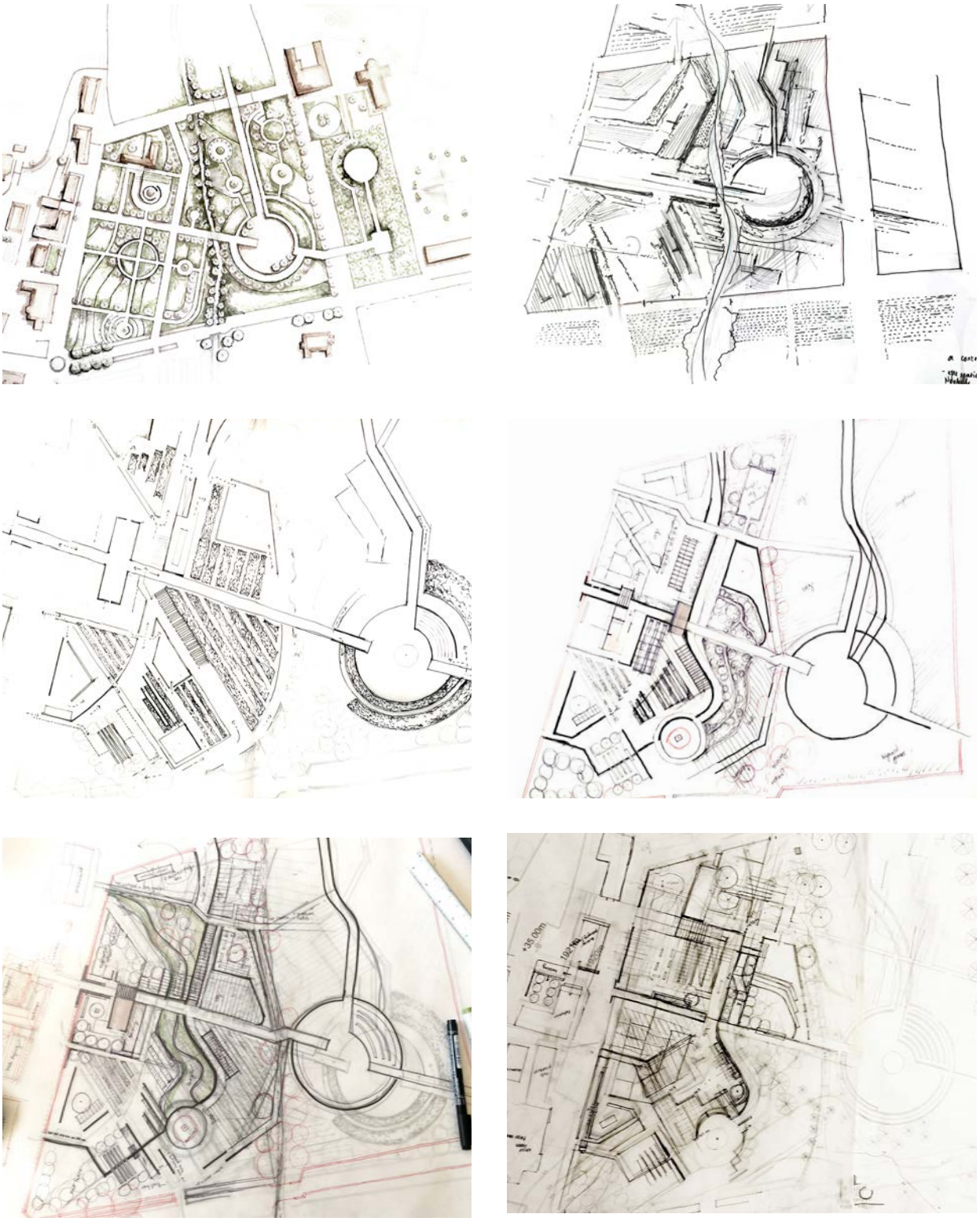
Translating informants and programmatic zoning to spatial form



5.39

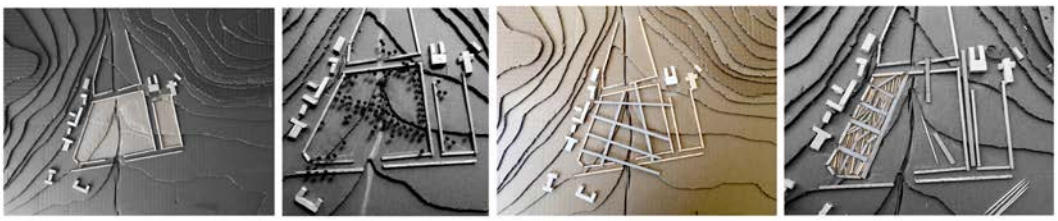
Fig 5.39: Initial zoning of the proposal (Author 2017)

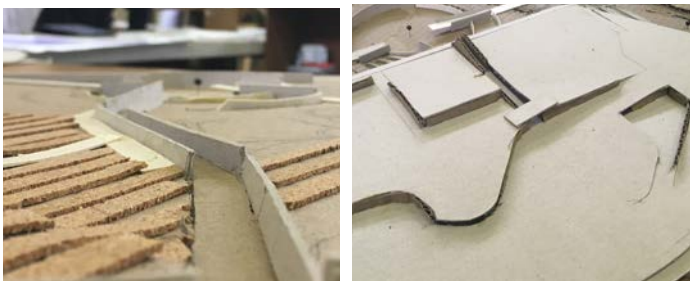
5.5.1 Sketch plan iterations



5.40 Summary of sketch plan development throughout the year (Author 2017).

5.4.2 Model explorations

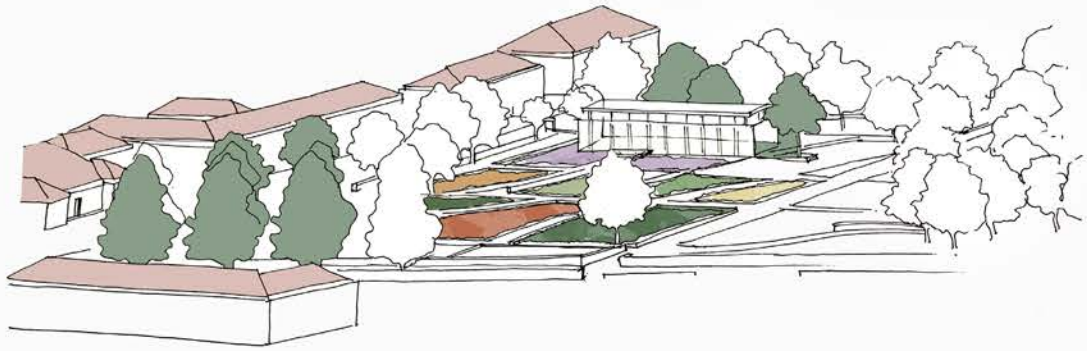




5.41 Model development throughout the year (Author 2017).

5.4.3 Imagining spatial moments

5.42 Sorghum fields and cattle kraal initial design (Author 2017).

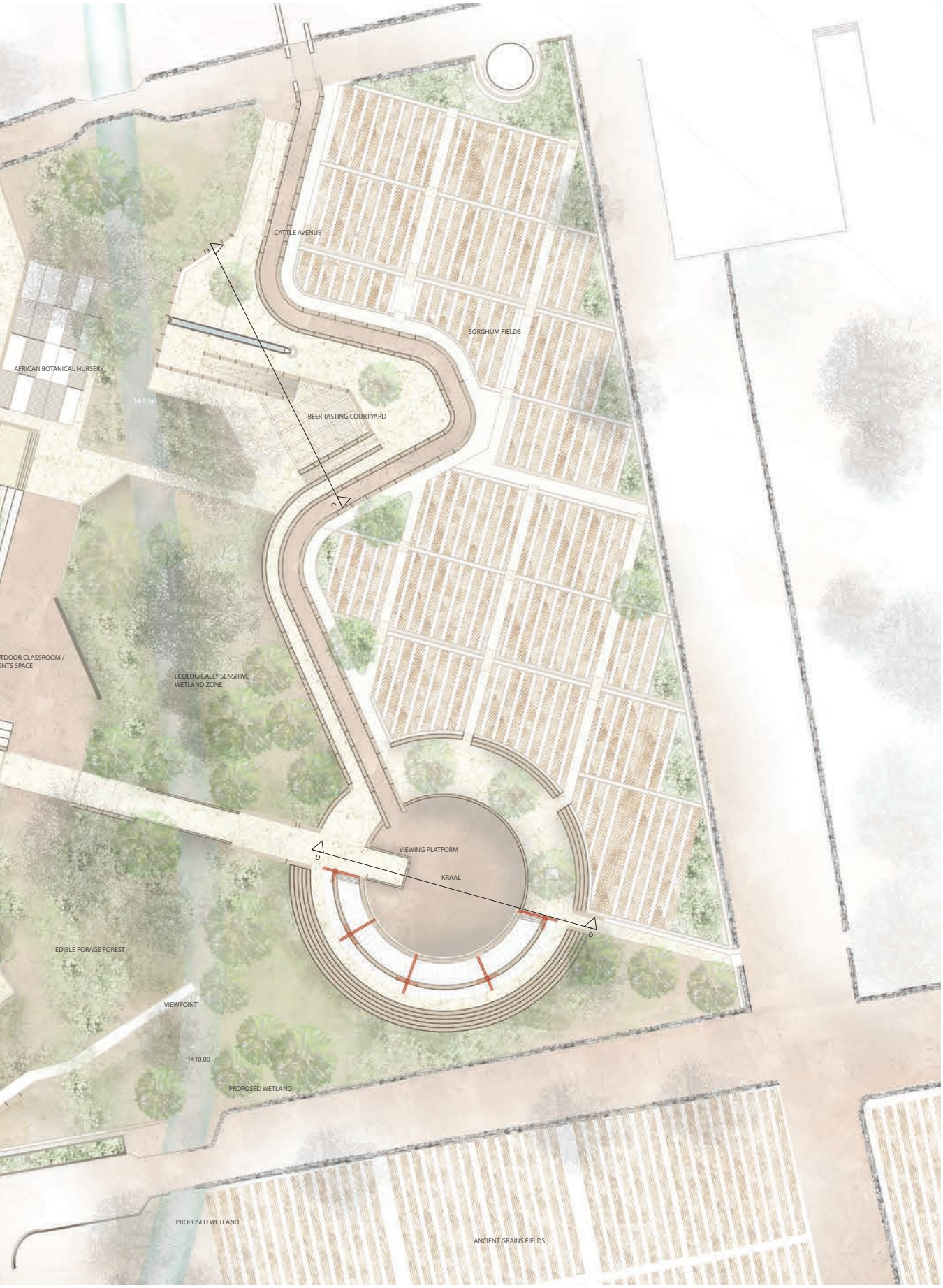


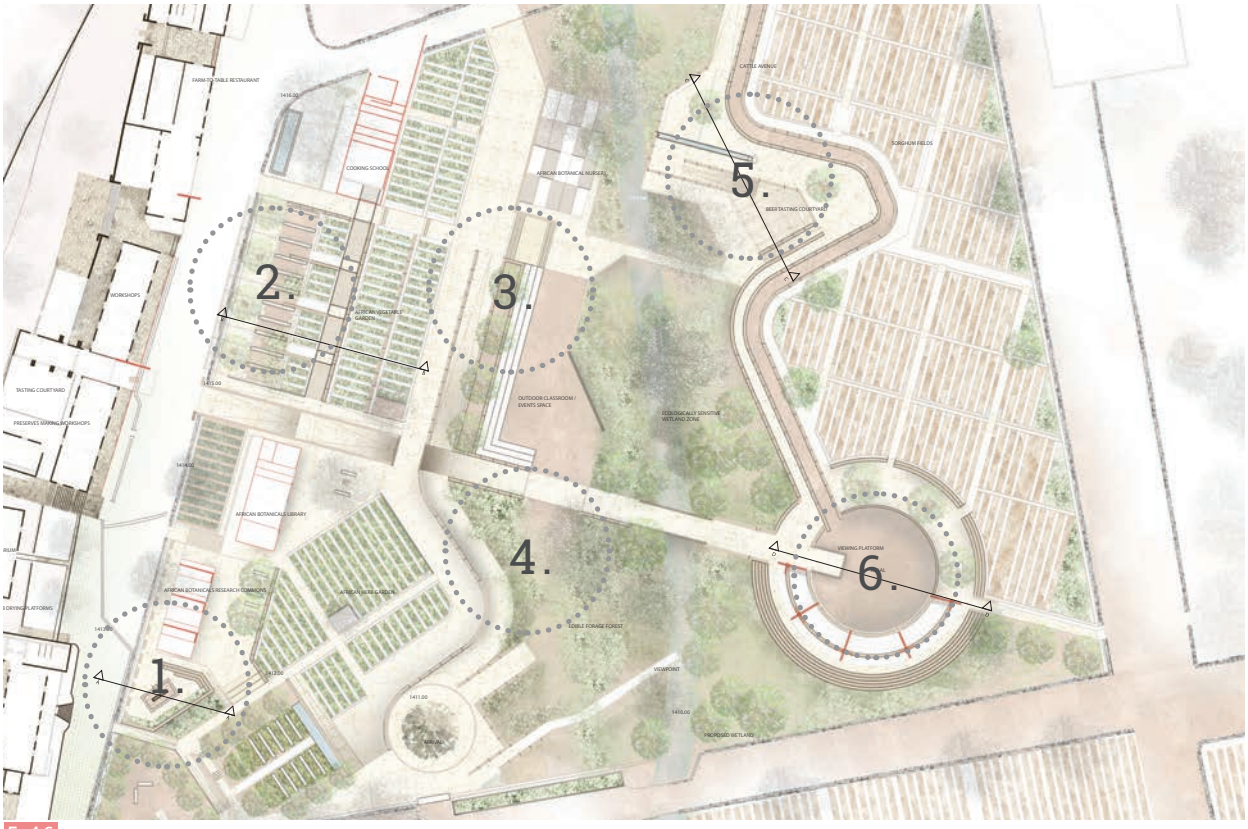
5.43 Formal cultivation fields (Author 2017).

5.44 Sorghum fields and cattle kraal developed design (Author 2017).

5.6 FINAL SKETCH PLAN DESIGN

5.45 Sketch plan [NTS] (Author 2017).





5.46

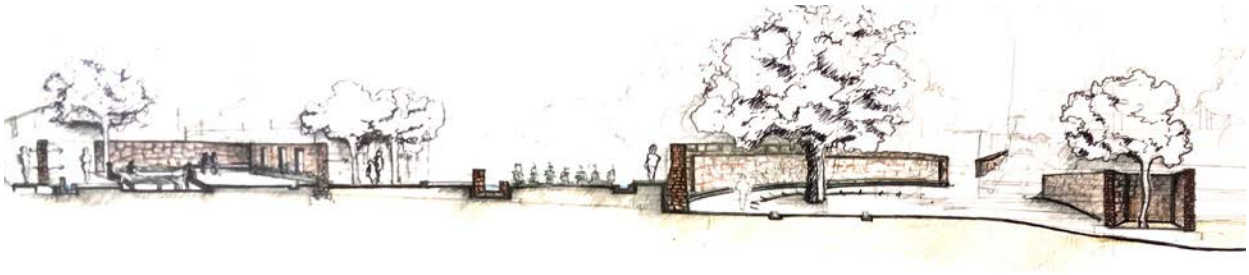
1. Tea/ healing courtyrad
2. Vegetable garden
3. Outdoor classroom/ tasting courtyard
4. Forage forest
5. Sunken beer courtyard
6. Cattle viewing

Fig 5.46:Moments of sensory experience (Author 2017).

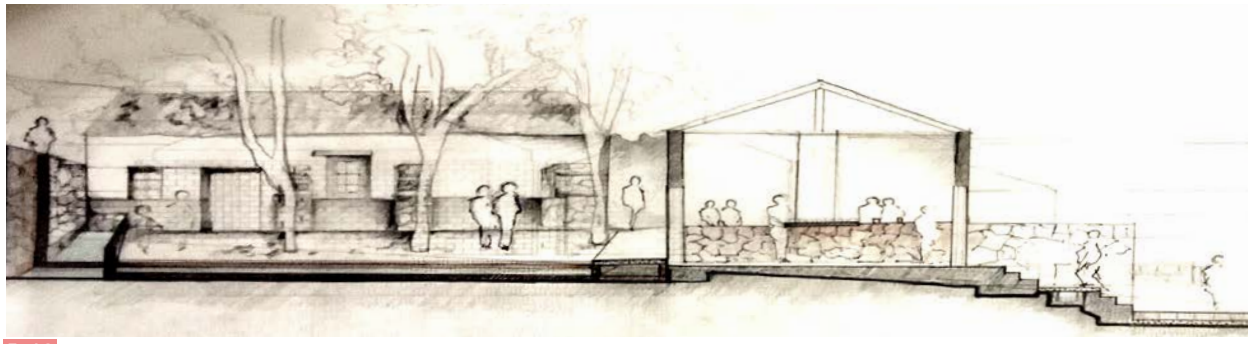
5.7 EXPERIENCES WITHIN THE LANDSCAPE

The proposed experiences within the historic agricultural allotment area serve as events within the newly cultivated fields where visitors are able to engage with the heirloom produce of the landscape.
These events/ moments were developed from an understanding of the regional culture and relationship to the land and the cultivation thereof. Numerous accounts of the past landscape at Botshabelo (as examined in the Mapping chapter) describe the medicinal, educational and enjoyable aspects of the original farm. These sensory experiences of touch, taste, smell, sight and sound are re-introduced through in the following ways:

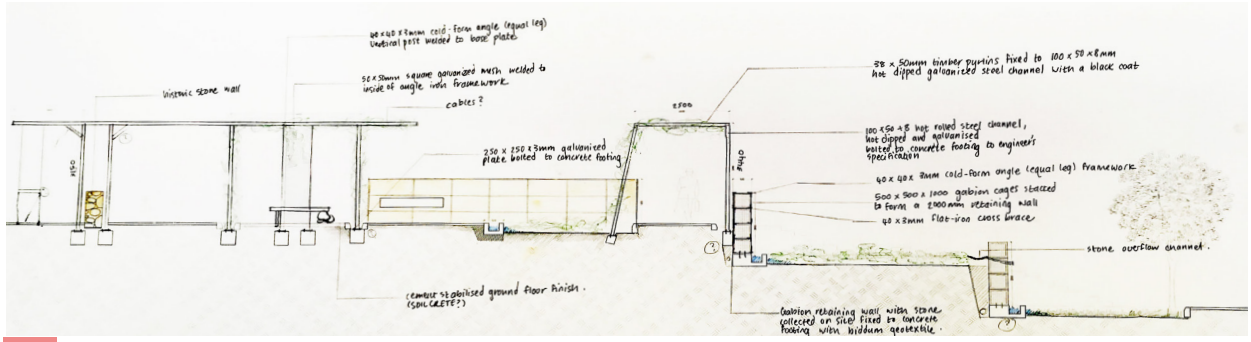
SOUND: Proposed new water flood irrigation channels guide movement of people at times throughout the day. Livestock, and improved fauna due to a larger planting diversity contribute to the natural sounds of the farm.
TASTE: Tasting courtyards enable the enjoyment of the produce and preserves harnessed and produced from the land.
SIGHT: Viewing areas, especially that of the cattle viewing engage the visitor with the daily operations of the farm.
SMELL: The most specific smells are found around the healing courtyard, designed to harness the qualities of the herbs including the sense of smell.
TOUCH: Possibilities to touch the various textures in the landscape are introduced and made accessible - stone, water, planting, livestock.



5.47 Section through tea courtyard



5.48 Section through existing tasting courtyard and workshops



5.49 Section through vegetable gardens

Fig 5.47- Fig 5.49: Rough sections exploring moments within the landscape (Author 2017).

5.49 Routes between existing buildings (Author 2017).

5.50 Vista from church doorway (Author 2017)

06

REFINING

In this chapter the technical development of the Botshabelo ethnobotanical garden and organic farm is explored. This includes the restoration of the functionality of a working farm, as well as the relationships between history, tradition and an introduced contemporary design.

6.1

6.1 THE TECTONIC CONCEPT

To re-iterate an approach taken in the previous chapters up until now; according to Schein (1997) landscapes with fixed static layers require "the presence of a human hand to *create or re-create* the imprints on the landscape tablet, whether intangible or physical. It is *continuous human action* and *interpretation* that creates the palimpsest of cultural landscape over time [author's emphasis]" (Kjerrgren 2011).

This is followed through to the technical resolution as it is believed that through the *restoration of function* to a historic, cultural landscape, the landscape can be revived and made into an appropriate contemporary experience. The manner in which this approach translates into the tectonic language of the proposal can be marked by the word 're-interpretation'.

This dissertation has critiqued the duplication of form and the 'visual' as a predominantly western approach to heritage conservation and as inappropriate for our African cultural landscapes. The restoration of the historic mission station is to be seen in the use and re-introduction of regional materials and sensory experiences of the landscape as understood through the stories, memories and regional and historic context. It respects existing material as the new proposal sits within the old walls of the historic agricultural allotments, thus preserving the existing remnants on site and utilising the narrative behind the remains for future development.

The past narrative: edible landscape

In 1868 the gardens and fields of the residents produced 3 000 bushels of grain, and the harvest of 1869 allowed Merensky to rejoice that Botshabelo was now the "corn store for the entire region" (Delius et al. 2015). In 1870, despite drought and swarms

Fig 6.1: Main informants on technical resolution of design (Author 2017).

of locusts, the residents produced 3 460 bushels of grain over and above legumes, gourds and melons. In the following years Botshabelo played a central role in satisfying the growing demands for grain emanating from the Eastern Transvaal gold fields" (Delius et al. 2015:132). The agricultural success of Botshabelo was significant and the landscape was once rich in sensory experience. The proposed organic farm draws from this history in its planting scheme, as it enables the re-introduction of taste and smell to the current desolate allotments.

The past narrative: regional materiality

According to Delis et al. (2015:132), the stone construction at Botshabelo is a "fascinating combination of European and African influences, with walls fifteen foot high and two feet thick pierced with loopholes and built of iron stone... all of this built using local stone-building techniques!"

Significant to Botshabelo's establishment was Alexander Merensky's belief that a distinctive African character was to remain throughout the development of the station. This can be seen in the use of local materials and techniques found in the stone walls on site.

In summary, the utilisation of local materials (both plant material and construction material) is to remain to preserve the distinctive character of the site. The method of construction and making however is to differ in order to preserve the integrity of the existing - a widely accepted approach of *juxtaposition* between the old and new.

6.1.1 Re-iterating legislation and theory

Within existing guidelines for development at Botshabelo (see appendix one) it is stated that National Heritage Resources Act (25 of 1999) "aims to promote good management of the national estate, and to enable and encourage communities to nurture and conserve their legacy so that it may be bequeathed to future generations". The use of resources such as water from the natural sources on site are therefore possible if motivated accordingly through the obtaining of a water licence. Because the farm is productive and aims to introduce tourism capital, it is possible to motivate how it will benefit future generations.

The process of restoration aims to reveal and preserve the historic and aesthetic value of the site and is based on respect for original material (ICOMOS). Stone was acknowledged as significant and utilised for new development. Along with stories of experience (phenomenology) and legislation, the principles of critical regionalism (see pages 95-96) guided the making of the new farm at Botshabelo.

6.2

6.3

6.4

6.5

Fig 6.2 - Fig 6.5: Existing stone on site (Author 2017).

6.6

Fig 6.6: Sourcing of stone on site (Author 2017).

6.1.2 Materiality

Existing material language

The site comprises of an abundance of stone walling, as well as stone flooring and stone water channels. As stated previously, the stone material and construction technique on site has been deemed significant as it is distinctively African and specific to the region of Mpumalanga.

Sourcing of material

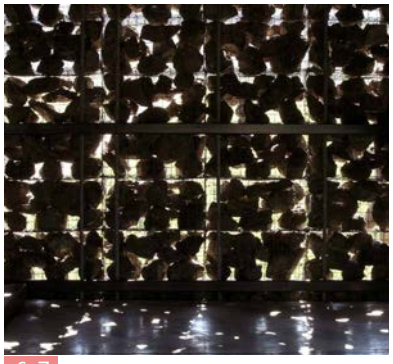
Loose stone is still to be found throughout the site and has been chosen as a material for further building developments. As can be seen in Figure 6.6, the Fort Merensky project part of the Botshabelo Masters Group 2017 will deal with practices such as excavation, and thus a large amount of stone and soil would be available for the construction of walls, terraces, floors and other hard material construction taking place at the ethnobotanical garden.

Makers of the new Botshabelo

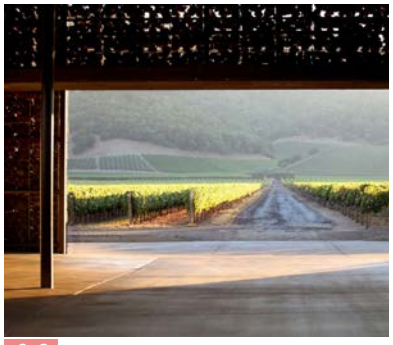
As stated in the guidelines provided by ICOMOS as well as the guidelines provided by local authority for Botshabelo; the development of the site is to have a socially beneficial purpose, and benefit the larger community as well as future generations. The proposed Botshabelo Community that is to reside on site will thus be able to steward the proposed development and construction as they are highly skilled in construction and agriculture.

6.2 LEARNING FROM EXAMPLES

Dominus Winery by Herzog & de Meuron, Napa Valley.

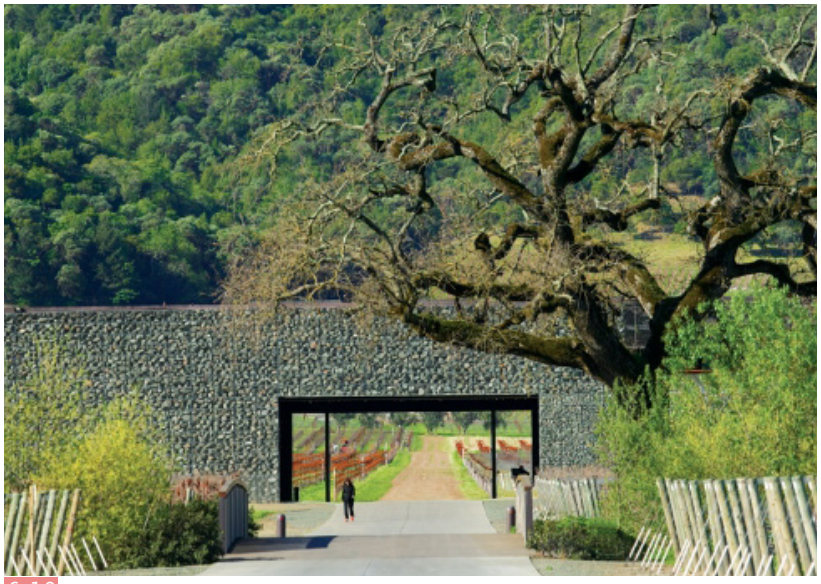


6.7



6.8

6.9



6.10

Background

The winery, situated in Napa Valley was founded on the desire to produce quality grapes which reflected the full potential of the land. The building was designed in a linear formation to integrate with the linear formation of the vineyards. Glass walls provide views to the landscape. The main motivation behind the materiality of the building was based on the climate of Napa Valley - extremely hot in the day and cold at night, and thus an architectural strategy to regulate the temperatures of the building without air-conditioning were sought after.

The gabion walls form an inert mass that is extremely effective for insulation from heat in the day and cold during the evening. Local basalt rock was chosen and the colours vary, integrating beautifully within the regional landscape.

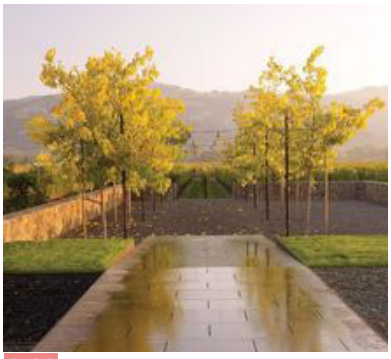
Main inspiration: permeability of the gabion wall

“The gabions are filled more or less densely as needed so that parts of the walls are very impenetrable while others allow the passage of light: natural light comes into the rooms during the day and artificial light seeps through the stones at night. You could describe our use of the gabions as kind of stone wickerwork with varying degrees of transparency, more like skin than like traditional masonry” (Herzong & de Meuron 1997).

Fig 6.7 - Fig 6.10: Dominus Winery after completion (Herzong & de Meuron 1997).

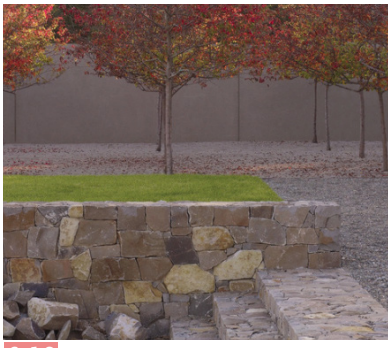
6.2.1 LEARNING FROM EXAMPLES

Walden Studios by Andrea Cochran Landscape Architects. CA.



6.11

6.12



6.13

6.14

Background

Walden Studios, a former prune making facility was developed into a mixed-use complex with arts related offices and commercial space in addition to the working vineyard.

The design concept

Flood prevention from the nearby river was a primary guideline for the development and thus a concept of “a series of piers extending into a sea of vineyards” was created.

Materiality inspiration

A restrained material palette and the straightforward composition of the design intends to reflect the scale and quality of the larger agricultural landscape.

The planar landscape is articulated by the placement of focal specimen trees expressed in the foreground, providing contrast to the expansive agricultural backdrop.

Low stone walls define space, and are integrated with the alleys of trees, vegetable garden and outdoor event dining area.

A carpet of crushed gravel unifies the design and serves as a permeable surface for water run-off, as well as a reflector of heat. For wheelchair access, the gravel is fixed with rings of Gravel pave (Andrea Cochran Landscape Architects 2006).

In summary, the use of stone in various loose and fixed forms and planes serves as inspiration.

Figures 6.11 -6.14: Walden studios use of stone (Andrea Cochran Landscape Architects 2006)

6.3 MATERIALITY EXPLORATIONS

Material study: Regional materials, a new form and technique


6.15


6.16

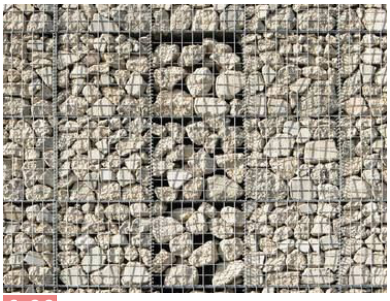

6.17


6.18


6.19


6.20


6.21


6.22


6.23

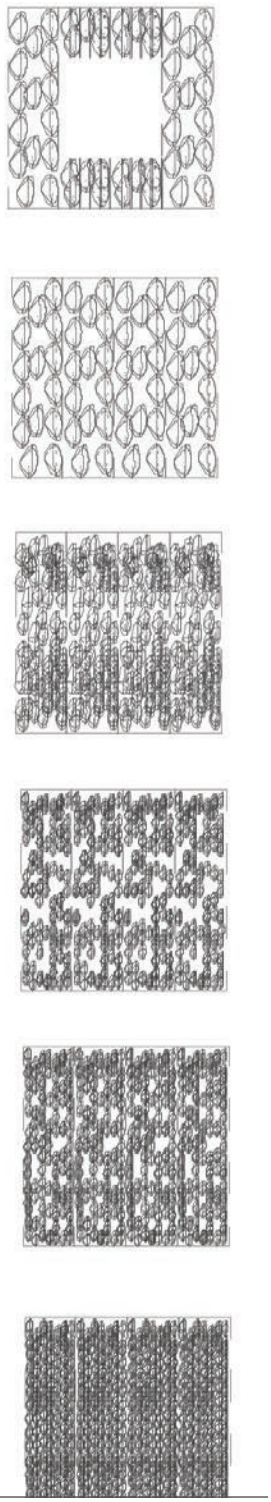

6.24


6.25

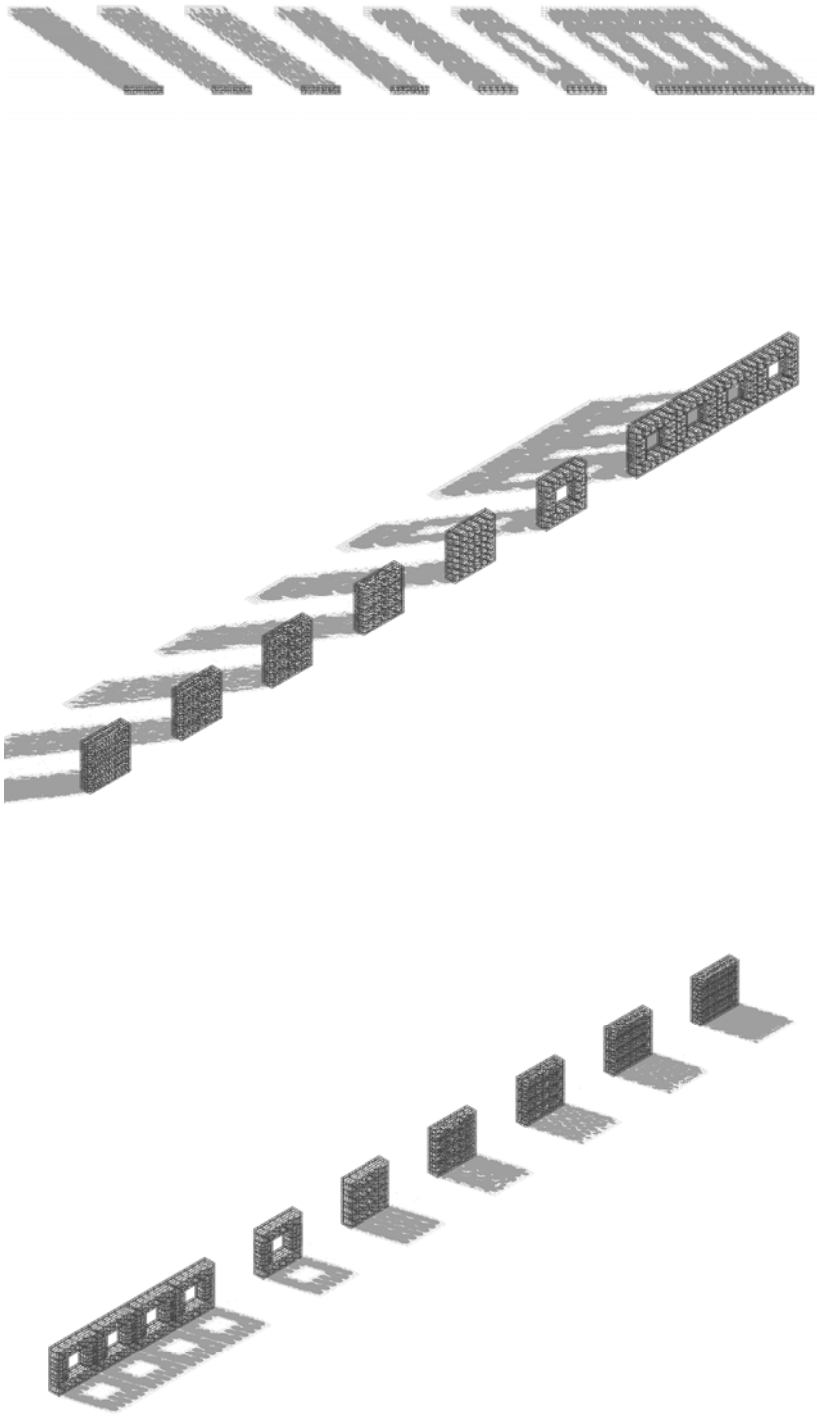

6.26

Fig 6.15 - Fig 6.20: Existing materiality on site (Author 2017).
Fig 6.21- Fig 6.26: Proposed language of materiality (Varied).

6.3.1 Gabion wall exploration and solar study

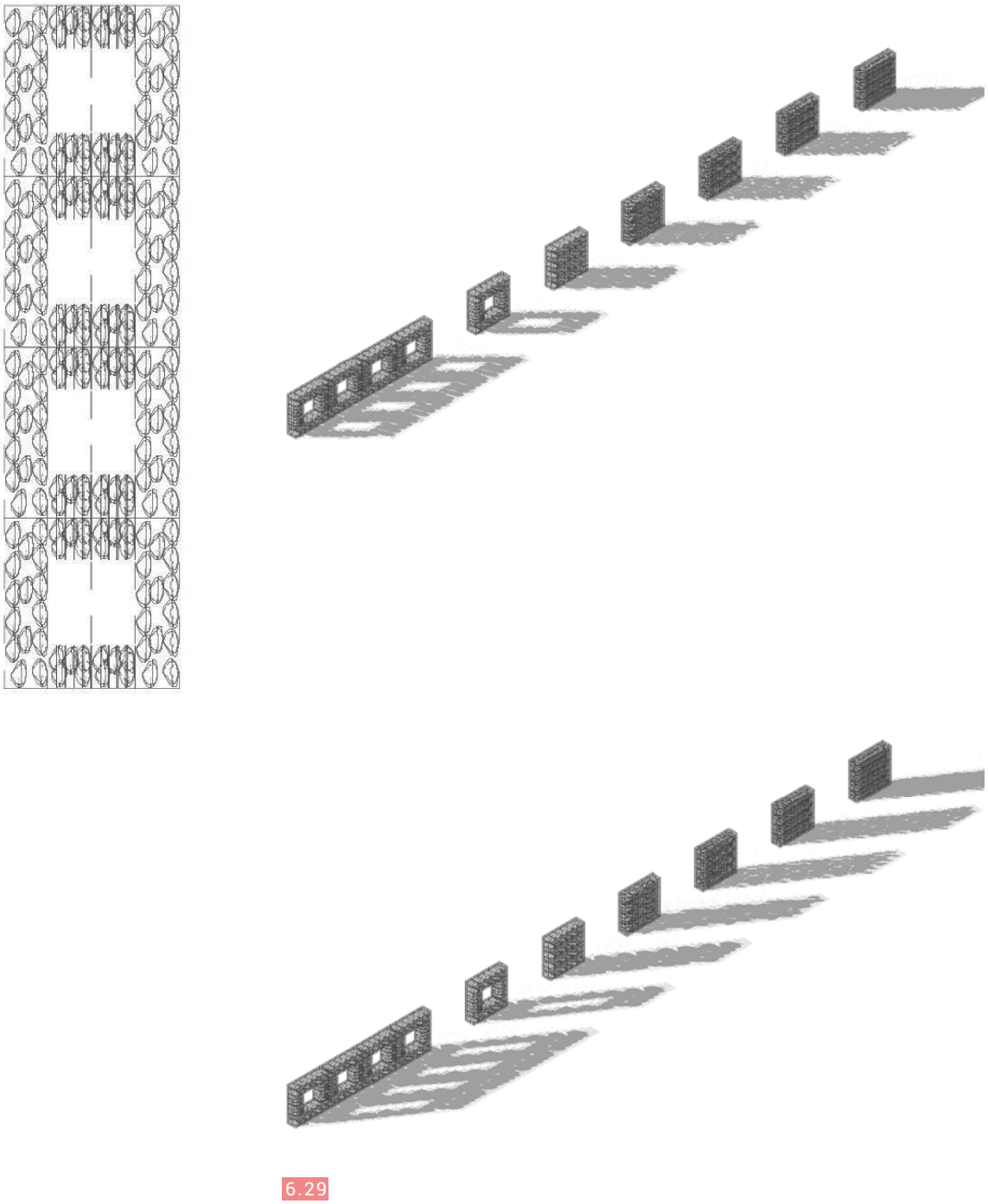


6.27



6.28

Fig 6.27: Varying densities and stone sizes of gabion wall (Author 2017).
Fig 6.28: Gabion solar study (Author 2017).



6.29

Fig 6.29: Modular gabions (Author 2017).

6.4 DETAILING MOMENTS

Four primary moments within the landscape were chosen for further refinement

6.30

EXPERIENCES WITHIN THE LANDSCAPE:

1. Tea/ healing courtyard
2. Vegetable garden
3. Sunken beer courtyard
4. Cattle viewing

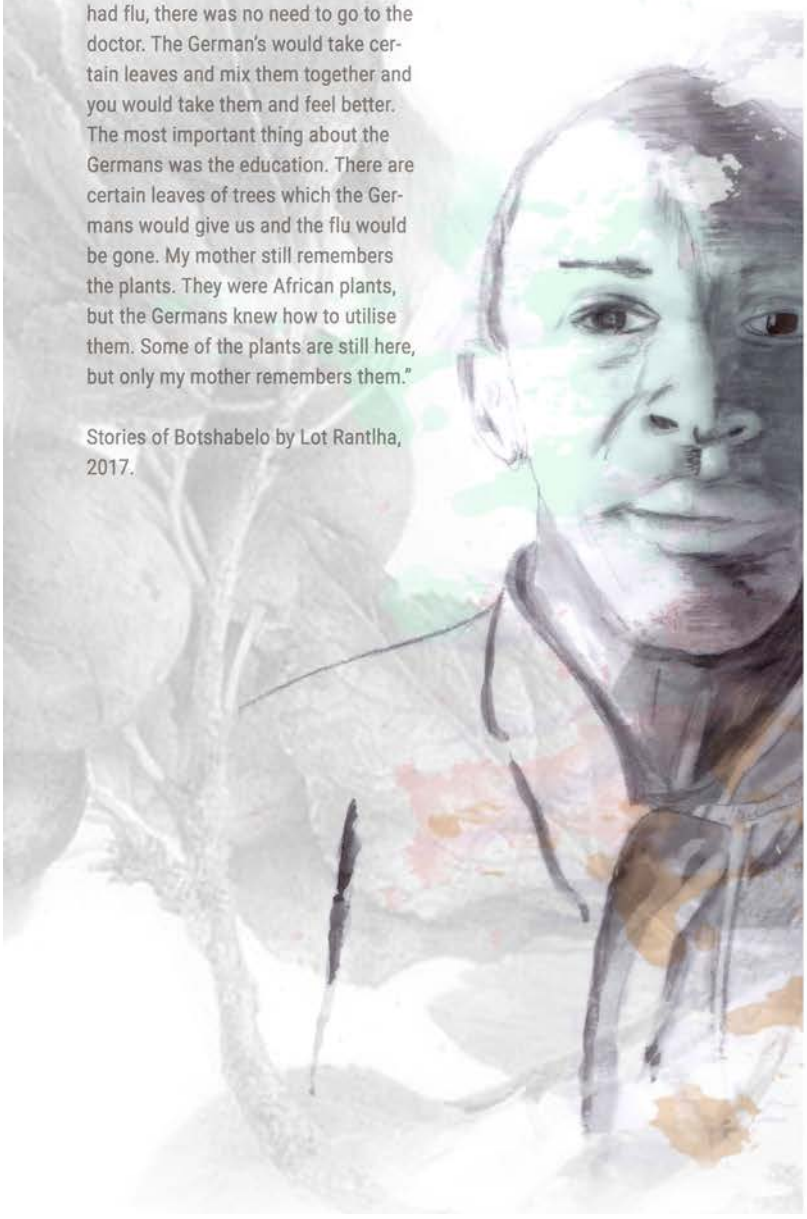
Fig 6.30: Four primary moments of sensory experience (Author 2017)

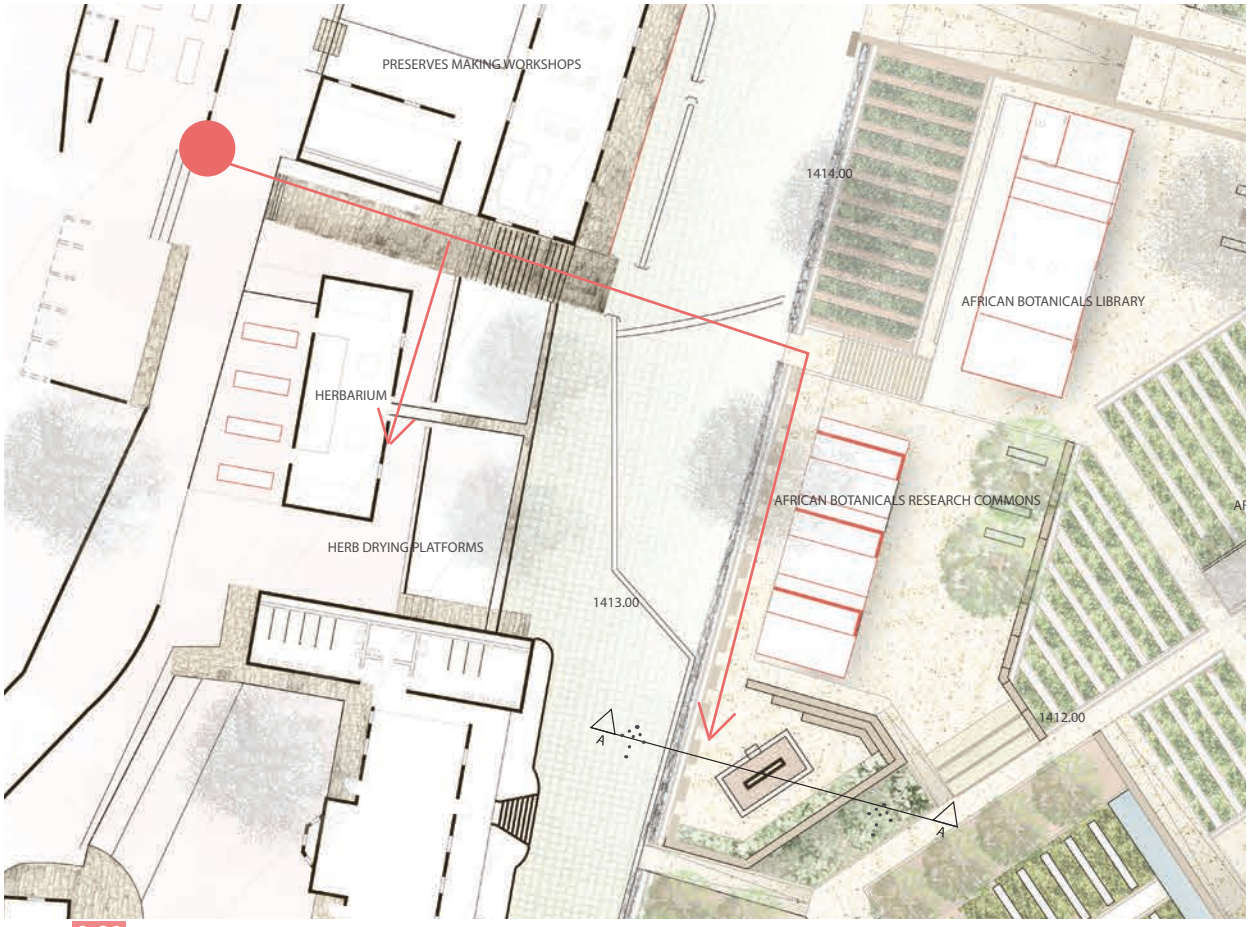
01

The African Medicinal Herb Garden

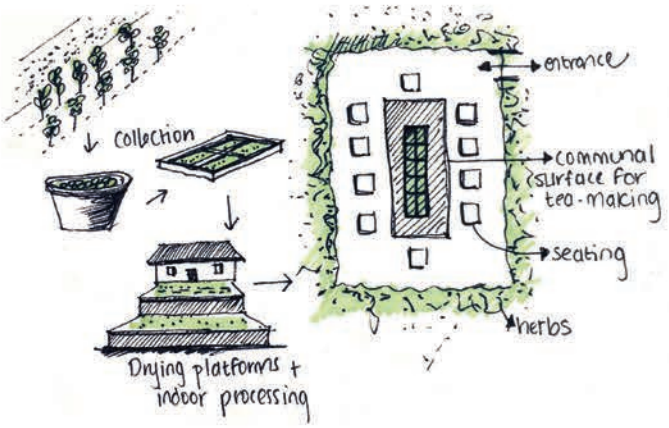
"The German's were well gifted. If you had flu, there was no need to go to the doctor. The German's would take certain leaves and mix them together and you would take them and feel better. The most important thing about the Germans was the education. There are certain leaves of trees which the Germans would give us and the flu would be gone. My mother still remembers the plants. They were African plants, but the Germans knew how to utilise them. Some of the plants are still here, but only my mother remembers them."

Stories of Botshabelo by Lot Rantlha, 2017.





6.31



6.32

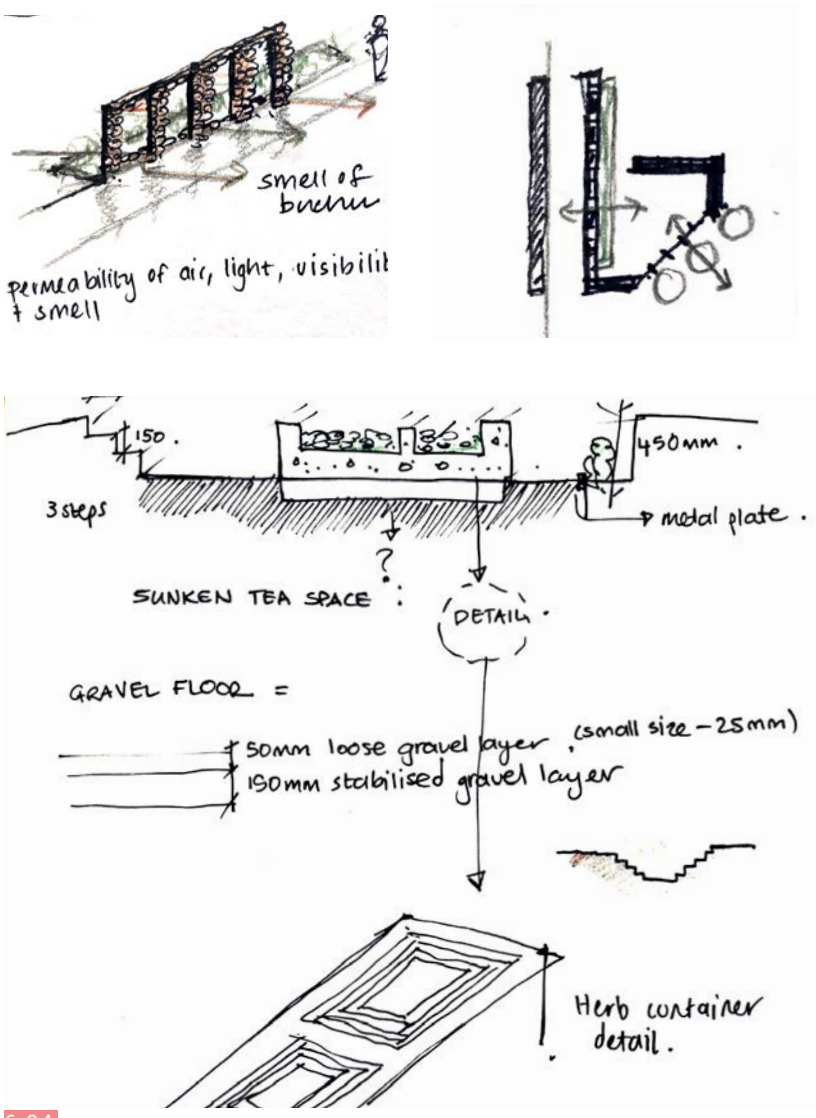
After harvest, the herbs are used in the proposed tea factory as a product to sell. The existing terraces are transformed into outdoor herb drying platforms and an existing pathway through these elements extends into the landscape to the new tea courtyard. Visitors are able to make tea within this courtyard, an enclosed, quieter space for healing and relaxation within the gardens.

Fig 6.31: Tea route linking building and landscape (Author 2017).
Fig 6.32: Tea making process (Author 2017).

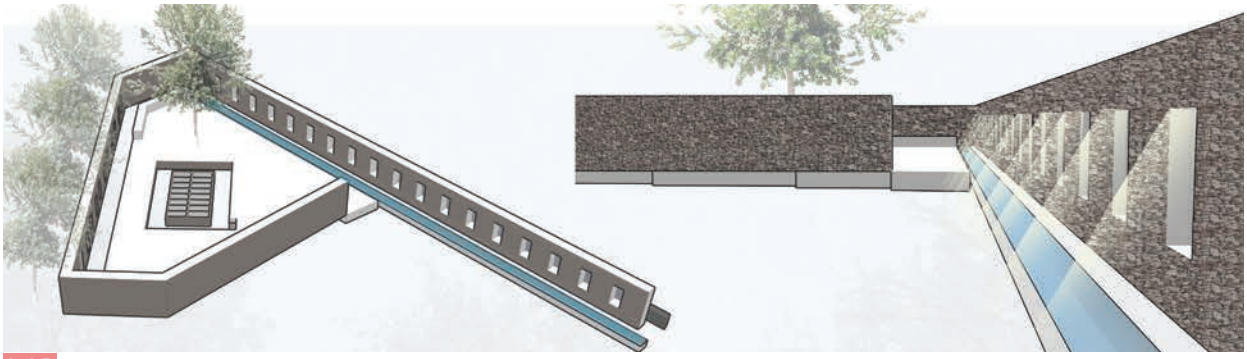
6.33

Fig 6.33: Section A-A through medicinal tea courtyard [NTS] (Author 2017).

The tea route as indicated in Fig 6.32 integrates the existing historic buildings and the proposed landscape. The courtyard is designed to enhance the experience of the herbs. Within the courtyard the Buchu plant (*Agathosma betulina)* is grown. It is the best known aromatic herb from South Africa and according to Christopher H. Low, the reason for Buchu's significance "seems to lie in the richness of the smell"- the smell considered a potent role in the healing process (*African Aromatics 2010*).
The pierced gabion walls thus allow a through-flow of the smell of the herbs.



6.34



6.35

Fig 6.34: Design detail sketches (Author 2017).
Fig 6.35: Axonometric views of tea courtyard (Author 2017).

6.36

- Buchu
- Sour fig
- Golden sage
- Black cumin
- Wild mint
- Forest pink hibiscus
- Origanum
- Wild wormwood
- Wild rosemary
- Wild garlic
- Rose-scented pelargonium
- Ginger

Fig 6.36: Herb garden planting plan (Author 2017).

6.37

KEY

Carpobrotus edulis	Sour fig
Zingiber officinale	Ginger
Mentha longifolia	Wild mint
Nigella sativa	Black cumin
Origanum majorana L	Origanum
Pelargonium graveolens	Rose-scented pelargonium
Salvia africana-lutea L	Golden sage
Artemisia afra Jacq. ex	Wild wormwood
Tulbachia violacea	Wild garlic
Eriocephalus africanus L.	Wild rosemary
Hibiscus sabdariffa	Forest pink hibiscus
Agathosma betulina	Buchu

Fig 6.37: Herb garden planting palette (Author 2017).

Herbs

Agathosma betulina

1.5 -2.5m

Low

Carpobrotus edulis

120mm

Low

Zingiber officinale

1m

Low

Mentha longifolia

1m

Low

Nigella sativa

30cm

Low

Origanum majorana L

30-80cm

Low

Herbs

Pelargonium graveolens

1.3m

Low

Salvia africana-lutea L

2m

Low

Artemisia afra Jacq. ex Willd.

2m

Low

Tulbachia violacea

0.5m

Low

Eriocephalus africanus L.

1m

Low

Hibiscus sabdariffa

1m

Low

6.38

Estimated height

Medicinal use

Low water demand

High water demand

Full sun

Full shade

Fig 6.38: Herb garden planting characteristics (Author 2017).

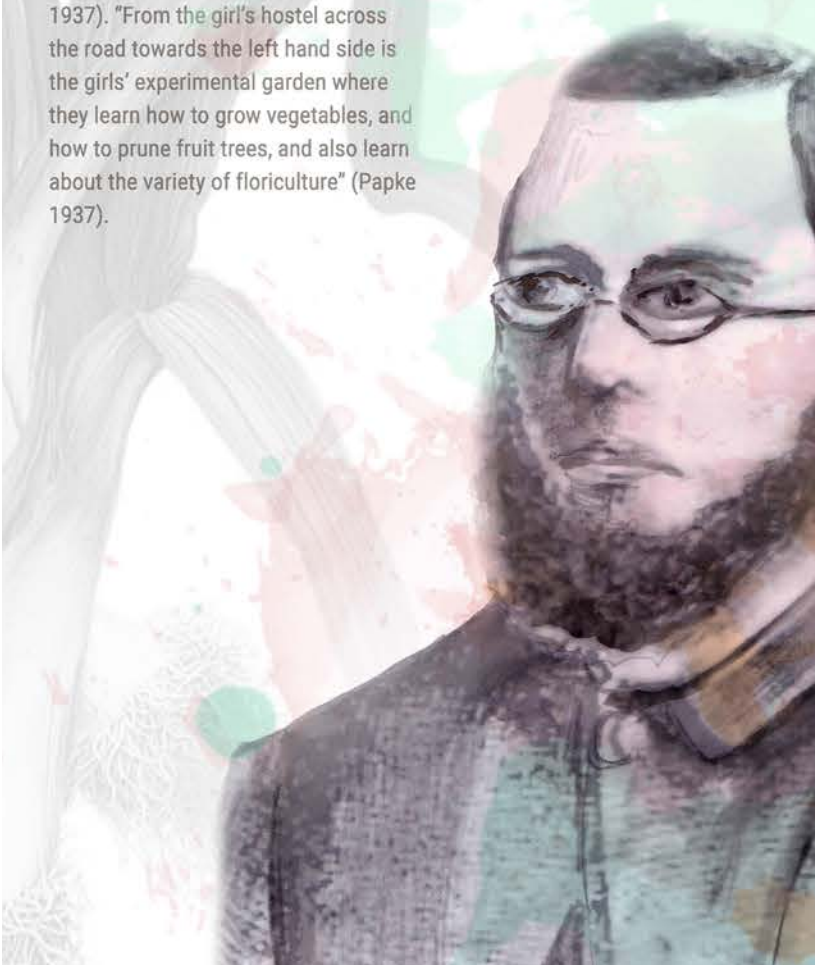
6.39

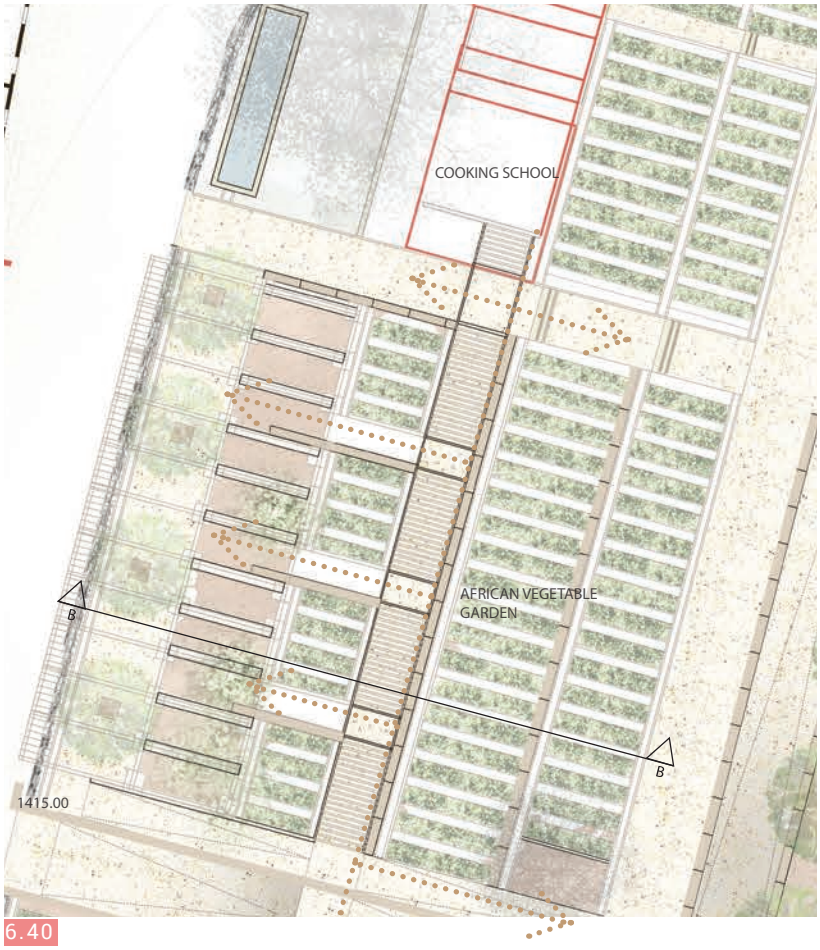
Fig 6.39: Herb garden perspective (Author 2017).

02

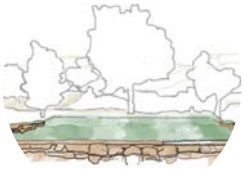
The African Vegetable Garden

"A fruit and vegetable garden that is surrounded by stone walls is situated on the left hand side of the road... Shortly after that, on the left hand side is an opening in the forest, which is the celebration place for the community during a mission celebration. (Papke 1937). "From the girl's hostel across the road towards the left hand side is the girls' experimental garden where they learn how to grow vegetables, and how to prune fruit trees, and also learn about the variety of floriculture" (Papke 1937).





6.40

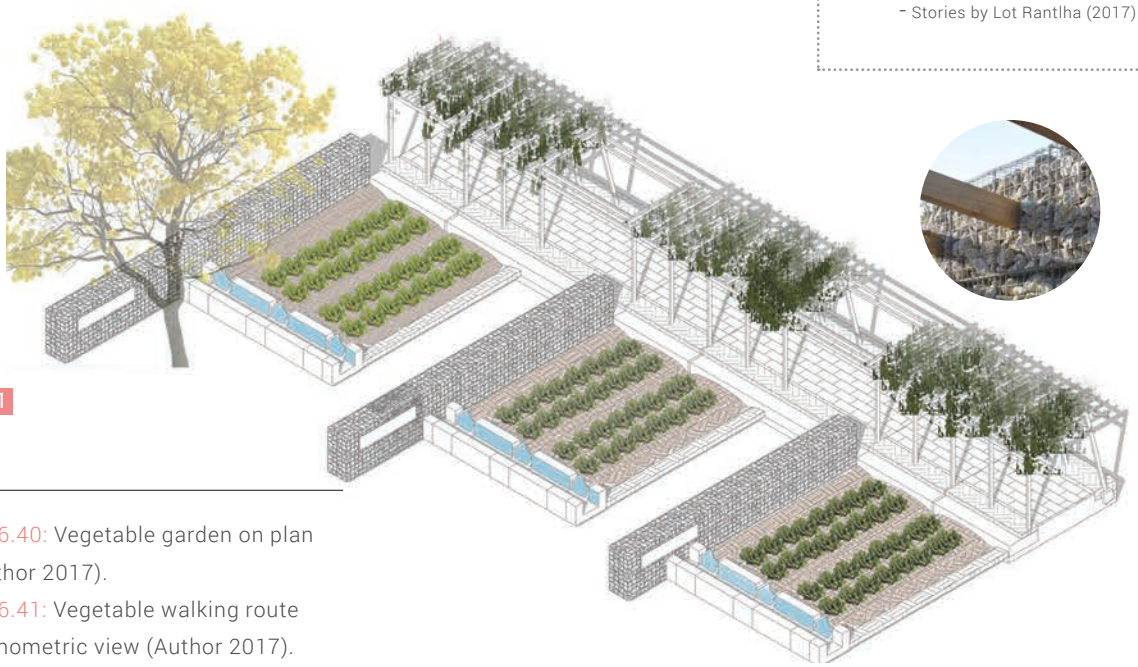


"From the girl's hostel across the road towards the left hand side is the girls' experimental garden where they learn how to grow vegetables..."

- Stories by Karl Otto Papke (1937).

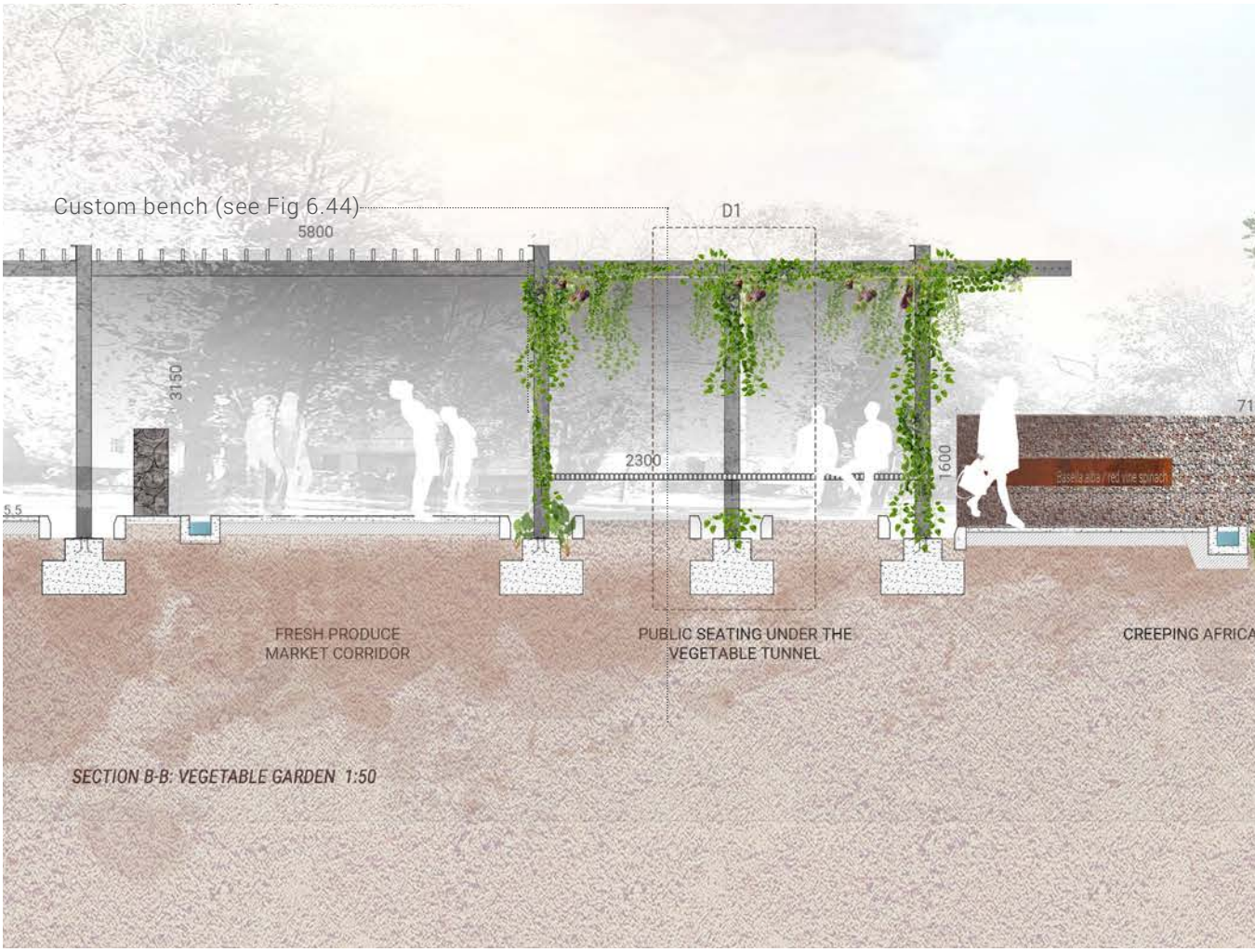
"I went to school here. We grew vegetables here; mielies, apples, grapes. Each and every family that stayed here had a farm."

- Stories by Lot Rantlha (2017).



6.41

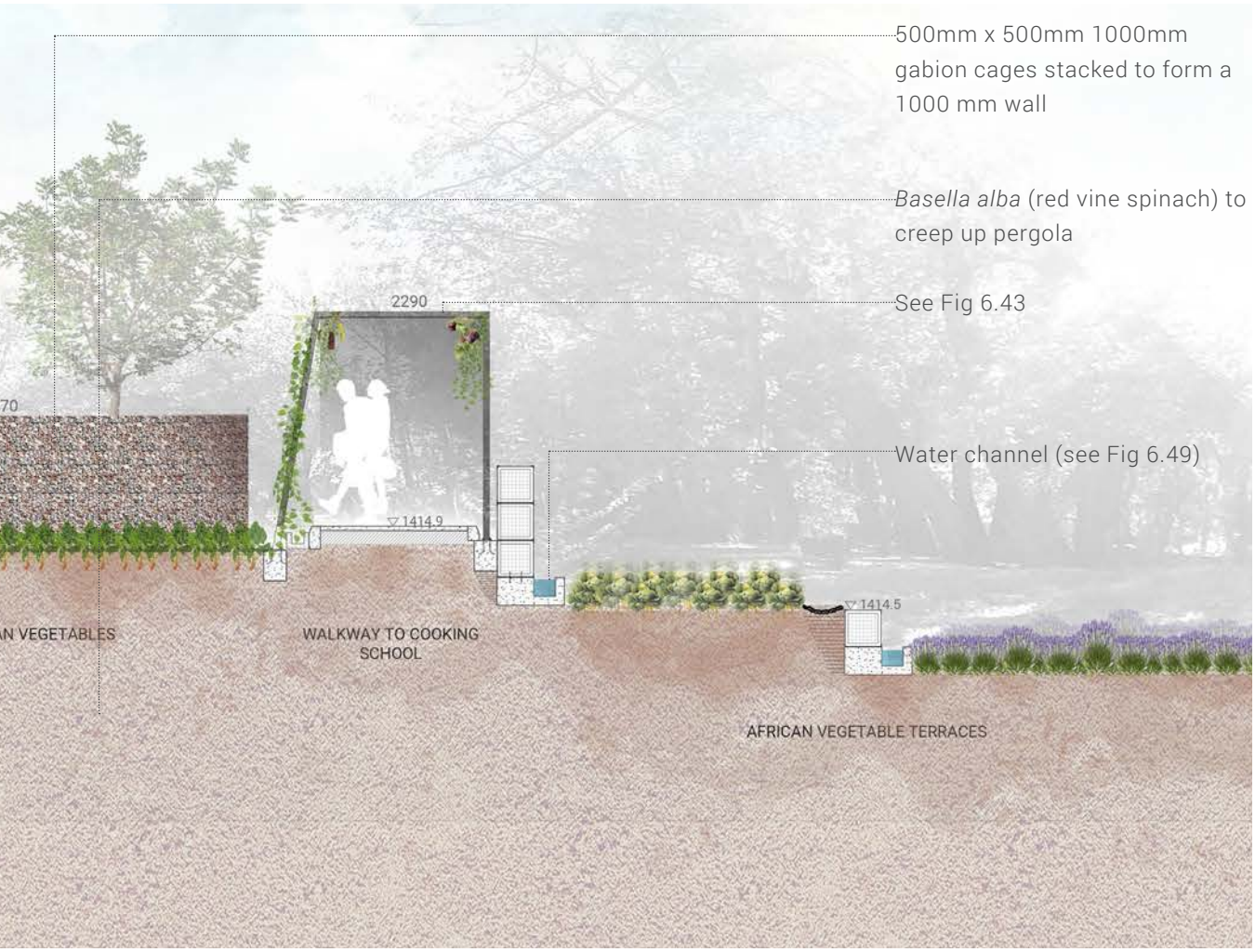
Fig 6.40: Vegetable garden on plan (Author 2017).
Fig 6.41: Vegetable walking route axonometric view (Author 2017).

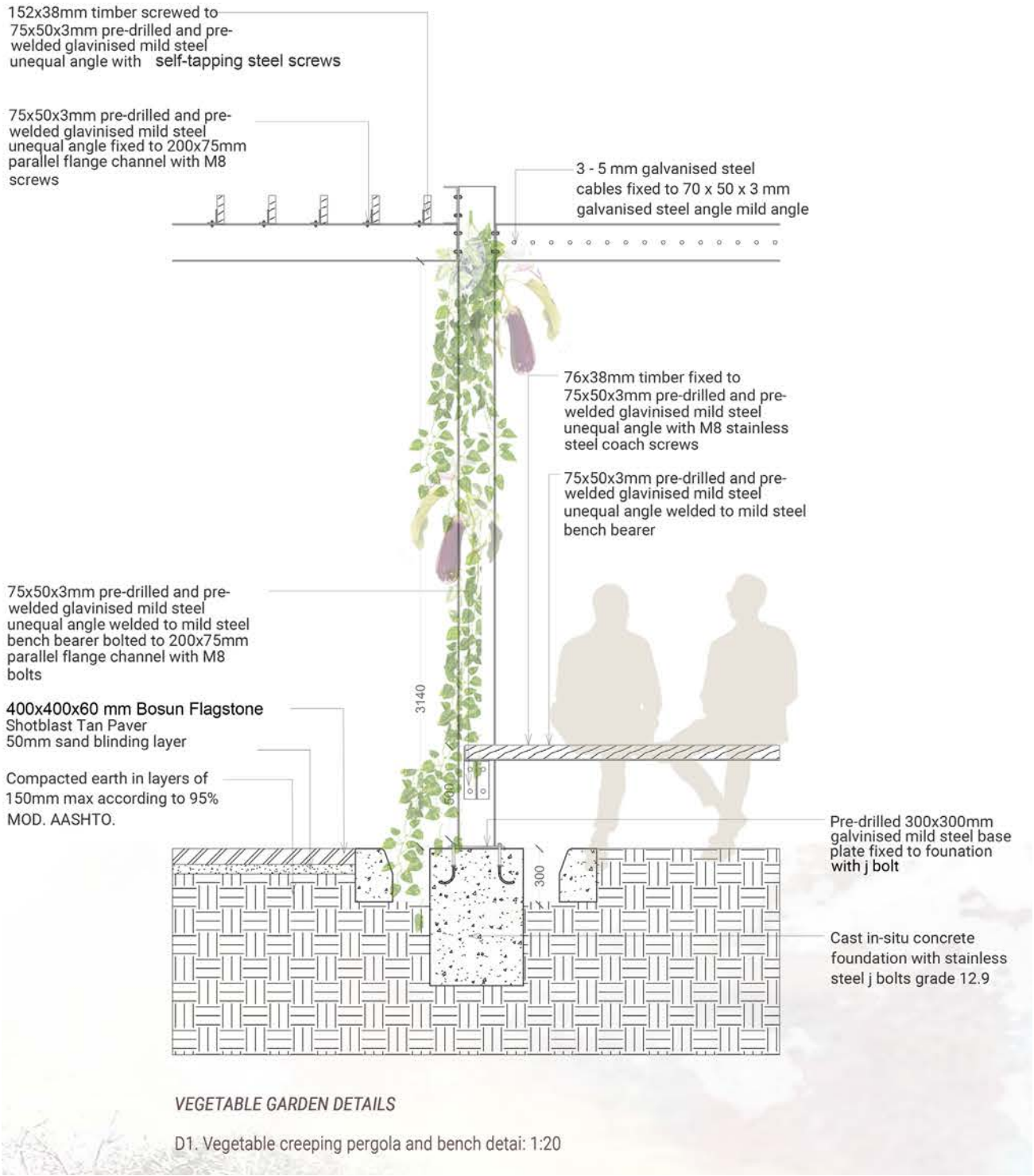


6.42

The vegetable garden is to consist of the chosen traditional African vegetables.
Following the Germans' introduction of botanical education and horticultural study, each vegetable species is to be displayed with informative signage in order to preserve knowledge of the species and it's cultural background. Alongside the vegetable garden is the fresh produce and preserves market, as well as the restaurant where these vegetables are utilised after the harvest. The planting of these species is to be planned as to ensure that there is constant produce all year round.
Due to the nature and requirements of the various vegetable species', this space is designed to accommodate and optimise the growth of each one. The pergola is therefore designed to allow for the creeping of vegetables such as the African spinach, providing a vegetable tunnel for the visitor to walk through leading to the entrance of the cooking school.

Fig 6.42: Section through vegetable garden (Author 2017).

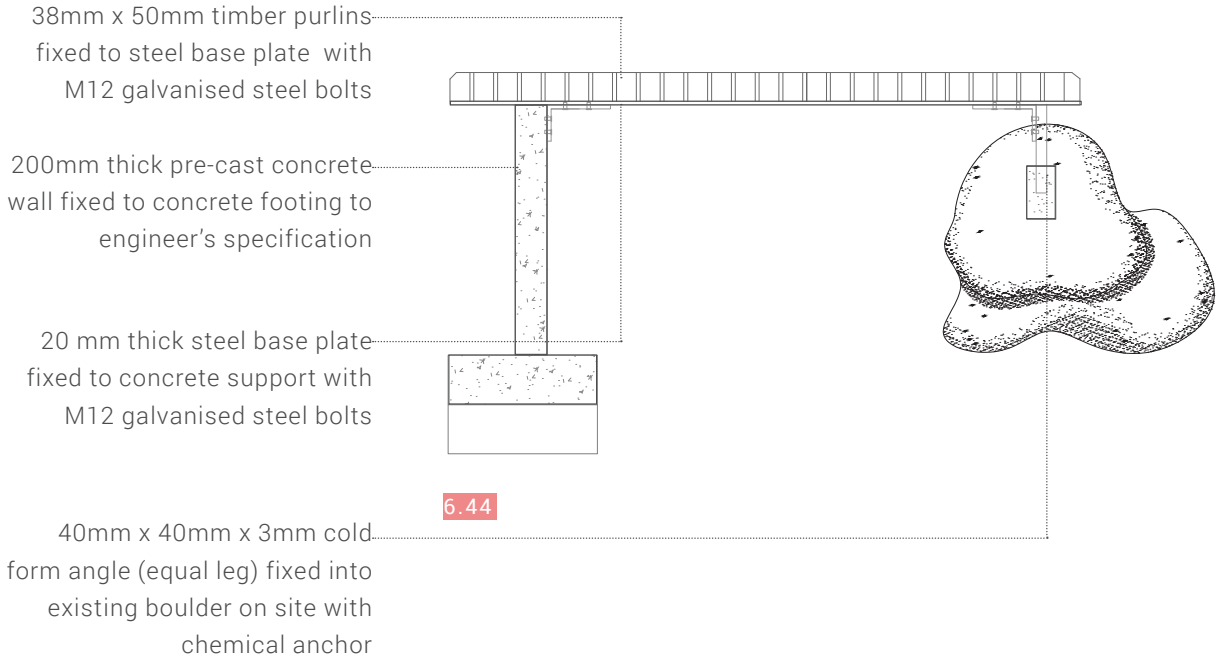




VEGETABLE GARDEN DETAILS

D1. Vegetable creeping pergola and bench detai: 1:20

6.43



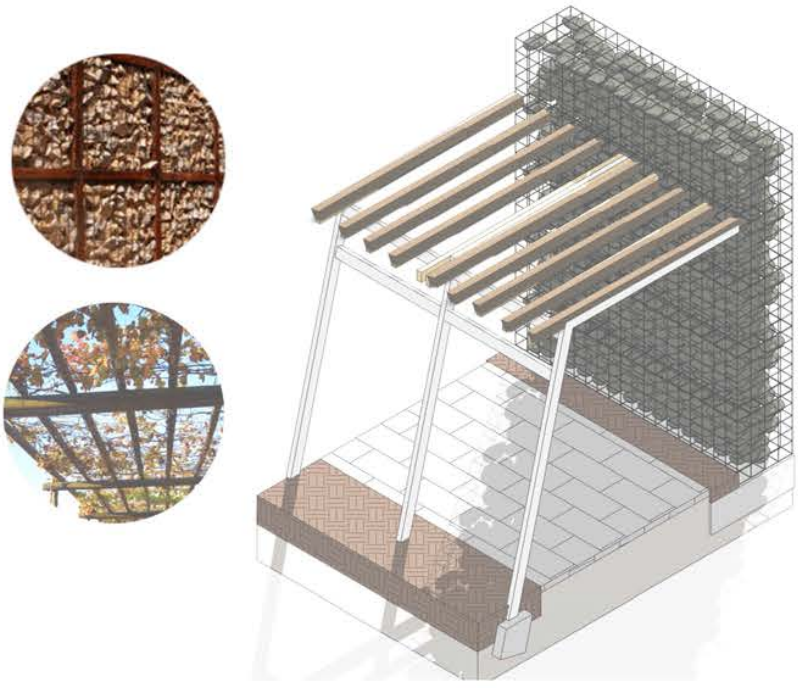
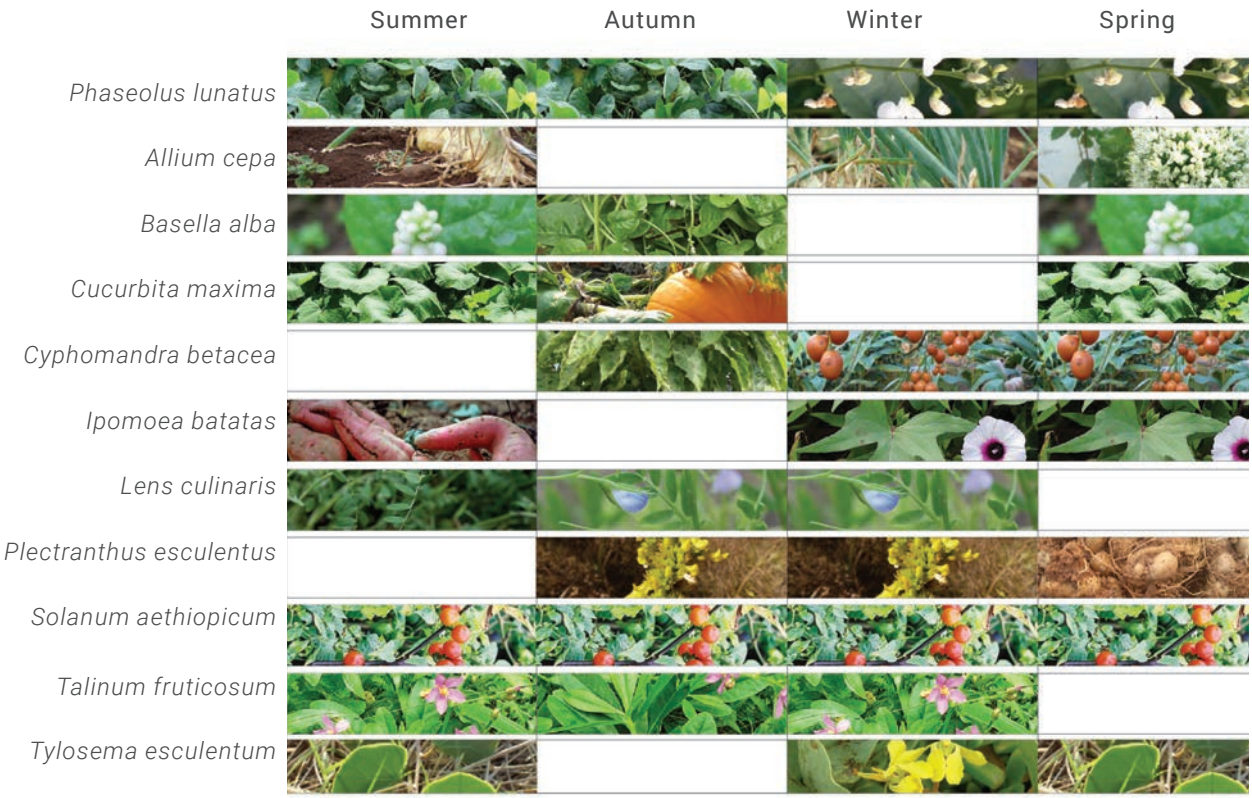


Fig 6.43: Detail of pergola (Author 2017).
Fig 6.44: Detail of custom stone bench (Author 2017).

6.45

Red vine spinach
African eggplant
Sweet potato
African potato
Pumpkin
Onion
Ceylon spinach
Lentils
Lima bean
Marama bean
African potato

Fig 6.45: Vegetable garden planting plan (Author 2017).

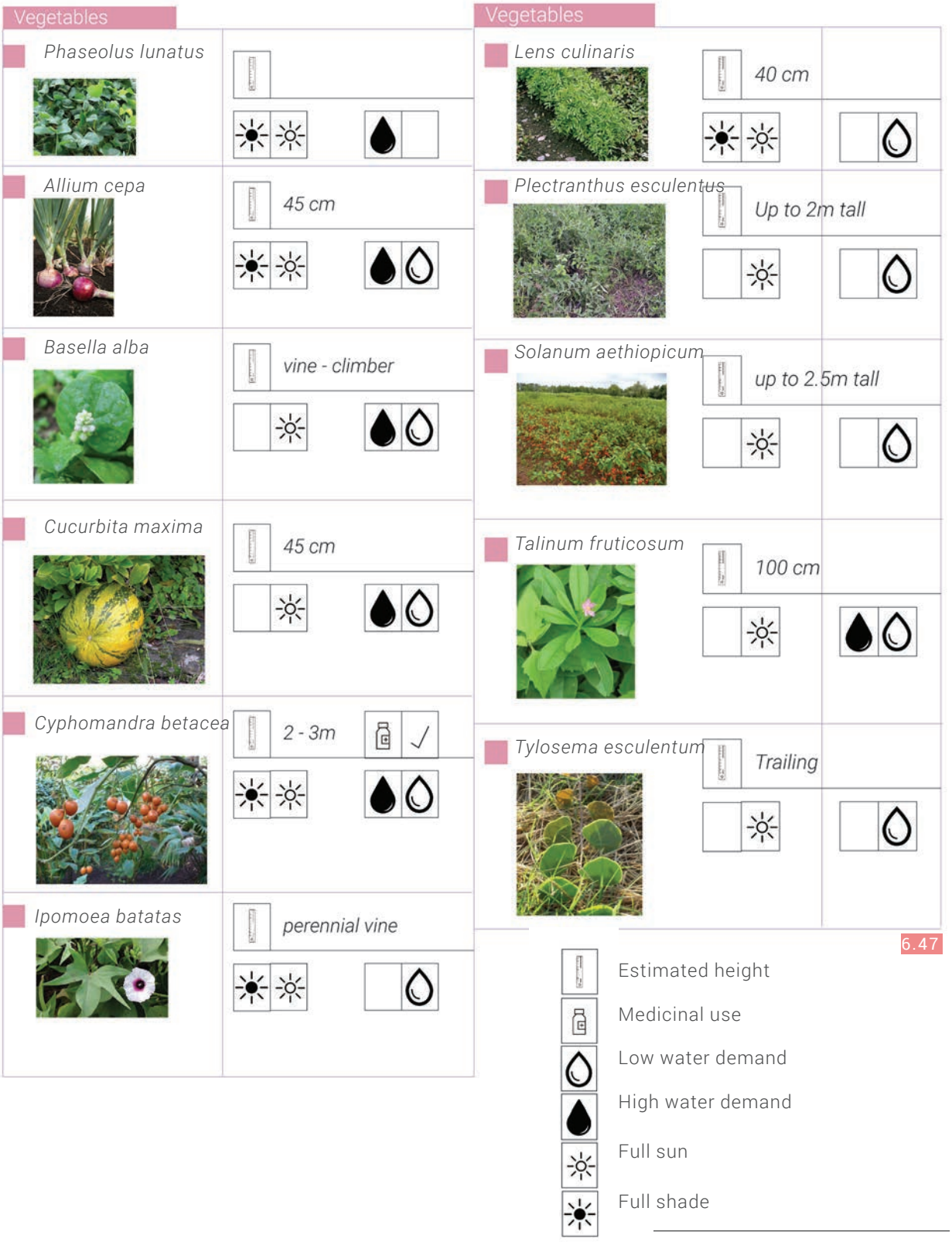


6.46

KEY

	Phaseolus lunatus	Lima bean
	Allium cepa	onion
C	*Basella alba*	red vine spinach
	Cucurbita maxima	pumpkin
C	*Cyphomandra betacea*	Cape tomato tree
C	*Ipomoea batatas*	Sweet potato
	Lens culinaris	lentils
	Plectranthus esculentus	African potato
C	*Solanum aethiopicum*	African eggplant
	Talinum fruticosum	Ceylon spinach
	Tylosema esculentum	Marama bean
C	*Climber*	

Fig 6.46: Vegetable garden planting palette (Author 2017).



6.47

Fig 6.47: Vegetable garden plant characteristics (Author 2017).

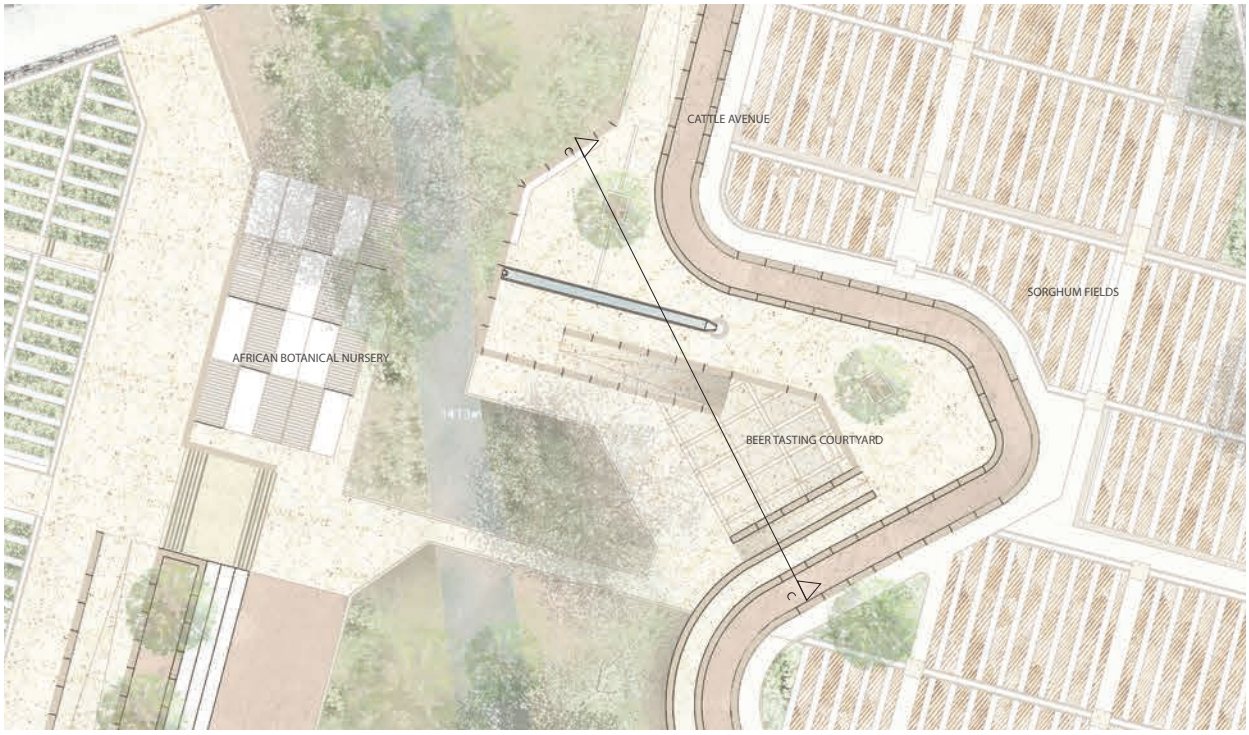
6.48

Fig 6.48: Vegetable garden perspective (Author 2017).

03

The Sorghum Fields + Beer Courtyard

As he moved in-between Botshabeloand the rural village of Wonderhoek, Gerard was able to observe more clearly the lifestyle differences between Christian converts and rural villagers. In the rural village, the land was dull and barren in the winter but the Ndebele village was colourful. In summer, after the early rains, households would spend time ploughing and planting seed. Harvest time was a time for both work and thanksgiving. Field parties consisted of the community harvesting the summer's yield. "During these deeply communal and convivial occasions, much work and much eating and drinking of traditional home-brewed beer, took place" (Manganyi 2004:10).



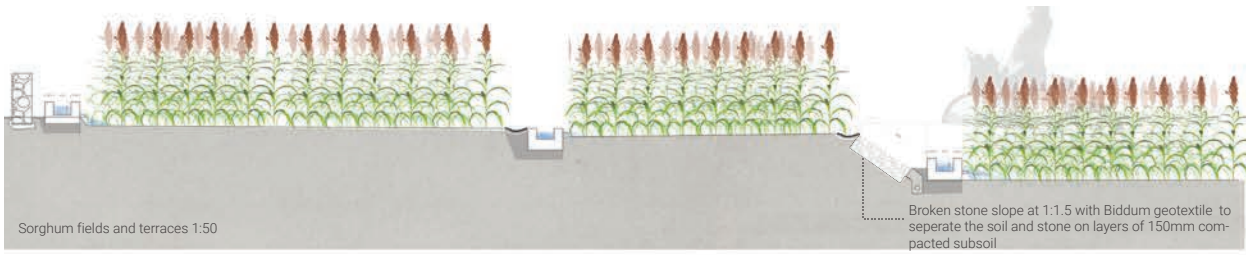
6.49 Sorghum fields and beer courtyard on plan (Author 2017).

"In 1868 the gardens and fields of the residents produced 3 000 bushels of grain, and the harvest of 1869 allowed Merensky to rejoice that Botshabelo was now the "corn store for the entire region"

- Alexander Merensky

(Delius et al. 2015).

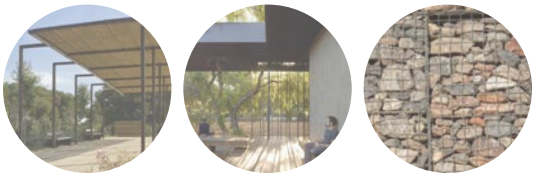
Sorghum bicolor

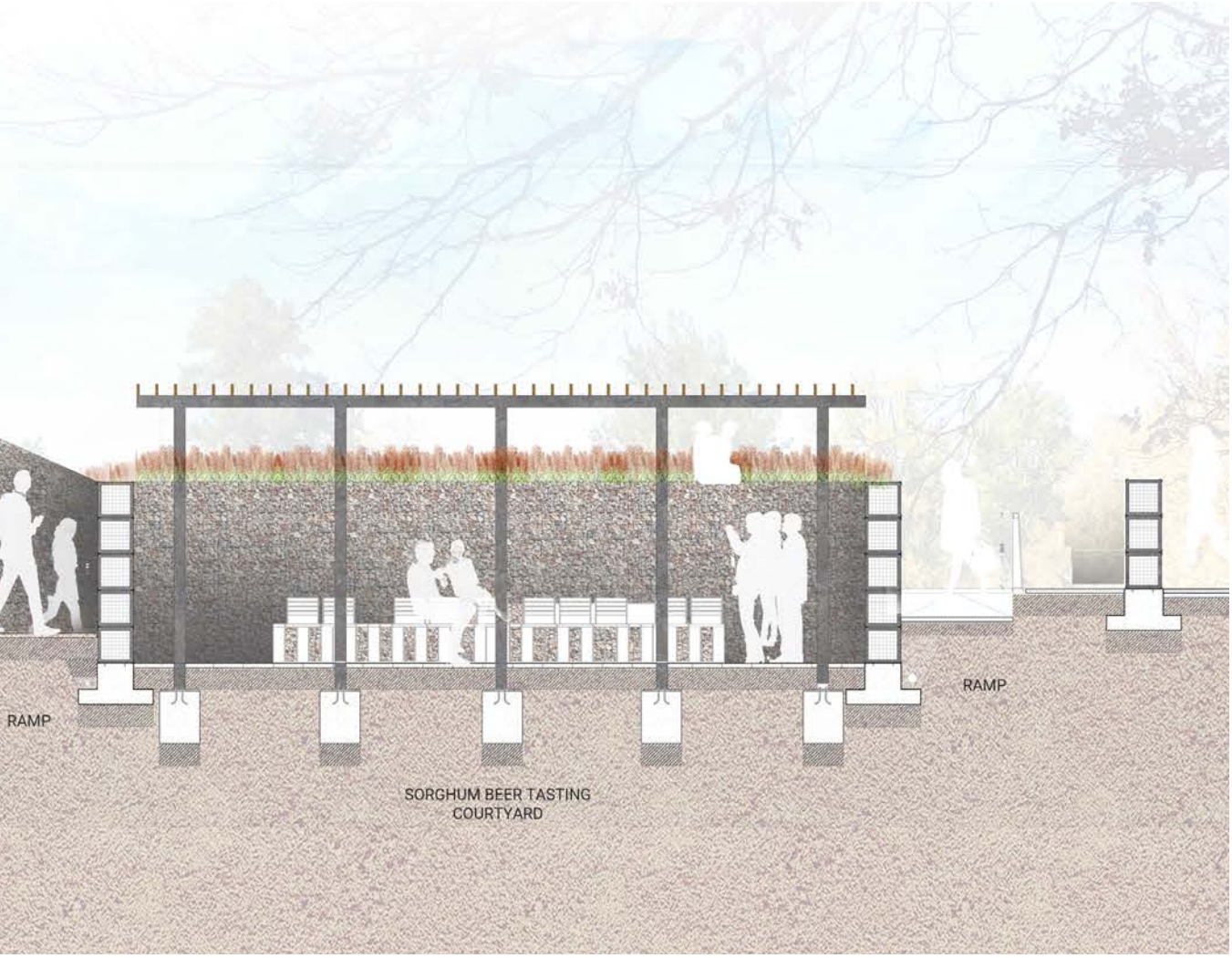


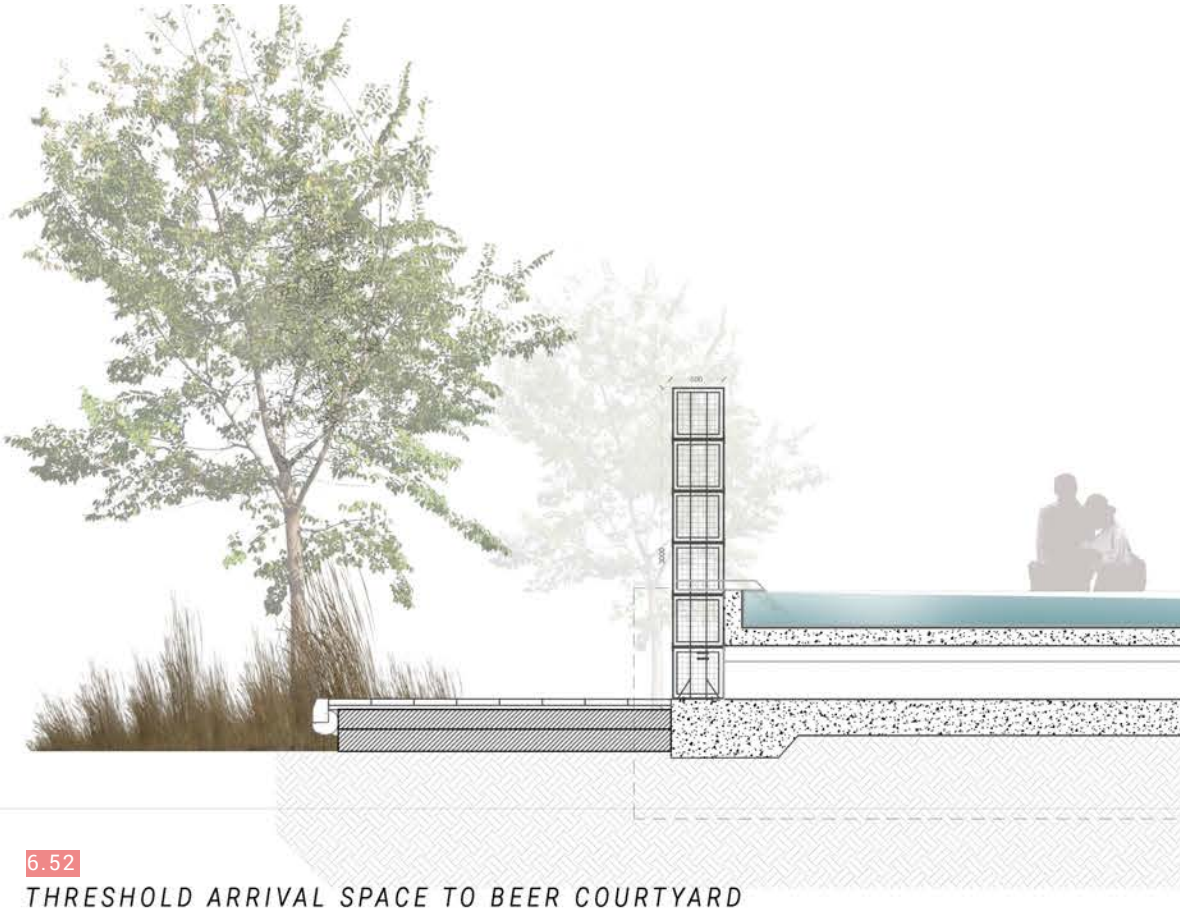
6.50 Section through sorghum fields terraces [NTS] (Author 2017).

6.51

Fig 6.51: Section C-C through sorghum beer courtyard (Author 2017).







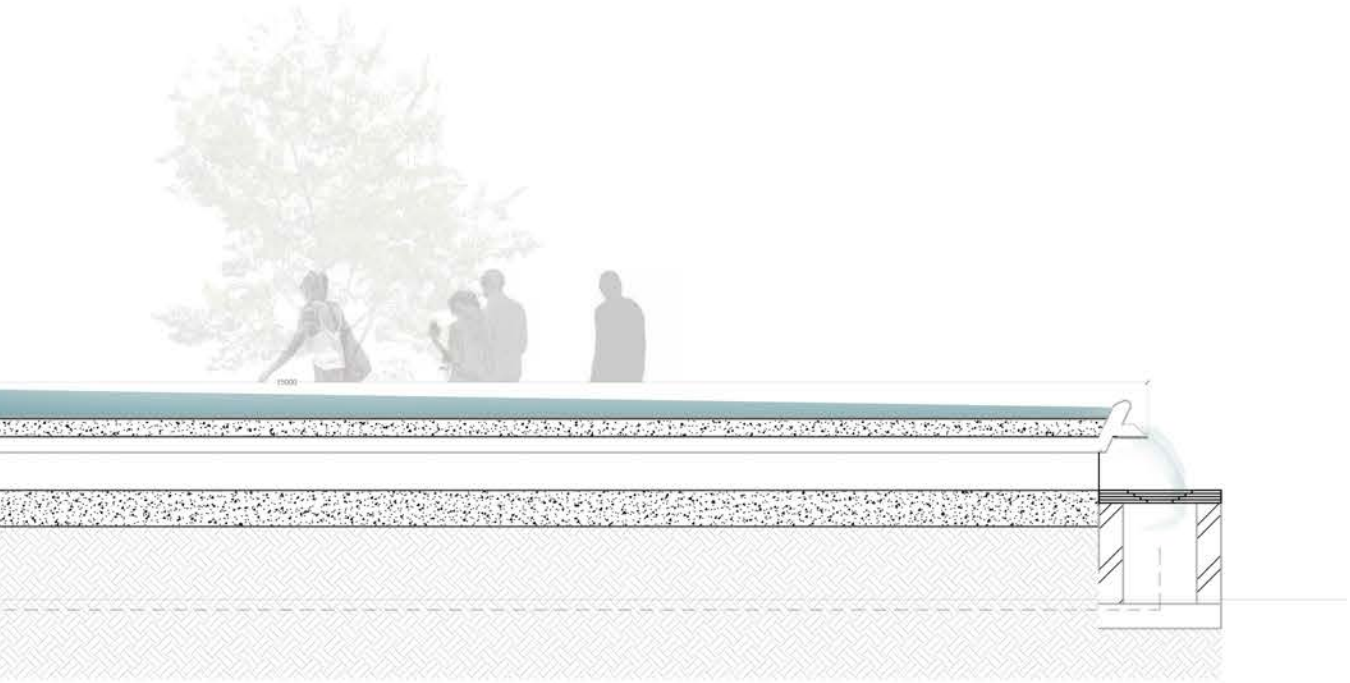
6.52

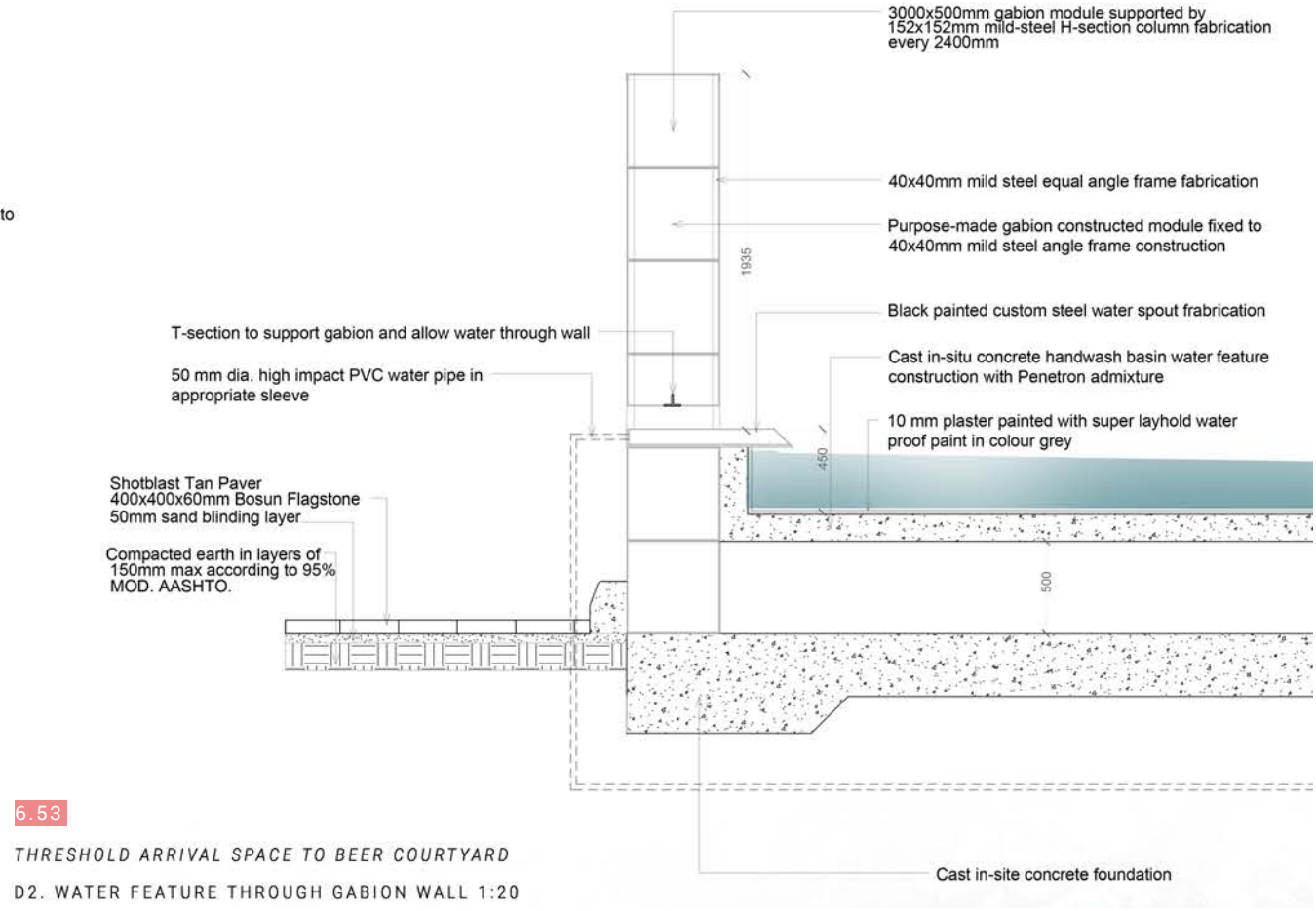
THRESHOLD ARRIVAL SPACE TO BEER COURTYARD

D1. WATER FEATURE 1:50

Fig 6.52: Section through water trough/ hand wash basin (Author 2017).

Fig 6.53: Detail showing water flow through gabion wall (Author 2017).

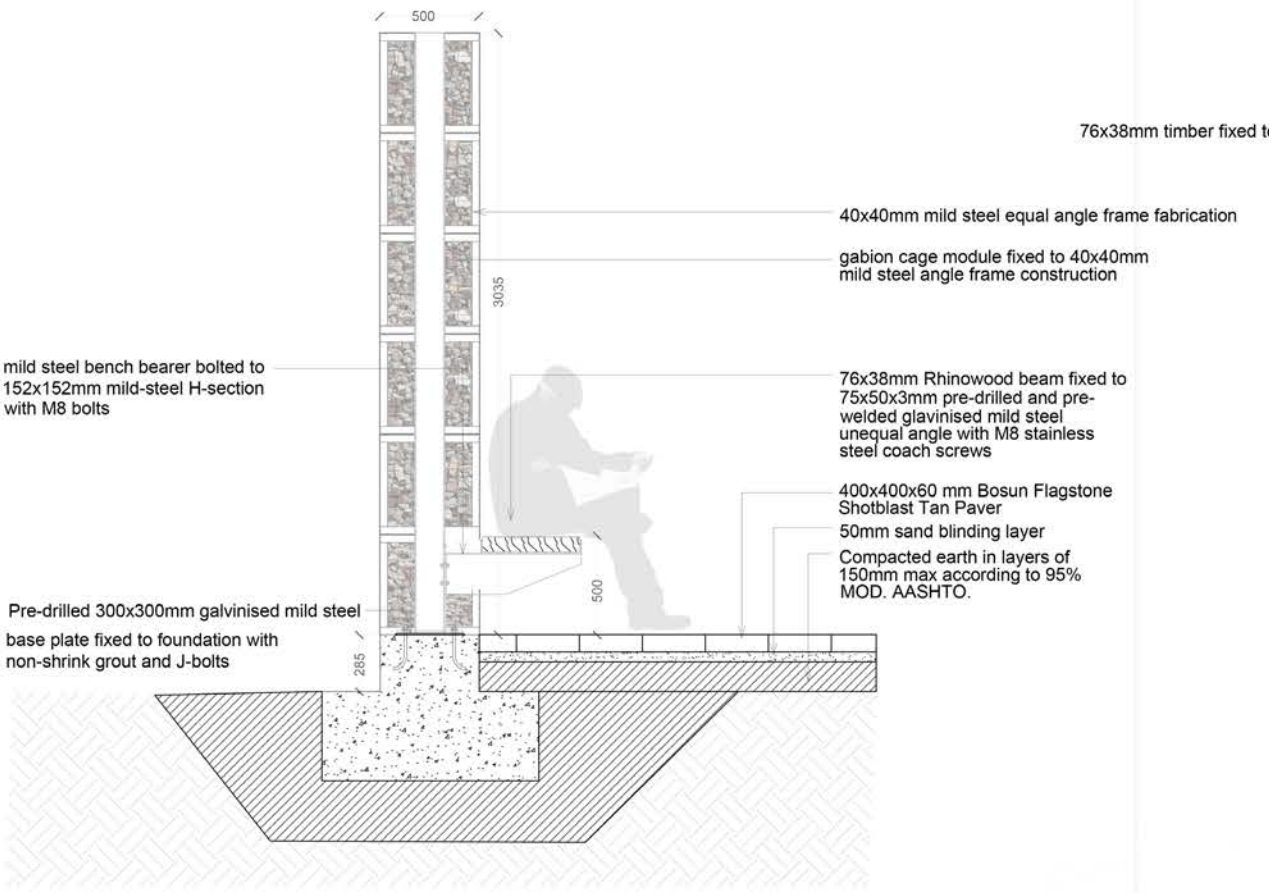




6.53

THRESHOLD ARRIVAL SPACE TO BEER COURTYARD

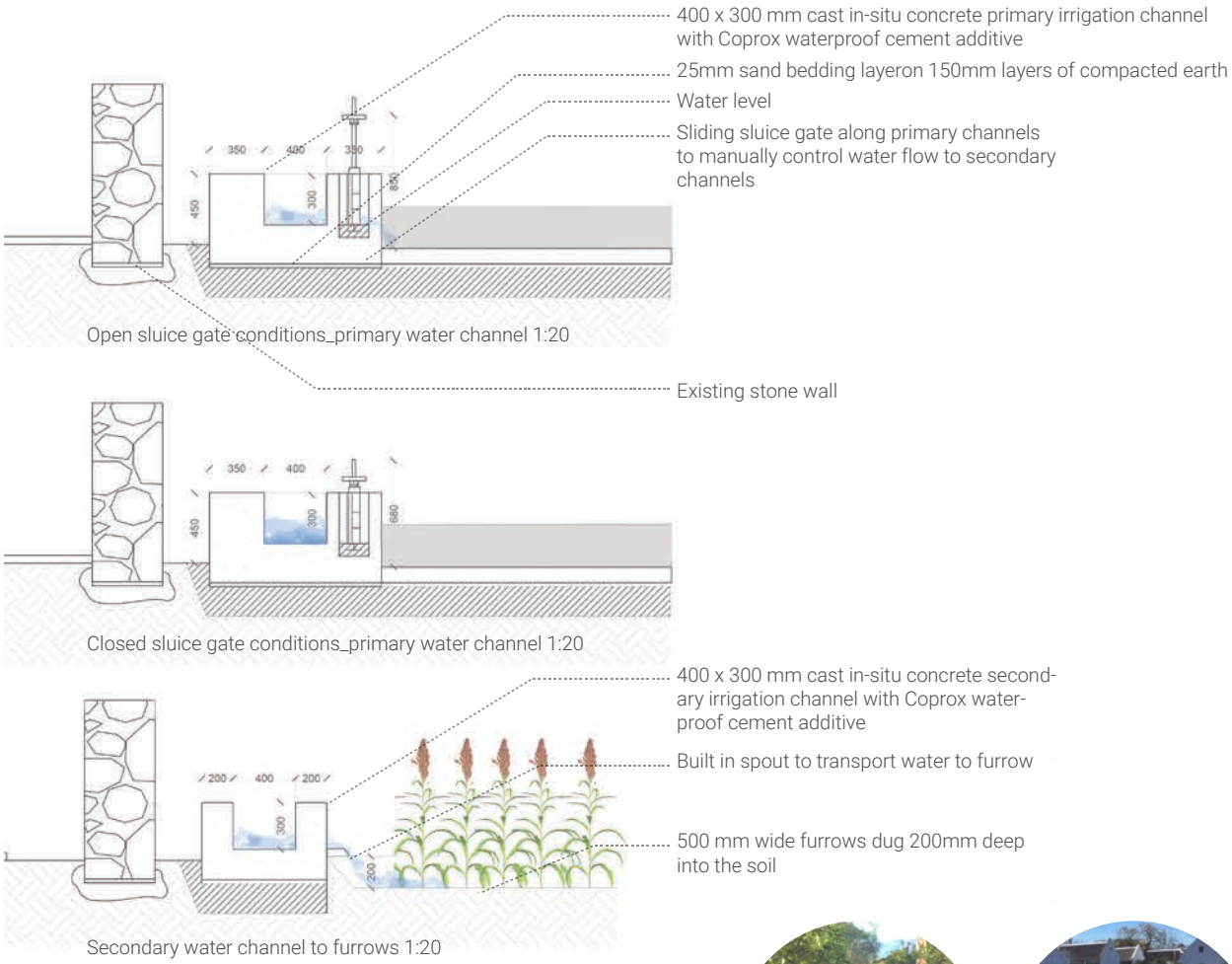
D2. WATER FEATURE THROUGH GABION WALL 1:20

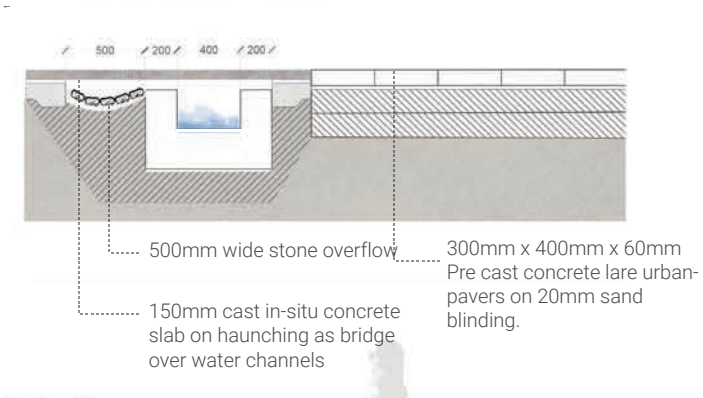


THRESHOLD ARRIVAL SPACE TO BEER COURTYARD

D3. BENCH & GABION WALL 1:20

6.54





6.55

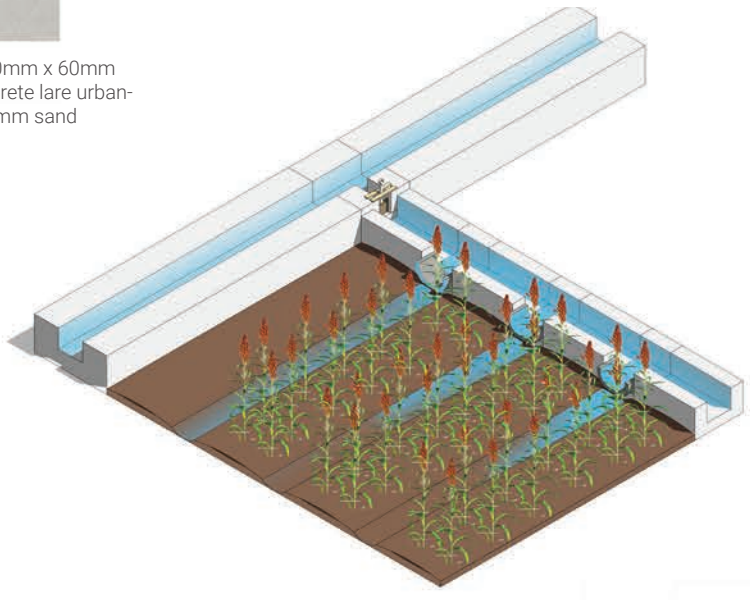


Fig 6.54: Details of primary and secondary water channels (Author 2017).

Fig 6.55: Axonometric view of flood irrigation system (Author 2017).

6.56

Fig 6.56: Beer courtyard arrival perspective (Author 2017).

04

The Kraal

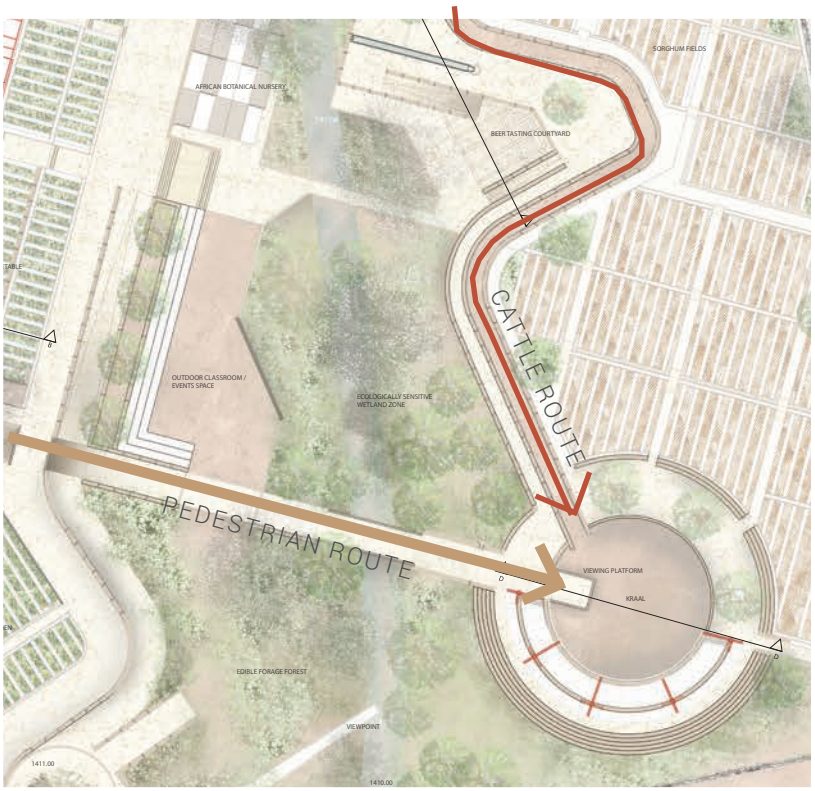
"The extensive agricultural terracing, as well as the long, walled cattle roads, stand witness to a close integration between animal husbandry and the cultivation of crops" (Maggs et al 2016:4).

"To the left and right of the first houses were the herds of cattle and the friendly local children. Further to the left is the Mohlotsi river that flows to the south past Botshabelo where a small dam is situated in which the young local boys enjoy bathing in the water" (Papke 1937).

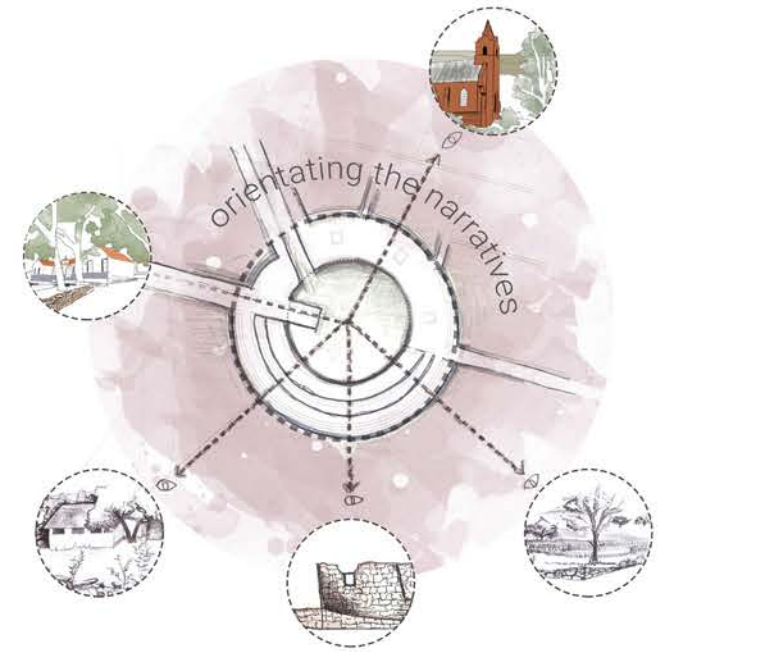
"We milked the cows, almost everything was made here. There were maize crops here and uquombothi beer made from sorghum. We grew vegetables here; mielies, apples, grapes. Each and every family that stayed here had a farm. Cattle, chicken and everything was here."

"African Indigenous Knowledge Systems (AIKS) are community based and unwritten, preserved in the oral tradition and through ritual and custom. They are dynamic and fluid and cannot be fixed (Osman 2009).

Gathering and communal story-telling spaces and outdoor classrooms intend to provide opportunity for the art of story-telling and outdoor learning. In the past, this event would primarily happen within the cattle *kraal*. The design of the amphitheatre space was inspired by this event, and simultaneously aims to integrate the everyday visitor with the daily operations of the farm, such as the herding of cattle.



6.57



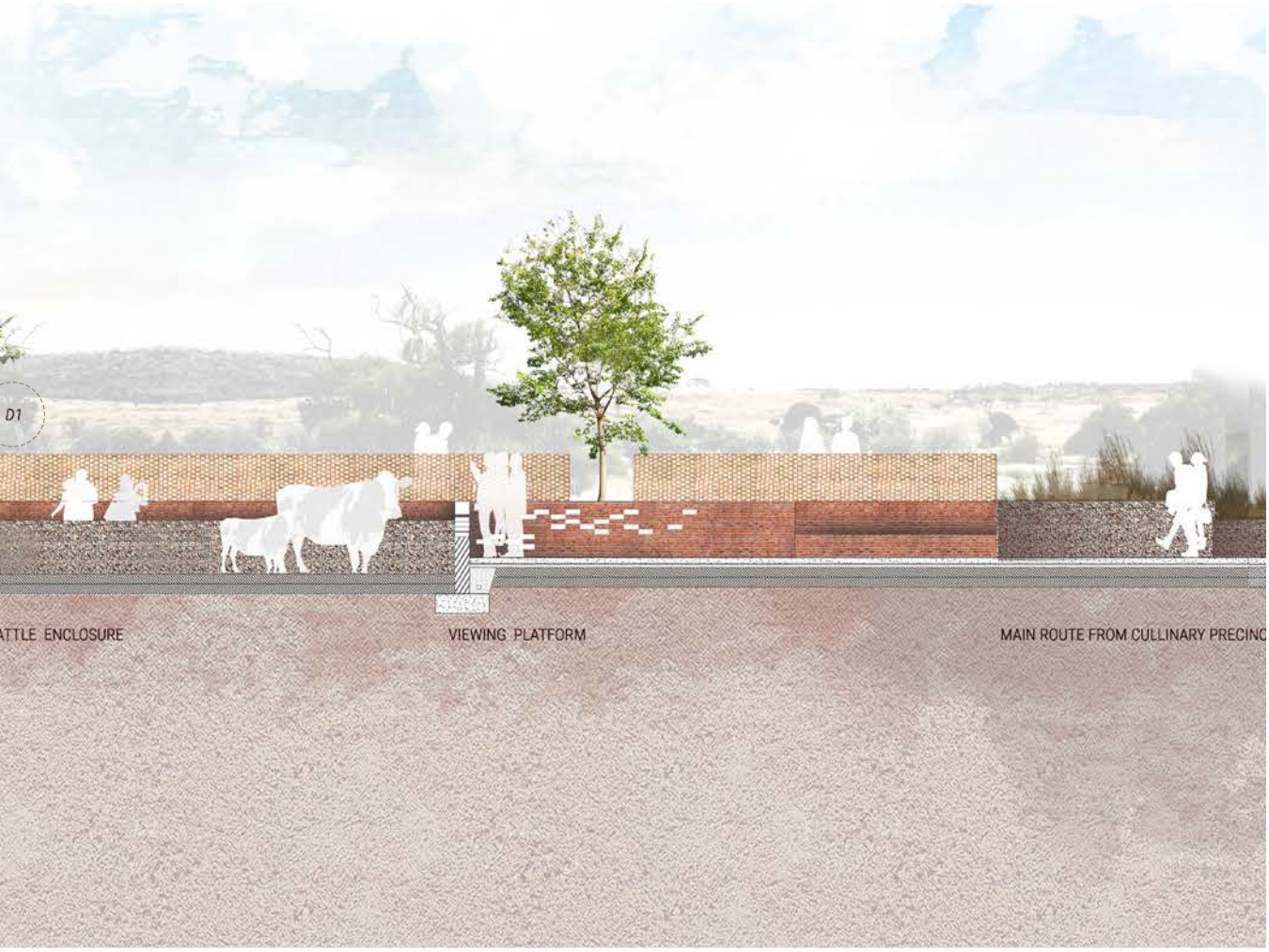
THE KRAAL AS ORIENTATION NODE AND NAVIGATOR FOR THE EXISTING CULTURAL LANDSCAPE THROUGH THE FRAMING OF SURROUNDING VIEWS

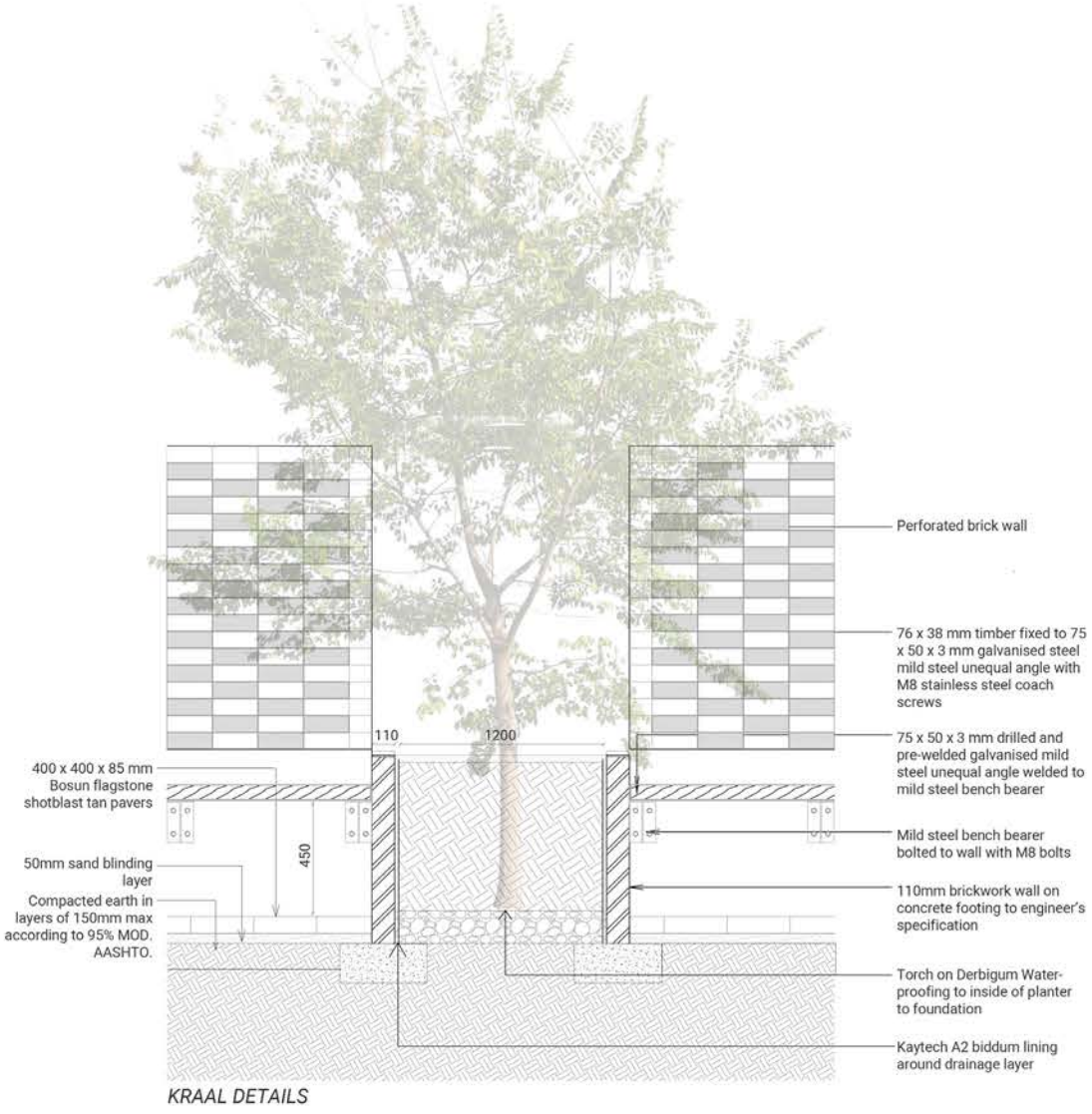
6.58

Fig 6.57: Routes to the cattle enclosure (Author 2017).
Fig 6.58: The kraal on plan (Author 2017).

6.59

Fig 6.59: Section D-D through cattle kraal (Author 2017).





6.60 D1. Planter and bench detail 1:20

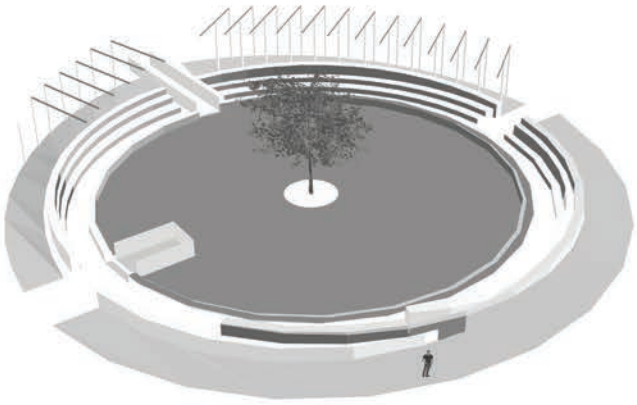
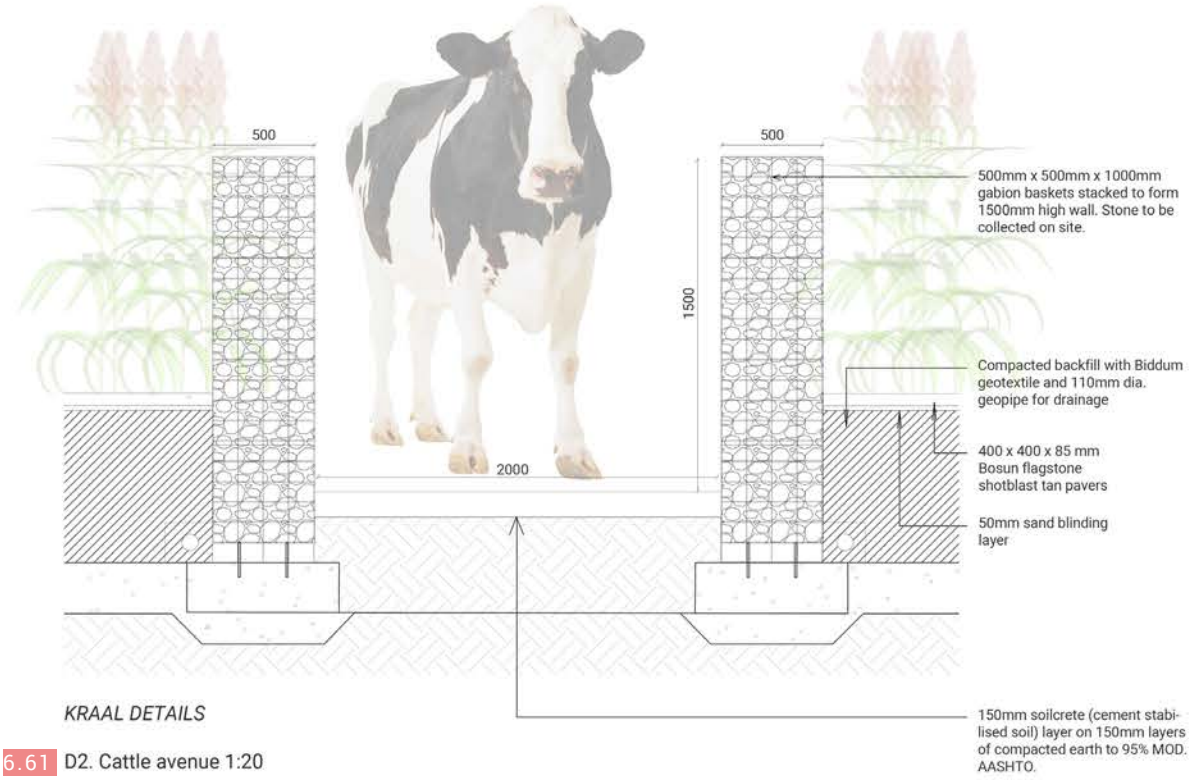
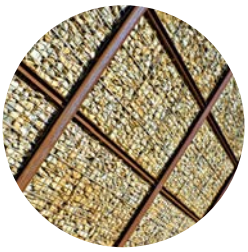


Fig 6.60: Planter box of kraal (Author 2017).



6.61 D2. Cattle avenue 1:20



"The extensive agricultural terracing, as well as the long, walled cattle roads, stand witness to a close integration between animal husbandry and the cultivation of crops"
(Maggs et al 2016:4).

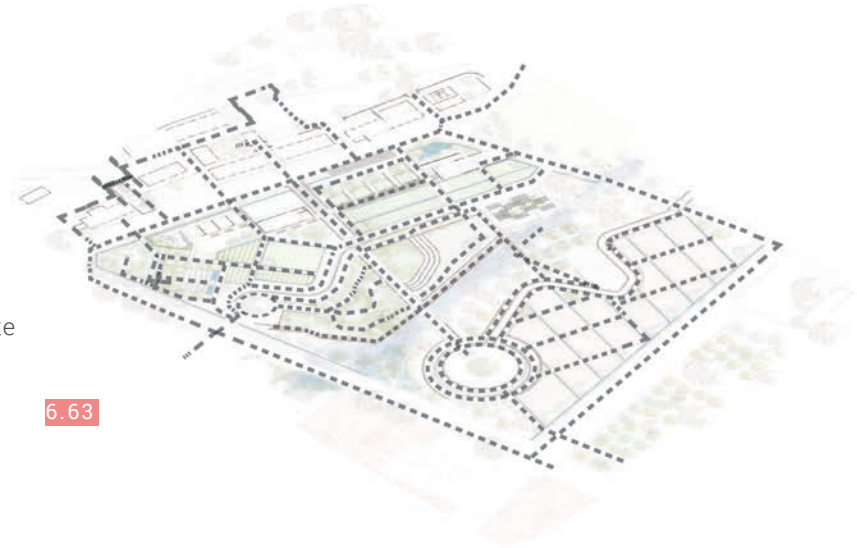
Fig 6.61: Section of the cattle avenue [NTS] (Author 2017).

6.62

Fig 6.62: Perspective of cattle kraal (Author 2017).

6.9 SYSTEMS & FLOWS

Pedestrian movement through site



6.63

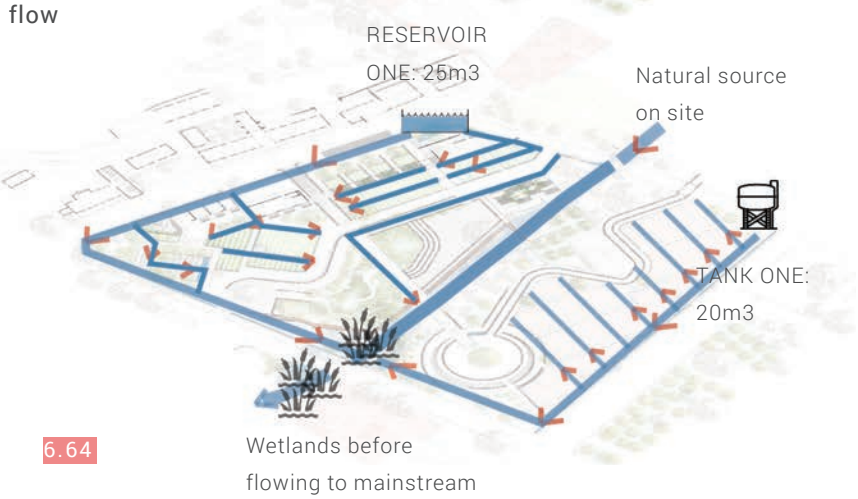
Five zones requiring water flow

Five vegetation zones with similar water demands have been grouped together; the demands are calculated as seen in Figure 6.60 on the next page.

Proposed flood irrigation system flow

Irrigation demands to be abstracted from natural water source running through site (flows all year), with a water use permit. Channels and furrows follow natural slope and will be fed with gravity.

Wetlands are zoned downstream to clean the water once it has irrigated the crops, before it flows back to the mainstream.



6.64

Fig 6.63: Pedestrian movement on site (Author 2017).
Fig 6.64: Water strategy on site (Author 2017).

6.9.1 Water strategy

The five vegetation zones are as follows:
1. Fruit and nut forest
2. Forage forest
3. Herb garden
4. Vegetable garden
5. Sorghum fields

The demands for each of these zones were calculated based on the weekly irrigation requirements at a depth of 0.02m per week. It was decided that each zone could receive this amount of irrigation three times a week. The calculations indicate the capability of the water tank and water reservoir to be filled up in time to store enough water for each zone to be watered in one day.

Terraces were introduced where the slope was too steep for flood irrigation, yet the system would still require careful management.

The formulas used to calculate the velocity of water in the stream as well as the design of the water channels can be found in Appendix two.

PLANTING ZONE	PLANTING AREA (m²)	IRRIGATION DEPTH PER WEEK (m/week)	Evaporation (m/week)	Irrigation depth + Evaporation (m/week)	Total water demand (area x m/week)
Vegetable zone	892m²	0,02	0,016	0,036	32m³
Fruit forest	1000m²	0,02	0,016	0,036	36m³
Forage Garden	1120m²	0,02	0,016	0,036	40m³
Sorghum Field	1870m²	0,02	0,016	0,036	67m³
Herb Garden	570m²	0,02	0,016	0,036	21m³
Total	7 954m²	0,02	0,016	0,036	196m³

Day of the week: Monday	RESERVOIR ONE:		RESERVOIR ONE:		TANK ONE:
Zone:	Vegetable + forage gardens	**Zone:**	Fruit + Herb gardens	**Zone:**	Sorghum fields
Total water demand per week:	32 + 40 = 72m³	**Total water demand:**	36 + 21 = 57m³	**Total water demand:**	67m³
Total water demand per day:	72m³/3 = 24m³	**Total water demand per day:**	57/3 = 19m³	**Total water demand per day:**	20m³
Initial tank capacity:	25m³	**Initial tank capacity:**	25m³	**Initial tank capacity:**	20m³
Final tank capacity:	1m³	**Final tank capacity:**	6m³	**Final tank capacity:**	0m³
Min amount needed for next zone:	18m³	**Top up amount needed:**	18m³	**Top up amount needed:**	20m³
Time to top up tank to full capacity:	25m³ / 0.015m³/s 1 600 seconds (30 minutes)	**Time to top up:**	18m³ / 0.015m³/s 1200 seconds (20 min)	**Time to top up:**	20m³ / 0.015m³/s 1 300 seconds (20mins)

Day of the week: Wednesday	RESERVOIR ONE:		RESERVOIR ONE:		TANK ONE:
Zone:	Vegetable and forage gardens	**Zone:**	Fruit and Herb gardens	**Zone:**	Sorghum fields
Total water demand per week:	32 + 40 = 72m³	**Total water demand:**	36 + 21 = 57m³	**Total water demand:**	67m³
Total water demand per day:	72m³/3 = 24m³	**Total water demand per day:**	57/3 = 19m³	**Total water demand per day:**	20m³
Initial tank capacity:	25m³	**Initial tank capacity:**	25m³	**Initial tank capacity:**	20m³
Final tank capacity:	1m³	**Final tank capacity:**	6m³	**Final tank capacity:**	0m³
Min amount needed for next zone:	18m³	**Top up amount needed:**	18m³	**Top up amount needed:**	20m³
Time to top up tank to full capacity:	25m³ / 0.015m³/s 1 600 seconds (30 minutes)	**Time to top up:**	18m³ / 0.015m³/s 1200 seconds (20 min)	**Time to top up:**	20m³ / 0.015m³/s 1 300 seconds (20mins)

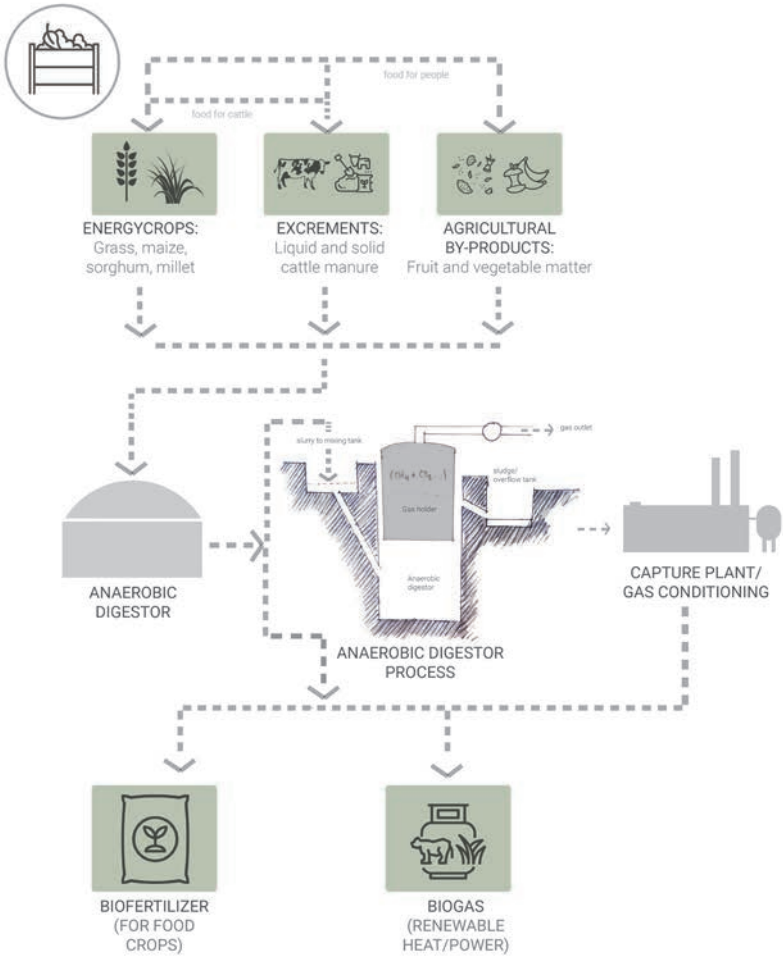
Day of the week: Friday	RESERVOIR ONE:		RESERVOIR ONE:		TANK ONE:
Zone:	Vegetable and forage gardens	**Zone:**	Fruit and Herb gardens	**Zone:**	Sorghum fields
Total water demand per week:	32 + 40 = 72m³	**Total water demand:**	36 + 21 = 57m³	**Total water demand:**	67m³
Total water demand per day:	72m³/3 = 24m³	**Total water demand per day:**	57/3 = 19m³	**Total water demand per day:**	20m³
Initial tank capacity:	25m³	**Initial tank capacity:**	25m³	**Initial tank capacity:**	20m³
Final tank capacity:	1m³	**Final tank capacity:**	6m³	**Final tank capacity:**	0m³
Min amount needed for next zone:	18m³	**Top up amount needed:**	18m³	**Top up amount needed:**	20m³
Time to top up tank to full capacity:	25m³ / 0.015m³/s 1 600 seconds (30 minutes)	**Time to top up:**	18m³ / 0.015m³/s 1200 seconds (20 min)	**Time to top up:**	20m³ / 0.015m³/s 1 300 seconds (20mins)

6.65 Weekly irrigation calculations (Author 2017).

6.9.2 On-site waste management

BIOGAS AND BIOFERTILIZER PRODUCTION FROM ORGANIC MATTER

Biogas and biofertilizer are products of the anaerobic fermentation of organic matter. All kinds of organic residues and wastes are considered input materials to a biogas plant, ensuring the products are rich in organic matter and thus can be used in agriculture to reduce waste discharge and use of chemical fertilizers, as well as generate power to be used on site.



6.66

Fig 6.66: Diagram showing biogas and biofertilizer process to be implemented at Botshabelo (Author 2017).

6.67 Main church being restored in June 2017 (Author 2017).

07

RESOLUTION

In this final chapter, conclusions and reflections concerning the intentions of the project and the decisions made throughout the process are discussed.

7.1 CONCLUSIONS

Reflections

The intentions of the project were primarily based on understanding the significant history of the landscape of Botshabelo, and from that point of departure a proposal was sought after which honored the narrative of the place and its people. Soon after the research began on Botshabelo, a unique theme continuously emerged and that was the narrative of the two cultures who, for the most part, worked harmoniously together to establish Botshabelo. The unique relationship and cultural overlap was a difficult one to respond to as a designer who belongs to neither the German or Pedi cultures. However, through storytelling (both through the discovery of historic accounts and interviews in the field), the task of discovering the lost *genius loci* of Botshabelo was made easier. It became evident that the place would never be restored to what it once was, yet that was never the intention. The aim to reinterpret a forgotten history into a contemporary model prevailed, and through the thoughtful program, use of materiality, planting and a continuous back-and-forth cycle of research and design, the Botshabelo Ethnobotanical garden and organic farm was birthed.

Lessons learned

Through a series of iterations and feedback from various sources, it appeared as if when one speaks of the “African” relationship to place making, it is often perceived to be in complete contrast to conventional Westernised techniques. However, through this study and especially through the discovery of the ancient Bakoni settlements, it was found that the traditions of cultivation in both cultural groups were more similar than once believed. It was then decided that culture is relative to the time we are in, and therefore ever-changing. A cultural landscape cannot remain fixed in time as culture does not remain fixed in time. The values, memories and stories remain for the future generations to use in a new way.

Future recommendations

Because this project was driven primarily by the specific site and the memories of the community members, it would have been highly beneficial if more interviews were had with various community members who once lived at Botshabelo. Because of the current state of Botshabelo, very few people remain and this was therefore difficult to achieve. It is also believed that a more in-depth mapping of the physical characteristics of the site would have assisted the process later on in the year, however the scale of the site proved to require more time for further detailed mapping.

Although the approach taken in this project was to synthesis place-making and cultivation techniques of two cultural groups, it is not in the author's opinion always an appropriate approach to take. The site presented a very unique history and resembled significantly unique relationships, and it is for this reason the project followed the concept of cultural hybridity in form, materiality and function.

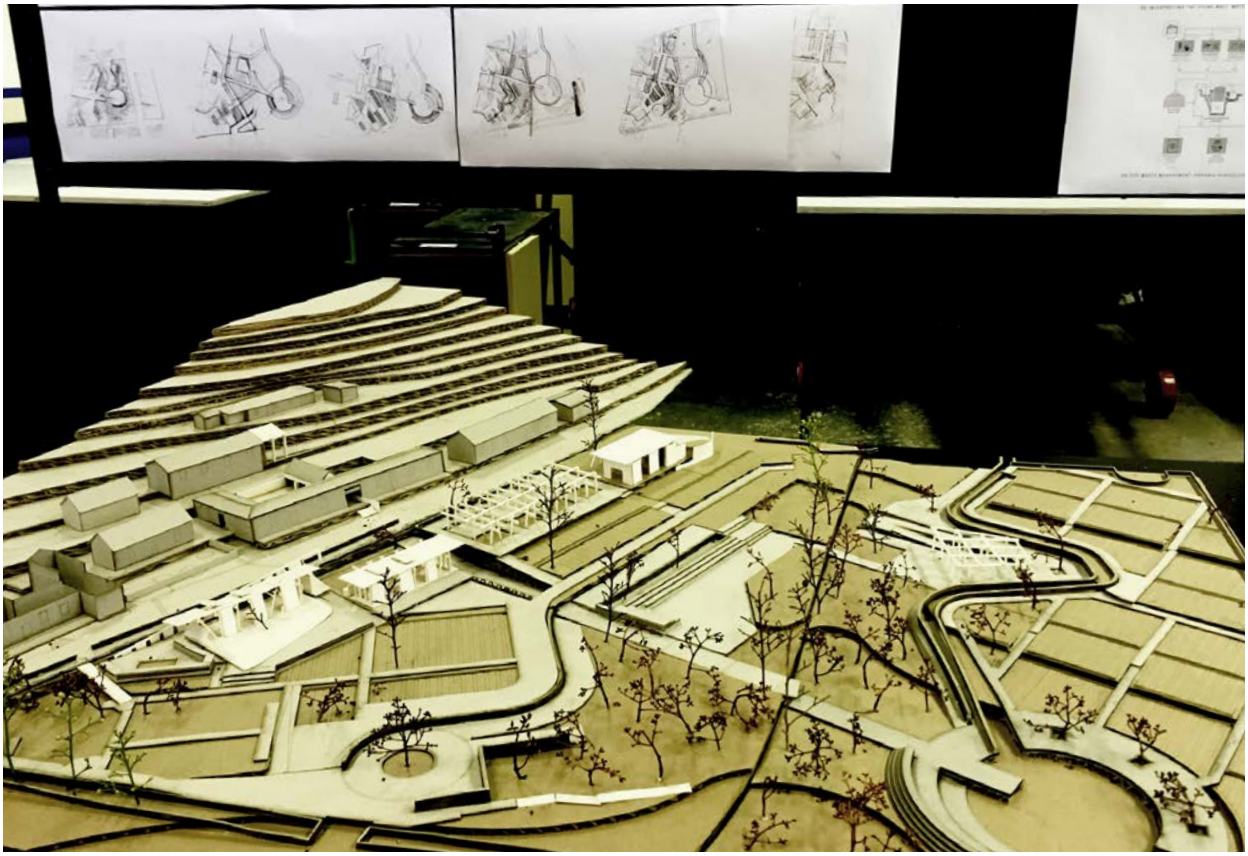
Final remarks

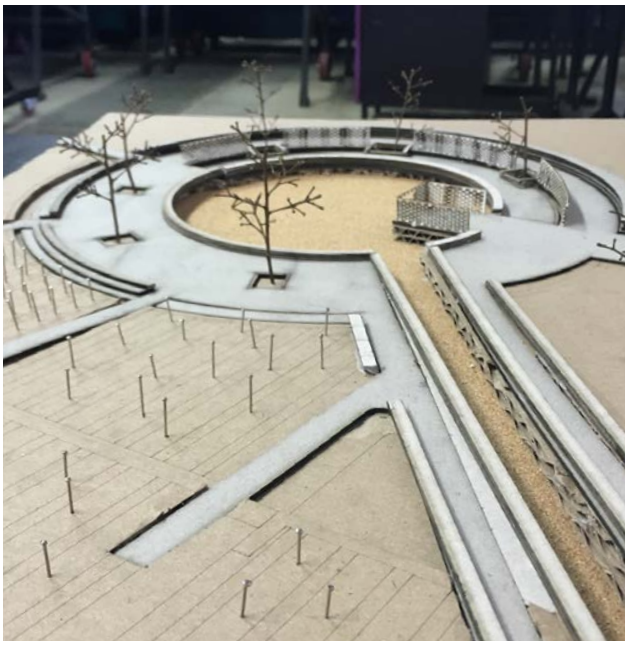
Botshabelo is saturated with potential. There is potential hidden in the layers of the land; both physically and metaphorically. In a time where cultural upheaval and conflict is ever present, this specific site serves as a model for co-existence of all people, where opportunity and experiences are equally available. The fertile valley in which Botshabelo sits provides the perfect condition for growth. In a time where food security is at risk, fertile land should not be neglected. Through an idealistic hope of the designer; it is believed that through landscape architecture, a difference can be made in all of these daily trials we face as a nation. It is believed that through sewing seeds now, the future generations will be able to reap the harvest.

Stephanie Nel

7.2 FINAL PRESENTATION

23 NOVEMBER 2017





7.3 LIST OF REFERENCES

African Orphan Crops Consortium. 2017. African Orphan Crops Consortium – Healthy Africa through nutritious, diverse and local food crops. [online] http://africanorphancrops.org/. Accessed: 10 October 2017.

Asmal, Z. 2016. *Movement Cape Town.* Cape Town: The City.

Bakker, K. A. 2007. *South African heritage places: expanding current interpretation and presentation*, SAJAH, 22(2), pp. 14–23.

Björn Brüsch. 2011. *Experimentalization of Gardening in Nineteenth Century Germany. Peter Joseph Lenné and the 'Gärtner-Lehranstalt at Wildpark/Potsdam*. Max Planck Institute for the History of Science.

Bowring, J. 2007. *Sensory Deprivation: Globalisation & the Phenomenology of Landscape Architecture*. Proceedings of GaLA: Globalisation and Landscape Architecture, pp. 81–84.

Bowring, J. and Swaffield, S. 2004. *Think Global, Think Local: Critical regionalism and Landscape Architecture*. Landscape Review, 9(2), pp. 1–12.

Bruinette, Y. 2016. Heritage Portal: an Experiential Narrative. Pretoria: Department of Architecture, University of Pretoria.

Charles Ngwena. 2017. *Op-Ed: What is colonialism (to us)? Western Cape Premier reveals a truth.* [online] http://www.up.ac.za/en/news/post_2445556-op-ed-what-is-colonialism-to-us-western-cape-premier-reveals-a-truth. Accessed 25 July 2017.

Chloë Reid. 2013. *The Gerard Sekoto Foundation*. [online] http://www.gerardsekotofoundation.com/artist-overview.htm. Accessed 10 October 2017.

Corner, J. 1990. *A Discourse on Theory I: "Sounding the Depths"—Origins, Theory, and Representation*. Landscape Journal, 9(2), pp. 61–78.

Corner, J. 1991. *A Discourse on Theory II: Three Tyrannies of Contemporary Theory and the Alternative of Hermeneutics*. Landscape Journal, 10(2), pp. 115–133.

Delius, P. and Schoeman, M. 2007. *Revisiting Bokoni: populating the stone ruins of the Mpumalanga escarpment.* Five Hundred Years Rediscovered: South African Precedents and Prospects. pp. 8-107.

Erasmus, A. A. and Janse van Rensburg, R. 2013. *DRAFT ENVIRONMENTAL IMPACT REPORT : THE ESTABLISHMENT OF A RURAL VILLAGE ON THE REMAINING EXTENT OF THE FARM TOEVLUGT 320 JS , MIDDELBURG*. Report prepared for : Botshabelo Community Development Trust Report, Clean Stream Environmental Services.

Fisher, R. and Le Roux, S.1991. *Botshabelo 'n Dokumentasie van die Motse en Ander Kleiner Huise*. Pretoria: Department of Architecture University of Pretoria.

Herrington, S. 2008. *You Are Not Here: Sartre's Phenomenological Ontology and the Architecture of Absence.* FOOTPRINT, 2(2), pp. 51–64.

ICOMOS. 200. *The ICOMOS Ename Charter Objectives, The ICOMOS Ename Charter For the interpretation of cultural heritage sites.* [online] http://www.enamecharter.org/downloads.html. Accessed 10 October 2017.

Kjerrgren, L. 2011. Layers of Land: The Palimpsest Concept in Relation to Landscape Architecture. Swedish University of Agricultural Sciences: Uppsala

Osman, A. 2009. *Indigenous Knowledge in Africa: Challenges and Opportunities*. [online] https://www.ufs.ac.za/docs/librariesprovider20/centre-for-africa-studies-documents. Accessed 22 September 2017.

Joubert, A. 2015. *Hoffmann Collection of Cultural Knowledge*. [online] https://rs.cms.hu-berlin.de/hoffmanncollection. Accessed February 2017.

Kafle, N. P. 2013. *Hermeneutic phenomenological research method simplified.* Bodhi: An Interdisciplinary Journal, 5(1), pp. 181–200.

Langhan, D. and Rakgoathe, D. 2000. ***The Unfolding Man : the life and art of Dan Rakgoathe.*** David Philip Publishers.

Manganyi, N. C. 2004. *Gerard Sekoto : 'I am an African' : a biography.* Johannesburg: Wits University Press.

Mbembe, A. 2016. ***Decolonizing Knowledge and the Question of the Archive.*** [online] http://wiser.wits.ac.za/system/files/Achille Mbembe - Decolonizing Knowledge and the Question of the Archive. Accessed: 25 July 2017.

Mminele, S. 1983. *The Berlin Lutheran Missionary Enterprise at Botshabelo, 1856-1955: An Historical-Educational Study.* University of the North.

Müller, L. and Gibbs, D. 2011. *Reading and Representing the Cultural Landscape: A Toolkit.*

Noble, J. A. 2011. *African identity in post-apartheid public architecture : white skin, black masks*. Johannesburg: Ashgate Pub.

Pienaar, M. 2014. T*he Norman Eaton legacy : a critical architectural appraisal of the documentation of his domestic oeuvre.* Pretoria: University of Pretoria, Department of Architecture.

Du Preez, H. and IOS Press. 2009. *The challenge of Genadendal.* IOS Press.

Roos, J. 2001. *PROJECT "RESTORATION GENADENDAL , SOUTH AFRICA".* , pp. 336–340.

Steenbergen, C. 2008. *'Typology', Composing landscapes : analysis, typologie and experiments for design.*

Stevens, Q., Franck, K. A. and Fazakerley, R. 2012. *Counter-monuments: the anti-monumental and the dialogic.* The Journal of Architecture. Routledge , 17(6), pp. 951–972.

Stoffberg, G. H., Hindes, C. and Muller, L. 2012. Landscape Architecture in South Africa A Reader.

Herrington, S. 2017. *Landscape Theory in Design* - Abingdon: Routledge.

Swanepoel, N. 2015. *Landscape Biography of Botshabelo Mission Station, Mpumalanga, South Africa*.

UNESCO. 2008. *World Heritage Centre - Cultural Landscapes Operational Guidelines*. [online] http://whc.unesco.org/en/culturallandscape/#2. Accessed 10 October 2017.

van Hulst, M. 2012. *Storytelling, a model of and a model for planning.* Sage Journals: Planning Theory. [online] http://journals.sagepub.com/doi/abs/10.1177/1473095212440425?journalCode=plta

Wolschke-Bulman, J. 2001. ***Places of Commemoration: Search for Identity and Landscape Design.*** Dumbarton Oaks: Washington

APPENDIX ONE

1	**Clearly defined landscape designed and created intentionally by man.** This embraces garden and parkland landscapes constructed for aesthetic reasons which are often (but not always) associated with religious or other monumental buildings and ensembles.
2	**Organically evolved landscape.** This results from an initial social, economic, administrative, and/or religious imperative and has developed its present form by association with and in response to its natural environment. Such landscapes reflect that process of evolution in their form and component features. The above falls into two sub-categories: **a relict (or fossil) landscape** is one in which an evolutionary process came to an end at some time in the past, either abruptly or over a period. Its significant distinguishing features are, however, still visible in material form. **continuing landscape** is one which retains an active social role in contemporary society closely associated with the traditional way of life, and in which the evolutionary process is still in progress. At the same time it exhibits significant material evidence of its evolution over time.
3	**Associative cultural landscape.** The inclusion of such landscapes on the World Heritage List is justifiable by virtue of the powerful religious, artistic or cultural associations of the natural element rather than material cultural evidence, which may be insignificant or even absent.

The International Council on Monuments and Sites, Venice Charter 1964 (ICOMOS)

ICOMOS Article 1. "The concept of a historic monument embraces not only the single architectural work but also the urban or rural setting in which is found the evidence of a particular civilization, a significant development or a historic event."

Article 5. "The conservation of monuments is always facilitated by making use of them for some socially useful purpose. Such use is therefore desirable but it must not change the lay-out or decoration of the building. It is within these limits only that modifications demanded by a change of function should be envisaged and may be permitted."

Article 9. "The process of restoration is a highly specialized operation. Its aim is to preserve and reveal the aesthetic and historic value of the monument and is based on respect for original material and authentic documents. It must stop at the point where conjecture begins, and in this case moreover any extra work which is indispensable must be distinct from the architectural composition and must bear a contemporary stamp."

ICOMOS Ename Charter
Building on the Venice charter which provides guidance in the protection and conservation of the extant fabric of heritage sites, this charter provides an approach for the interpretation and presentation of the **meaning** of cultural heritage sites.

The 7 Principles of the Ename Charter
1. Access and Understanding:
2. Information Sources
3. Context and setting
4. Authenticity
5. Sustainability
6. Inclusiveness
7. Research, Evaluation and Training

The planning and design of Botshabelo aims to adhere to as many of the principles above as possible, and the most important of these are to be explained in the Chapter 5: Program Development.

A Phase 1 Heritage Impact Assessment (as required in terms of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) on Botshabelo was conducted by Dr. Julius Pistorius, an accredited archaeologist. Fort Merensky was declared a Provincial heritage site and is thus highly protected, the Botshabelo village however was provisionally protected in 1989 for its heritage significance yet this protection has since lapsed (Clean Stream 2013).
According to the environmental and heritage assessment undertaken in 2013 on Botshabelo mission station, a number of guidelines apply when considering development of the historic site.

The National Heritage Resources Act (25 of 1999) "aims to promote good management of the national estate, and to enable and encourage communities to nurture and conserve their legacy so that it may be bequeathed to future generations".
Other relevant guidelines provided by the Steve Tshwete Local Municipality place importance on the protection of the environment and its ecosystems and biodiversity, as well as the need to maintain control over the utilisation of natural resources such as water and soil, and lastly it provides a spatial framework guideline which suggests that all changes, growth and needs in the region are to be managed in order to benefit the whole community.
Alterations and additions to the historic site are therefore possible if motivated accordingly and developed within the framework provided by the suggested guidelines.
The ICOMOS charter for conservation and restoration suggest that the conservation of historic sites is to be facilitated by giving them a socially useful purpose. This approach is acceptable and desirable, however it should not adjust the lay out of the site.

Restoration
The process of restoration aims to reveal and preserve the historic and aesthetic value of the site and is based on respect for original material. "It must stop at the point where conjecture begins and in this case moreover any extra work which is indispensable must be distinct from the architectural composition and must bear a contemporary stamp" (ICOMOS 1964, article 9).

Critical regionalism
As discussed in the theoretical discourse previously, five principles within the critical regionalism approach are to be extended to the technification of the design. As a reminder, these five principles were:

a. Sensing of place: phenomenology
- capturing the particularity of a place and region.

APPENDIX TWO

The tributary of the Olifantrivier that passes through the allotment area has been found as a constant flow and supply of fresh water, yet to run dry in over 150 years.
According to the environmental impact assessment undertaken by Erasmus et al. (2012), no water may be abstracted from the nearby stream or the pans unless a water use license is obtained from the Department of Water Affairs. Therefore, the abstraction of water from the stream is possible if a water use licence is obtained through appropriate motivation which states that the proposal is to benefit the local community through agriculture.

The water is then to be fed by gravity feed from the source, one kilometre up from the allotment area. Two pipes are to transport the water to the two highest point on either side of the focus area (indicated by "Reservoir One" and "Tank One" in Figure X.) The water is then manually operated through the proposed flood irrigation system to each vegetation zone three times a week to ensure adequate irrigation based on the demands of the plants. All run-off and excess water from the flood irrigation is sent back into the stream and fed through a wetland system before entering the main stream of the Olifants river.

Methodology:
The formula m^2 x m/s was used to determine the amount and velocity of water in the chosen tributary of the Olifants river for the irrigation of the productive landscape.

The method used to calculate the speed of the stream was to calculate the time taken for an object to float along the stream for 10m.
The area of the stream was calculated by:
Width x depth
= 1.5m x 0.05m
=0.075m^2
The speed of the object to travel 10m within the stream:
m/s
10/ 5 seconds
0.2m/s

The baseflow in the channel is therefore:
m^2 x m/s = m^3/s
0.075 x 0.2
=0.015m^3
[note: m^3 = 1000 litres]
Therefore, 15 litres per second of water flow through the stream.
(15 x 60 = 900 litres per minute)

900 * 60 = 54 000 litres per hour flows through the stream
54 000 x 168 hours in a week = 9 072 000 litres available per week

FIVE ZONES TO BE WATERED THREE TIMES A WEEK

The five zones are to be watered Monday. Wednesday and Friday

Based on the formula m² x m/s
The calculated baseflow of the channel is 0.015m³/s

The proposed water reservoir is sized at 25m³ based off the highest irrigation demand for one day
The proposed tank is a 20 000l JOJO tank

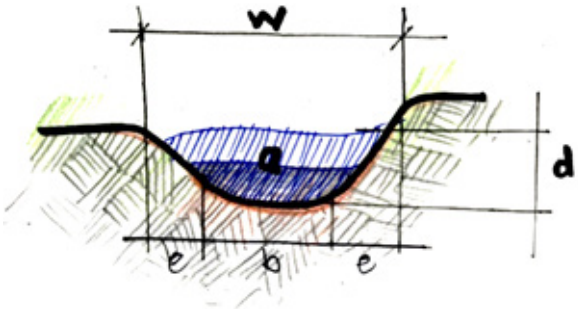
The calculated channel flow is estimated at 2.8m/s. (0,04m³/s)
75m3/0,04m3/s = 1875 s

Thus the reservoir will take approximately half an hour to release all of the water at full capacity

PRIMARY WATER COURSE DESIGN

3% slope
n = Roughness co-efficient = 0.040 (rough irregular rock)

a=wd
= (0.3) x (0.4) = 0.12



Wetted perimeter (p) = w +2d
= 0.4 + 2(0.3)
=1m

Hydraulic radius (r) = a/p
A =0.12 x 1
= 0.12 m2

Run-off velocity (Manning's formula):
V = (1.486 / n)r0.67.

= (1.486 / 0.40)0.30.67.

= 2.8 m/s

Water flowing purely on gravity will travel down the primary stone channel at 2.8 m/s.

APPENDIX THREE

Botanical Heritage of Botshabelo (existing species):

Eik	Oak tree (*Quercus species*)
Pop	Poplar (*Populus genus*)
Pru	Pruime / plums (*Prunus domestica*)
Ser	Syringa (*Syringa vulgaris)*
Wat	Wattle (*Acacia mearnsii*)
Wil	Wilger (*Salix mucronata*)
Wish	White stinkwood (*Celtis africana*)
Pere	Pear tree (*Pyrus domestica*)
Den*	varied
Ap	Apple tree (*Malus pumila*)
Mf	'Mayflower'
Roos	Roses (*Rosa species*)
Sip	Sipres / Cypress
Bot br	Bottle brush (*Callistemon species)*
Dor	Doring (varied)
Kw	Kweper / quince *(Cydonia oblonga)*
Luk	Lukwart / Loquat *(Eriobotrya japonica*